ENVIRONMENTAL PROTECITON AGENCY

[FRL–5298–3]

Final National Pollutant Discharge Elimination System Storm Water Multi-Sector General Permit for Industrial Activities

AGENCY: Environmental Protection Agency.

SUMMARY: The following provides notice for a final NPDES general permit, accompanying response to comments, and fact sheets for storm water discharges associated with industrial activity in the following Regions:

Region I—the States of Maine, Massachusetts, and New Hampshire; Federal Indian Reservations located in Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont; and Federal facilities located in Vermont.

Region II—the Commonwealth of Puerto Rico and Federal facilities located in Puerto Rico.

Region III—the District of Columbia and Federal facilities located in Delaware and the District of Columbia.

Region IV—the State of Florida.

Region V—no areas.

Region VI—the States of Louisiana, New Mexico, Oklahoma, and Texas, and Federal Indian Reservations located in Louisiana, New Mexico (except Navajo Reservation lands, which are handled by Region IX, and Ute Mountain Reservation lands, which are handled by Region VIII and are not being covered by this permit), Oklahoma, and Texas.

Region VII—no areas.

Region VIII—no areas.

Region IX—the State of Arizona; the Territories of Johnston Atoll, and Midway and Wake Islands; all Federal Indian Reservations located in Arizona, California, and Nevada; those portions of the Duck Valley, Fort McDermitt, and Goshute Reservations located outside Nevada; those portions of the Navajo Reservation located outside Arizona; and Federal facilities located in Arizona, Johnston Atoll, and Midway and Wake Islands.

Region X—the State of Idaho; Federal Indian Reservations located in Alaska, Idaho (except Duck Valley Reservation lands, which are handled by Region IX), Oregon (except Fort McDermitt Reservation lands, which are handled by Region IX), and Washington; and Federal facilities located in Idaho, and Washington.

The permit covers storm water discharges associated with industrial activity to waters of the United States, including discharges through large and medium municipal separate storm sewer systems, and through other municipal separate storm sewer systems. The permit is intended to cover discharges from the following types of industrial activities: lumber and wood products facilities; paper and allied products manufacturing facilities; chemical and allied products manufacturing facilities; asphalt paving and roofing materials manufacturers and lubricants; stone, clay, glass and concrete products facilities; primary metals facilities; metal mines (ore mining and dressing); coal mines; oil and gas extraction facilities; nonmetallic mines and quarries; hazardous waste treatment, storage or disposal facilities; landfills, land application sites and open dumps; automobile salvage yards; scrap and waste material processing and recycling facilities; steam electric power generating facilities; railroad transportation facilities, local and suburban transit and interurban highway passenger transportation facilities, petroleum bulk oil stations and terminals, motor freight transportation facilities and U.S. Postal Service facilities; water transportation facilities; ship or boat building/repair facilities; airports; wastewater treatment plants; food and kindred products facilities; textile mills, apparel and other fabric manufacturing facilities; furniture and fixture manufacturing facilities; printing and publishing facilities; rubber and miscellaneous plastic product and miscellaneous manufacturing facilities; leather tanning and finishing facilities; facilities that manufacture fabricated metal products, jewelry, silverware, and plated ware; facilities that manufacture transportation equipment, industrial, or commercial machinery; and facilities that manufacture electronic equipment and components, photographic and optical goods. Military installations must comply with the permit and monitoring requirements for all sectors that describe industrial activities that such installations perform. Publication of this final general permit, fact sheets, and response to comments complies with the requirements of 40 Code of Federal Regulations (CFR) 124.10.

The language of the permit is provided as an appendix to the preamble of this notice. Most conditions of the general permit are intended to apply to all permittees, unless stated otherwise. Where conditions vary by State, these differences are indicated in the appendix.

ADDRESSES: Notices of Intent (NOIs) to be covered under this permit and Notices of Termination (NOT) to terminate coverage under this permit must be sent to Storm Water Notice of Intent (4203), 401 M Street, SW., Washington, DC 20460. The complete administrative record is available through the Water Docket MC–4101, Environmental Protection Agency, 401 M Street SW, Washington DC 20460. A reasonable fee may be charged for copying. Each Regional office (see addresses listed in Part VI.G. of this fact sheet) has an index of the complete administrative record.

DATES: This general permit shall be effective on September 29, 1995. Deadlines for submittal of Notices of Intent (NOIs) are provided in Section II.A. of the general permit. Today's general permit also provides additional dates for compliance with the terms of the permits and for submitting monitoring data where required.

FOR FURTHER INFORMATION: For further information on the NPDES storm water general permit, contact the appropriate EPA Regional Office. The name, address and phone number of the EPA Regional Storm Water Coordinators are provided in Part VI.G. of the fact sheet.

Organization of Today's Permit

Today's permit covers storm water discharges from a wide variety of industrial activities. Because the conditions which affect the presence of pollutants in storm water discharges vary among industries, today's permit contains industry-specific sections that describe the storm water pollution prevention plan requirements, the numeric effluent limitation requirements and the monitoring requirements for that industry. These industry-specific sections are contained in Part XI of today's permit and are described in Part VIII of this fact sheet. There are also a number of permit requirements that apply to all industries. These requirements may be found in Parts I through X. They include the general coverage discussion, the Notice of Intent requirements and standard permit conditions. Specifically, Parts I through VII of this fact sheet describe these common requirements. The following is an outline of this fact sheet.

I. Background

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act (CWA)) was amended to provide that the discharge of any pollutant to waters of the United States from any point source is unlawful, except if the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit.

For a number of reasons, EPA and authorized NPDES States have failed to issue NPDES permits for the majority of point source discharges of storm water. Recognizing this, Congress added section 402(p) to the CWA in 1987 to establish a comprehensive framework for addressing storm water discharges under the NPDES program. Section 402(p)(4) of the CWA clarifies the requirements for EPA to issue NPDES permits for storm water discharges associated with industrial activity. On November 16, 1990 (55 FR 47990 as amended at 56 FR 12100, Mar. 21, 1991; 56 FR 56554, Nov. 5, 1991; 57 FR 11412, Apr. 2, 1992; 57 FR 60447, Dec. 18, 1992), EPA published final regulations which defined the term ''storm water discharge associated with industrial activity.'' These regulations also set forth NPDES permit application requirements for storm water discharges associated with industrial activity and storm water discharges from certain municipal separate storm sewer systems. The regulations presented three permit application options for storm water discharges associated with industrial activity. The first option was to submit an individual application consisting of Forms 1 and 2F. The second option was to become a participant in a group application. The third option was coverage under a general permit in accordance with the requirements of an issued general permit.

The promulgation of today's general permit is in response to the second of these three options. Group applications were submitted in two parts. Part 1 of the application was due by September 30, 1991, and part 2 of the application was due by October 1, 1992. In part 1 of the application, all participants were identified and information on each facility was included, such as industrial activities, significant materials exposed to storm water, and material management activities. For part 1 of the application, groups also identified sampling subgroups to submit sampling data for part 2. Over 1,200 groups with over 60,000 member facilities submitted part 1 applications. Upon review of the part 1 application, if the EPA determined that the application was an appropriate grouping of facilities with complete information provided on each participant, and a suitable sampling subgroup was proposed, the application was approved.

Part 2 of the application consisted of sampling data from each member of the sampling subgroup identified in part 1 of the application. In drafting today's general permit, EPA reviewed both parts of the applications and formulated the permit language noticed today. NPDES authorized States were provided the data from the group applications. Authorized NPDES States may propose and finalize either individual permits for each facility included in the application located in the State, or general permits, if the State has general permit authority.[1] If the State feels additional information is needed from the applicants, the State may ask each or any of the applicants for more information on their facility and/or discharge.

EPA estimates that about 100,000 facilities nationwide discharge storm water associated with industrial activity (not including oil and gas exploration and production operations) as described under phase I of the storm water program. The large number of facilities addressed by the regulatory definition of ''storm water discharge associated with industrial activity'' has placed a tremendous administrative burden on EPA and States with authorized NPDES programs to issue and administer permits for these discharges.

To provide a reasonable and rational approach to addressing this permitting task, the Agency has developed a strategy for issuing permits for storm water discharges associated with industrial activity. In developing this strategy, the Agency recognized that the CWA provides flexibility in the manner in which NPDES permits are issued,[2] and has used this flexibility to design a workable permitting system. In accordance with these considerations, the permitting strategy (described in more detail in 57 FR 11394) describes a four-tier set of priorities for issuing permits for these discharges:

Tier I—Baseline Permitting—One or more general permits will be developed to initially cover the majority of storm water discharges associated with industrial activity.

Tier II—Watershed Permitting—Facilities within watersheds shown to be adversely impacted by storm water discharges associated with industrial activity will be targeted for individual or watershed-specific general permits.

Tier III—Industry-Specific Permitting—Specific industry categories will be targeted for individual or industry-specific general permits.

Tier IV—Facility-Specific Permitting—A variety of factors will be used to target specific facilities for individual permits.

The general permit accompanying this fact sheet will continue Phase 1 permitting activities for storm water discharges associated with industrial activity by providing industry-specific coverage to group applicants in the following areas: the States of Arizona, Florida, Idaho, Louisiana, Maine, Massachusetts, New Hampshire, New Mexico, Oklahoma, and Texas; the District of Columbia; Johnston Atoll, and Midway and Wake Islands; the Commonwealth of Puerto Rico; Federal Indian Reservations in Alaska, Arizona, California, Connecticut, Idaho, Louisiana, Maine, Massachusetts, Nevada, New Hampshire, New Mexico, Oklahoma, Oregon, Rhode Island, Texas, Utah (only the Navajo and Goshute Reservations), Vermont, and Washington; and Federal facilities located in Arizona, the Commonwealth of Puerto Rico, the District of Columbia, Delaware, Idaho, Johnston Atoll, Midway and Wake Islands, Vermont, and Washington.[3] EPA will provide today's permit to the NPDES authorized States and encourages such States to consider this permit for their permitting needs.

II. Types of Discharges Covered

On November 16, 1990 (55 FR 47990), EPA promulgated the regulatory

[1] As of December 1993, 39 of the 40 NPDES authorized State permitting programs had the authority to issue general permits.

[2] The court in *NRDC* v. *Train*, 396 F.Supp. 1393 (D.D.C. 1975) *aff'd, NRDC* v. *Costle*, 568 F.2d 1369 (D.C.Cir. 1977), has acknowledged the administrative burden placed on the Agency by requiring permits for a large number of storm water discharges. The courts have recognized EPA's discretion to use certain administrative devices, such as area permits or general permits, to help manage its workload. In addition, the courts have recognized flexibility in the type of permit conditions that can be established, including the use of requirements for best management practices.

[3] In 5 of the 40 States that are authorized to issue NPDES permits for municipal and industrial sources, EPA issues permits for discharges from Federal facilities. EPA also retains authority to issue permits on Federal Indian Reservations. However, this fact sheet only addresses general permits as indicated above. Where EPA is the permit issuing authority for other storm water discharges, either individual permits or a different general permit will be issued.

definition of ''storm water discharge associated with industrial activity'' which addresses point source discharges of storm water from eleven major categories of industrial activities. Industrial activities from all of these categories with the exception of construction activities participated in the group application process. The information contained in the group applications indicates that type and amount of pollutants discharged in storm water varies from industrial activity to industrial activity because of the variety of potential pollutant sources present in different industrial activities, as well as the variety of pollution prevention measures commonly practiced by each of the regulated industries. To facilitate the process of developing permit conditions for each of the 1200 group applications submitted, EPA classified groups into 29 industrial sectors where the nature of industrial activity, type of materials handled and material management practices employed were sufficiently similar for the purposes of developing permit conditions. Each of the industrial sectors were represented by one or more groups which participated in the group application process. Table 1 lists each of the industrial activities covered by today's permit, and the corresponding sections of today's fact sheet and permit which discuss the specific requirements for that industry. EPA has further divided some of the 29 sectors into subsectors in order to establish more specific and appropriate permit conditions, including best management practices and monitoring requirements.

Coverage under today's general permit is available to storm water discharges from industrial activities represented by the group application process. However, coverage under this permit is not restricted to participants in the group application process. To limit coverage under this general permit only to those who participated in the Group application process would not be appropriate for administrative, environmental, and national consistency reasons. The administrative burden for EPA to develop separate general permits for non-group members would be excessive, unnecessary, and wasteful of tax dollars. EPA would also need to use the same information in the development of such permits. The permits would be essentially the same. The time spent in this process would leave many facilities unregulated for some number of additional months. This would not address the environmental concerns of the Clean Water Act. Likewise, group members are not precluded from seeking coverage under other available storm water permits such as EPA's ''baseline'' general permits for Storm Water Discharges Associated with Industrial Activity, (57 FR 41175 and 57 FR 44412). Group members must consider, however, that the deadlines for preparing and implementing the pollution prevention plan required under the baseline permit have already expired for existing facilities. Therefore, group members that seek coverage under the baseline general permit must have a pollution prevention plan developed and implemented prior to NOI submittal.

Unlike the baseline general permits, today's permit does not exclude all storm water discharges subject to effluent limitation guidelines. Four types of storm water discharges subject to effluent limitation guidelines may be covered under today's permit if they are not already subject to an existing or expired NPDES permit. These discharges include contaminated storm water runoff from phosphate fertilizer manufacturing facilities, runoff associated with asphalt paving or roofing emulsion production, runoff from material storage piles at cement manufacturing facilities and coal pile runoff at steam electric generating facilities. The permit does not, however, authorize all storm water discharges subject to effluent guidelines. Storm water discharges subject to effluent guidelines under 40 CFR part 436 or for mine drainage under 40 CFR part 440 are not covered under today's permit nor are discharges subject to effluent guidelines for acid or alkaline mine drainage under 40 CFR part 434.

TABLE 1.—INDUSTRIAL ACTIVITIES COVERED BY TODAY'S GENERAL PERMIT

Industrial activity	Fact sheet section describing discharges covered	Permit section describing discharges covered
Timber Products Facilities	VIII.A	XI.A.
Paper and Allied Products Manufacturing Facilities	VIII.B	XI.B.
Chemical and Allied Products Manufacturing Facilities	VIII.C	XI.C.
Asphalt Paving and Roofing Materials Manufacturers and Lubricant Manufacturers	VIII.D	XI.D.
Glass, Clay, Cement, Concrete, and Gypsum Product Manufacturing Facilities	VIII.E	XI.E.
Primary Metals Facilities	VIII.F	XI.F.
Metal Mining (Ore Mining and Dressing) Facilities	VIII.G	XI.G.
Coal Mines and Coal Mining-Related Facilities	VIII.H	XI.H.
Oil and Gas Extraction Facilities	VIII.I	XI.I.
Mineral Mining and Processing Facilities	VIII.J	XI.J.
Hazardous Waste Treatment, Storage, or Disposal Facilities	VIII.K	XI.K.
Landfills and Land Application Sites	VIII.L	XI.L.
Automobile Salvage Yards	VIII.M	XI.M.
Scrap and Waste Recycling Facilities	VIII.N	XI.N.
Steam Electric Power Generating Facilities, Including Coal Handling Areas	VIII.O	XI.O.
Vehicle Maintenance or Equipment Cleaning Areas at Motor Freight Transportation Facilities, Passenger Transportation Facilities, Petroleum Bulk Oil Stations and Terminals, Rail Transportation Facilities, and the United States Postal Service.	VIII.P	XI.P.
Vehicle Maintenance Areas and/or Equipment Cleaning Operations at Water Transportation Facilities.	VIII.Q	XI.Q.
Ship and Boat Building or Repairing Yards	VIII.R	XI.R.
Vehicle Maintenance Areas, Equipment Cleaning Areas, or Deicing Area located at Air Transportation Facilities.	VIII.S	XI.S.
Treatment Works	VIII.T	XI.T.
Food and Kindred Products Facilities	VIII.U	XI.U.
Textile Mills, Apparel, and Other Fabric Product Manufacturing Facilities	VIII.V	XI.V.
Wood and Metal Furniture and Fixture Manufacturing Facilities	VIII.W	XI.W.

TABLE 1.—INDUSTRIAL ACTIVITIES COVERED BY TODAY'S GENERAL PERMIT—Continued

Industrial activity	Fact sheet section describing discharges covered	Permit section describing discharges covered
Printing and Publishing Facilities	VIII.X	XI.X.
Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries	VIII.Y	XI.Y.
Leather Tanning and Finishing Facilities	VIII.Z	XI.Z.
Fabricated Metal Products Industry	VIII.AA	XI.AA.
Facilities That Manufacture Transportation Equipment, Industrial, or Commercial Machinery.	VIII.AB	XI.AB.
Facilities That Manufacture Electronic and Electrical Equipment and Components, Photographic and Optical Goods.	VIII.AC	XI.AC.

A. Limitations on Coverage

Because of the broad scope of today's permit, most industrial activities currently regulated under the storm water program could be covered by the permit. There are, however, several types of storm water discharges which are not covered under today's permit. Storm water discharges subject to an existing NPDES permit are not covered under today's permit, except facilities which are currently subject to the baseline general permit. EPA believes that in most cases these discharges are more appropriately covered under terms and conditions of their existing permit. These discharges may be covered under today's permit only when the existing permit has expired and only when the expired permit did not contain numeric effluent limitations more stringent than those in today's permit. Owners/operators of facilities currently covered under the baseline general permit who wish to obtain coverage under today's general permit must submit a Notice of Termination (NOT) to terminate coverage under the baseline general permit with a Notice of Intent (NOI) to be covered under today's permit. Storm water discharges that were subject to an NPDES permit that was terminated by the permitting authority are not eligible for coverage under today's permit. Construction activities are not eligible for coverage under this permit. Storm water discharges that were subject to a permit that was terminated as a result of the permittee's request are eligible for coverage under today's permit. Storm water discharges from industrial activities that are not addressed in the appropriate section of Part XI. (see Table 1) of the permit are not eligible for coverage under this permit. These types of industrial activities were not represented in the group application process. Therefore, EPA has no additional information with which to develop permit requirements beyond those developed for the baseline general permit.

(1) Storm Water Discharges Subject to New Source Performance Standards. Section 306 of the Clean Water Act requires EPA to develop performance standards for all new sources described in that section. These standards apply to all facilities which go into operation after the date the standards are promulgated. Section 511(c) of the Clean Water Act requires the Agency to comply with the National Environmental Policy Act prior to issuance of a permit under the authority of Section 402 of the CWA to facilities defined as a new source under Section 306.

Facilities which are subject to the performance standards for new sources as described in this section of the fact sheet must provide EPA with an Environmental Information Document pursuant to 40 CFR 6.101 prior to seeking coverage under this permit. This information shall be used by the Agency to evaluate the facility under the requirements of the National Environmental Policy Act (NEPA) in an Environmental Review. The Agency will make a final decision regarding the direct or indirect impact of the discharge. The Agency will follow all administrative procedures required in this process. The permittee must obtain a copy of the Agency's final finding prior to the submittal of a Notice of Intent to be covered by this general permit. In order to maintain eligibility, the permittee must implement any mitigation required of the facility as a result of the NEPA review process. Failure to implement mitigation measures upon which the Agency's NEPA finding is based is grounds for termination of permit coverage. In this way, EPA has established a procedure which allows for the appropriate review procedures to be completed by this Agency prior to the issuance of a permit under Section 402 of the CWA to an operator of a facility subject to the new source performance standards of Section 306 of the CWA. EPA believes that it has fulfilled its requirements under NEPA for this federal action under Section 402 of the CWA.

(2) Historic Preservation. The National Historic Preservation Act (NHPA) prohibits Federal actions that would affect a property that either is listed on, or is eligible for listing, on the National Historic Register. EPA therefore cannot issue NPDES permits to discharges that will affect historic properties unless measures will be taken such as under a written agreement between the applicant and the State Historic Preservation Officer (SHPO) that outlines all measures to be undertaken by the applicant to mitigate or prevent adverse effects to the historic property. Therefore, under today's permit a storm water discharge may be covered only if the discharge will not affect a historic property that is listed or is eligible to be listed in the National Historic Register, or the operator has obtained and is in compliance with a written agreement signed by the State Historic Preservation Officer (SHPO) that outlines measures to be taken to mitigate or prevent adverse affects to the historic site.

(3) Endangered Species. The Endangered Species Act (ESA) of 1973 requires Federal Agencies such as EPA to ensure, in consultation with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (the Services) that any actions authorized, funded, or carried out by the Agency (e.g., EPA issued NPDES permits authorizing discharges to waters of the United States) are not likely to jeopardize the continued existence of any federally-listed endangered or threatened species or adversely modify or destroy critical habitat of such species (see 16 U.S.C. 1536(a)(2), 50 CFR 402 and 40 CFR 122.49(c)). EPA completed a formal consultation with the Services on the action of issuing this permit on April 5, 1995. The terms and conditions of this permit reflect the results of that consultation.

Accordingly, storm water discharges that are likely to adversely affect species identified in Addendum H of the permit are not authorized permit coverage under this storm water multi-sector industrial general permit. Permittees are also not authorized permit coverage if the BMPs they plan to construct and operate as a part of the required storm water pollution prevention plan are likely to adversely affect a species identified in Addendum H.

To be eligible for coverage under the multi-sector storm water permit, applicants are required to review the list of species and their locations which are contained in Addendum H of this permit and which are described in the instructions for completing the application requirements under this permit. If an applicant determines that none of the species identified in the addendum are found in the county in which the facility is located, then there is no likelihood of an adverse affect and they are eligible for permit coverage. Applicants must then certify that their discharges, and the construction of storm water BMPs, are not likely to adversely affect species and will be granted multi-sector storm water permit coverage 48 hours after the date of the postmark on the envelope used to mail in the NOI form.

If species identified in Addendum H are found to be located in the same county as the facility seeking storm water permit coverage, then the applicant next must determine whether the species are in proximity to the storm water discharges at the facility, or any BMPs to be constructed to control storm water runoff. A species is in proximity to a storm water discharge when the species is located in the path or down gradient area through which or over which point source storm water flows from industrial activities to the point of discharge into the receiving water, and once discharged into the receiving water, in the immediate vicinity of, or nearby, the discharge point. A species is also in proximity if a species is located in the area of a site where storm water BMPs are planned to be constructed. If an applicant determines there are no species in proximity to the storm water discharge, or the BMPs to be constructed, then there is no likelihood of adversely affecting the species and the applicant is eligible for permit coverage.

If species are in proximity to the storm water discharges or areas of BMP construction, as long as they have been considered as part of a previous ESA authorization of the applicant's activity, and the environmental baseline established in that authorization is unchanged, the applicant may be covered under the permit. For example, an applicant's activity may have been authorized as part of a section 7 consultation under ESA, covered under a section 10 permit, or have received a clearance letter. The environmental baseline generally includes the past and present impacts of all federal, state and private actions that were contemporaneous to an ESA authorization. Therefore, if a permit applicant has received previous authorization and nothing has changed or been added to the environmental baseline established in the previous authorization, then coverage under this permit will be provided.

In the absence of such previous authorization, if species identified in Addendum H are in proximity to the discharges, or the construction areas for the BMPs, then the applicant must determine whether there is any likely adverse effect upon the species. This is done by the applicant conducting a further examination or investigation, or an alternative procedure, described in the instructions in Addendum H of the permit. If the applicant determines there is no likely adverse effect upon the species, then the applicant is eligible for permit coverage. If the applicant determines that there likely is, or will likely be an adverse effect, then the applicant is not eligible for multi-sector storm water permit coverage.

All dischargers applying for coverage under this permit must provide in the application information on the Notice of Intent form: (1) a determination as to whether there are any species identified in Addendum H in proximity to the storm water discharges and BMPs construction areas, and (2) a certification that their storm water discharges and the construction of BMPs to control storm water are not likely to adversely affect species identified in Addendum H, or are otherwise eligible for coverage due to a previous authorization under the ESA. Coverage is contingent upon the applicant's providing truthful information concerning certification and abiding by any conditions imposed by the permit.

Dischargers who are not able to determine that there will be no likely adverse affect to species or habitats and cannot sign the certification to gain coverage under this multi-sector storm water general permit, must apply to EPA for an individual NPDES storm water permit. As appropriate, EPA will conduct ESA § 7 consultation when issuing such individual permits.

Regardless of the above conditions, EPA may require that a permittee apply for an individual NPDES permit on the basis of possible adverse effects on species or critical habitats. Where there are concerns that coverage for a particular discharger is not sufficiently protective of listed species, the Services (as well as any other interested parties) may petition EPA to require that the discharger obtain an individual NPDES permit and conduct an individual section 7 consultation as appropriate.

In addition, the Assistant Administrator for Fisheries for the National Oceanic and Atmospheric Administration, or his/her authorized representative, or the U.S. Fisheries and Wildlife Service (as well as any other interested parties) may petition EPA to require that a permittee obtain an individual NPDES permit. The permittee is also required to make the storm water pollution prevention plan, annual site compliance inspection report, or other information available upon request to the Assistant Administrator for Fisheries for the National Oceanic and Atmospheric Administration, or his/her authorized representative, or the U.S. Fisheries and Wildlife Service Regional Director, or his/her authorized representative.

These mechanisms allow for the broadest and most efficient coverage for the permittee while still providing for the most efficient protection of endangered species. It significantly reduces the number of dischargers that must be considered individually and therefore allows the Agency and the Services to focus their resources on those discharges that are indeed likely to adversely affect water-dependent listed species. Straightforward mechanisms such as these allow applicants with expedient permit coverage, and eliminates ''permit limbo'' for the greatest number of permitted discharges. At the same time it is more protective of endangered species because it allows both agencies to focus on the real problems, and thus, provide endangered species protection in a more expeditious manner.

(4) Storm Water Discharges Associated with Inactive Mines, Landfills, Oil and Gas Operations that Are Located on Federal Lands. The permit does not cover storm water discharges associated with industrial activity from inactive mines, inactive landfills, and inactive oil and gas operations that are located on Federal lands, unless an operator of the industrial activity can be identified. These discharges are not eligible for coverage under this permit because they would more appropriately be covered by the permit currently under development by EPA intended specifically to cover these types of discharges.

III. Pollutants in Storm Water Discharges Associated with Industrial Activities in General

The volume and quality of storm water discharges associated with industrial activity will depend on a number of factors, including the industrial activities occurring at the facility, the nature of precipitation, and the degree of surface imperviousness. A discussion of these factors is provided in the proposed general permit (see FR 58 61146 Nov. 19, 1993).

IV. Summary of Options for Controlling Pollutants

Pollutants in storm water discharges from industrial plants may be reduced using the following methods: eliminating pollution sources, implementing Best Management Practices to prevent pollution, using traditional storm water management practices, and providing end-of-pipe treatment. Each of these is discussed in the proposed general permit (see 58 FR 61146, Nov. 19, 1993).

V. The Federal/Municipal Partnership: The Role of Municipal Operators of Large and Medium Municipal Separate Storm Sewer Systems

A key issue in developing a workable regulatory program for controlling pollutants in storm water discharges associated with industrial activity is the proper use and coordination of limited regulatory resources. This is especially important when addressing the appropriate role of municipal operators of large and medium municipal separate storm sewer systems in the control of pollutants in storm water associated with industrial activity which discharge through municipal separate storm sewer systems. The proposed general permit discussed several key policy factors (see 58 FR 61146).

VI. Summary of Common Permit Conditions

The following section describes the permit conditions common to discharges from all the industrial activities covered by today's permit. These conditions were proposed on November 19, 1993 (58 FR 61146), and reflect the baseline permit requirements established for most regulated industries in EPA's General Permits for Storm Water Discharges Associated with Industrial Activity [57 FR 41344–41356 September 9, 1992, and 57 FR 44438–44470 September 25, 1992]. Permit requirements which vary from industry to industry are discussed in Part VIII of this fact sheet.

A. Notification Requirements

General permits for storm water discharges associated with industrial activity require the submittal of an NOI prior to the authorization of such discharges (see 40 CFR 122.28(b)(2)(i), April 2, 1992 [57 FR 11394]). Consistent with these regulatory requirements, today's general permit establishes NOI requirements that operate in addition to the part 1 and part 2 group application requirements. To be covered under this permit, facilities, including members of an approved group, must submit an NOI and other required information within 90 days of the effective date of this permit. The NOI form is found in Addendum B.

1. Contents of NOIs

a. The operator's name, address, telephone number, and status as Federal, State, private, public, or other entity.

b. Street address of the facility for which the notification is submitted. Where a street address for the site is not available, the location can be described in terms of the latitude and longitude of the facility to the nearest 15 seconds, or the quarter, section, township, and range (to the nearest quarter section) of the approximate center of the site.

c. An indication of whether the facility is located on Federal Indian Reservations.

d. Up to four 4-digit Standard Industrial Classification (SIC) codes that best represent the principal products or activities provided by the facility. For hazardous waste treatment, storage, or disposal facilities, land disposal facilities that receive or have received any industrial waste, steam electric power generating facilities, or treatment works treating domestic sewage, a 2-character code must be provided.

e. The permit number of any NPDES permit for any discharge (including non-storm water discharges) from the site that is currently authorized by an NPDES permit.

f. The name of the receiving water(s), or if the discharge is through a municipal separate storm sewer, the name of the municipal operator of the storm sewer and the receiving water(s) for the discharge through the municipal separate storm sewer.

g. The analytical monitoring status of the facility (monitoring or not).

h. For a co-permittee, if a storm water general permit number has been issued, it should be included.

i. A certification that the operator of the facility has read and understands the eligibility requirements for the permit and that the operator believes the facility to be in compliance with those requirements.

j. Identify type of permit requested (either baseline general, multi-sector, or construction); longitude and latitude; indication of presence of endangered species; indication of historic preservation agreement; signed certification stating compliance with the National Historic Preservation Act, Endangered Species Act, and the new source performance standard requirements.

k. For any facility that begins to discharge storm water associated with industrial activity after [insert date 270 days after permit finalization], a certification that a storm water pollution prevention plan has been prepared for the facility in accordance with Part IV of this permit. (A copy of the plan should not be included with the NOI submission.)

An NOI form is provided in Addendum B. The NOI must be signed in accordance with the signatory requirements of 40 CFR 122.22. A complete description of these signatory requirements is provided in the instructions accompanying the NOI. Completed NOI forms must be submitted to the Storm Water Notice of Intent (4203), 401 M Street SW., Washington, DC 20460.

2. Deadlines

Except for the special circumstances discussed below, dischargers who intend to obtain coverage under this permit for a storm water discharge from an industrial activity that is in existence prior to the date 90 days after permit issuance must submit an NOI on or before the date 90 days after permit issuance, and facilities that begin industrial activities after the date 90 days after permit issuance are required to submit an NOI at least 2 days prior to the commencement of the new industrial activity.

A discharger is not precluded from submitting an NOI at a later date. However, in such instances, EPA may bring appropriate enforcement actions.

The storm water regulations (40 CFR 122.27) require that facilities that discharge storm water associated with an industrial activity submit an application for permit coverage on or before October 1, 1992, except industrial activities owned or operated by a medium municipality, which had until May 17, 1993. Today's permit does not extend that application deadline. EPA intends that most of the facilities that will seek coverage under the final version of today's permit are: members of groups with approved applications; facilities that submitted a Notice of

Intent to be covered by EPA's baseline general permit and now wish to switch to coverage under today's permit; or have submitted a complete individual application but have not yet received an individual permit.

EPA may deny coverage under this permit and require submittal of an individual NPDES permit application based on a review of the completeness and/or content of the NOI or other information (e.g., Endangered Species Act compliance, National Historic Preservation Act Compliance, water quality information, compliance history, history of spills, etc.). Where EPA requires a discharger authorized under this general permit to apply for an individual NPDES permit (or an alternative general permit), EPA will notify the discharger in writing that a permit application (or different NOI) is required by an established deadline. Coverage under this industry general permit will automatically terminate if the discharger fails to submit the required permit application in a timely manner. Where the discharger does submit a requested permit application, coverage under this general permit will automatically terminate on the effective date of the issuance or denial of the individual NPDES permit or the alternative general permit as it applies to the individual permittee. Compliance deadlines are discussed in Part VI.H. of this fact sheet.

Municipal Separate Storm Sewer System Operator Notification

Operators of storm water discharges associated with industrial activity that discharge through a large or medium municipal separate storm sewer system or a municipal system designated by the Director,[4] must notify the municipal operator of the system receiving the discharge and submit a copy of their NOI to the municipal operator.

4. Notice of Termination

Where a discharger is able to eliminate the storm water discharges associated with industrial activity from a facility, the discharger may submit a Notice of Termination (NOT) form (or photocopy thereof) provided by the Director.

A copy of the NOT and instructions for completing the NOT are included in Addendum C. The NOT form requires the following information:

a. Name, mailing address, and location of the facility for which the notification is submitted. Where a street address for the site is not available, the location of the approximate center of the site must be described in terms of the latitude and longitude to the nearest 15 seconds, or the section, township and range to the nearest quarter;

b. The name, address and telephone number of the operator addressed by the Notice of Termination;

c. The NPDES permit number for the storm water discharge associated with industrial activity identified by the NOT;

d. An indication of whether the storm water discharges associated with industrial activity have been eliminated or the operator of the discharges has changed; and

e. The following certification:

I certify under penalty of law that all storm water discharges associated with industrial activity from the identified facility that are authorized by an NPDES general permit have been eliminated or that I am no longer the operator of the industrial activity. I understand that by submitting this Notice of Termination I am no longer authorized to discharge storm water associated with industrial activity under this general permit, and that discharging pollutants in storm water associated with industrial activity to waters of the United States is unlawful under the Clean Water Act where the discharge is not authorized by an NPDES permit. I also understand that the submittal of this notice of termination does not release an operator from liability for any violations of this permit or the Clean Water Act.

NOTs are to be sent to the Storm Water Notice of Termination (4203), 401 M Street, SW., Washington, DC 20460.

The NOT must be signed in accordance with the signatory requirements of 40 CFR 122.22. A complete description of these signatory requirements is provided in the instructions accompanying the NOT.

B. Special Conditions

The conditions of this permit have been designed to comply with the technology-based standards of the CWA (BAT/BCT). Based on a consideration of the appropriate factors for BAT and BCT requirements, and a consideration of the factors and options discussed in this fact sheet for controlling pollutants in storm water discharges associated with industrial activity, the general permit lists a set of tailored requirements for developing and implementing storm water pollution prevention plans, and for selected discharges, effluent limitations.[5]

Part VIII. of this fact sheet summarizes the options for controlling pollutants in storm water discharges associated with industrial activity. The permit includes numeric effluent limitations for coal pile runoff, contaminated runoff from fertilizer manufacturing facilities, runoff from asphalt emulsion manufacturing facilities, and material storage pile runoff located at cement manufacturing facilities or cement kilns.

For other discharges covered by the permit, the permit conditions reflect EPA's decision to identify a number of best management practices and traditional storm water management practices which prevent pollution in storm water discharges as the BAT/BCT level of control for the majority of storm water discharges covered by this permit. The permit conditions applicable to these discharges are not numeric effluent limitations, but rather are flexible requirements for developing and implementing site specific plans to minimize and control pollutants in storm water discharges associated with industrial activity. This approach is consistent with the approach used in the baseline general permits finalized on September 9, 1992 (57 FR 41236) and September 25, 1992 (57 FR 44438). In addition, today's general permit reflects information received through the group application process.

EPA is authorized under 40 CFR 122.44(k)(2) to impose BMPs in lieu of numeric effluent limitations in NPDES permits when the Agency finds numeric effluent limitations to be infeasible. EPA may also impose BMPs which are ''reasonably necessary * * * to carry out the purposes of the Act'' under 40 CFR 122.44(k)(3). Both of these standards for imposing BMPs were recognized in *NRDC* v. *Costle*, 568 F.2d 1369, 1380 (D.C. Cir. 1977). The conditions in the permit are issued under the authority of both of these regulatory provisions. The pollution prevention or BMP requirements in this permit operate as limitations on effluent discharges that reflect the application of BAT/BCT. This is because the BMPs identified require the use of source

[4] The terms large and medium municipal separate storm sewer systems (systems serving a population of 100,000 or more) are defined at 40 CFR 122.26(b) (4) and (7). Some of the cities and counties in which these systems are found are listed in Appendices F, G, H, and I to 40 CFR Part 122. Other municipal systems have been designated by EPA on a case-by-case basis or have brought into the program based upon the 1990 Census.

[5] Part I.C.2 of the general permit provides that facilities with storm water discharges associated with industrial activity which, based on an evaluation of site specific conditions, believe that the appropriate conditions of this permit do not adequately represent BAT and BCT requirements for the facility may submit to the Director an individual application (Form 1 and Form 2F). A detailed explanation of the reasons why the conditions of the available general permits do not adequately represent BAT and BCT requirements for the facility as well as any supporting documentation must be included.

control technologies which, in the context of this general permit, are the best available of the technologies economically achievable (or the equivalent BCT finding). See *NRDC* v. *EPA*, 822 F.2d 104, 122–23 (D.C. Cir. 1987) (EPA has substantial discretion to impose nonquantitative permit requirements pursuant to Section 402(a)(1)).

1. Prohibition of Non-storm Water Discharges

Today's general permit does not authorize non-storm water discharges that are mixed with storm water except as provided below. The only non-storm water discharges that are intended to be authorized under today's permit include discharges from fire fighting activities; fire hydrant flushings; potable water sources, including waterline flushings; irrigation drainage; lawn watering; routine external building washdown without detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; compressor condensate; springs; uncontaminated ground water; and foundation or footing drains where flows are not contaminated with process materials such as solvents that are combined with storm water discharges associated with industrial activity.

To be authorized under the general permit, these sources of non-storm water (except flows from fire fighting activities) must be identified in the storm water pollution prevention plan prepared for the facility. (Plans and other plan requirements are discussed in more detail below). Where such discharges occur, the plan must also identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

Today's permit does not require pollution prevention measures to be identified and implemented for non-storm water flows from fire-fighting activities because these flows will generally be unplanned emergency situations where it is necessary to take immediate action to protect the public.

The prohibition of unpermitted non-storm water discharges in this permit ensures that non-storm water discharges (except for those classes of non-storm water discharges that are conditionally authorized in Part III.A.2.b.) are not inadvertently authorized by this permit. Where a storm water discharge is mixed with non-storm water that is not authorized by today's general permit or another NPDES permit, the discharger should submit the appropriate application forms (Forms 1, 2C, and/or 2E) to gain permit coverage of the non-storm water portion of the discharge.

2. Releases of Reportable Quantities of Hazardous Substances and Oil

a. This general permit provides that the discharge of hazardous substances or oil from a facility must be eliminated or minimized in accordance with the storm water pollution plan developed for the facility. Where a permitted storm water discharge contains a hazardous substance or oil in an amount equal to or in excess of a reporting quantity established under 40 CFR Part 117, or 40 CFR Part 302 during a 24-hour period, the following actions must be taken:

(1) Any person in charge of the facility that discharges hazardous substances or oil is required to notify the National Response Center (NRC) (800–424–8802; in the Washington, DC, metropolitan area, 202–426–2675) in accordance with the requirements of 40 CFR Part 117, and 40 CFR Part 302 as soon as they have knowledge of the discharge.

(2) The storm water pollution prevention plan for the facility must be modified within 14 calendar days of knowledge of the release to provide a description of the release, an account of the circumstances leading to the release, and the date of the release. In addition, the plan must be reviewed to identify measures to prevent the reoccurrence of such releases and to respond to such releases, and it must be modified where appropriate.

(3) The permittee must also submit to EPA within 14 calendar days of knowledge of the release a written description of the release (including the type and estimate of the amount of material released), the date that such release occurred, the circumstances leading to the release, and steps to be taken to modify the pollution prevention plan for the facility.

b. Anticipated discharges containing a hazardous substance in an amount equal to or in excess of reporting quantities are those caused by events occurring within the scope of the relevant operating system. Facilities that have more than 1 anticipated discharge per year containing a hazardous substance in an amount equal to or in excess of a reportable quantity are required to:

(1) Submit notifications of the first release that occurs during a calendar year (or for the first year of this permit, after submittal of an NOI); and

(2) Provide a written description in the storm water pollution prevention plan of the dates on which such releases occurred, the type and estimate of the amount of material released, and the circumstances leading to the releases. In addition, the pollution prevention plan must address measures to minimize such releases.

c. Where a discharge of a hazardous substance or oil in excess of reporting quantities is caused by a non-storm water discharge (e.g., a spill of oil into a separate storm sewer), that discharge is not authorized by this permit and the discharger must report the discharge as required under 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302. In the event of a spill, the requirements of Section 311 of the CWA and other applicable provisions of Sections 301 and 402 of the CWA continue to apply. This approach is consistent with the requirements for reporting releases of hazardous substances and oil that make a clear distinction between hazardous substances typically found in storm water discharges and those associated with spills that are not considered part of a normal storm water discharge (see 40 CFR 117.12(d)(2)(i)).

3. Co-located Industrial Facilities

Today's general permit addresses storm water discharges from industrial activities co-located at an industrial facility described in the coverage section of the permit. Co-located industrial activities occur when activities being conducted onsite meet more than one of the descriptions in the coverage sections of Part XI. of this permit (e.g., a landfill at a wood treatment facility or a vehicle maintenance garage at an asphalt batching plant). Co-located industrial activities are authorized under today's general permit provided that the industrial facility complies with the pollution prevention plan and monitoring requirements for each co-located activity.

Authorizing co-located discharges allows industrial facilities to develop pollution prevention plans that fully address all industrial activities at the site. For example, if a wood treatment facility has a landfill, the pollution prevention plan requirements for the wood treatment facility will differ greatly from those needed for a landfill. Therefore, by authorizing co-located industrial activities, the wood treatment facility will develop a pollution prevention plan to meet the requirements addressing the storm water discharges from the wood treatment facility and the landfill. The facility is also subject to applicable monitoring requirements for each type of industrial activity as described in the applicable sections of the permit. By monitoring the discharges from the different industrial activities, the facility can better determine the effectiveness of the pollution prevention plan requirements for controlling storm water discharges from all activities.

C. Common Pollution Prevention Plan Requirements

All facilities intended to be covered by today's general permit for storm water discharges associated with industrial activity must prepare and implement a storm water pollution prevention plan. The storm water permit addresses pollution prevention plan requirements for a number of categories of industries. The following is a discussion of the common permit requirements for all industries; special requirements for storm water discharges associated with industrial activity through large and medium municipal separate storm sewer systems; special requirements for facilities subject to EPCRA Section 313 reporting requirements; and special requirements for facilities with outdoor salt storage piles. These are the permit requirements which apply to discharges associated with any of the industrial activities covered by today's permit. These common requirements may be amended or further clarified in the industry-specific pollution prevention plan requirements. Table 2 indicates the location of the industry-specific pollution prevention plans. These industry-specific requirements are additive for facilities where co-located industrial activities occur. For example, if a facility has both a sand and gravel mining operation and a ready mix concrete manufacturing operation, then that facility is subject to the pollution prevention plan requirements in both Part XI.E.3. and Part XI.J.3. of the permit.

TABLE 2.—STORM WATER POLLUTION PREVENTION PLAN REQUIREMENTS

Industrial activity	Fact sheet section describing PPP requirements	Permit section describing PPP requirements
Timber Products Facilities	VIII.A.7	XI.A.3.
Paper and Allied Products Manufacturing Facilities	VIII.B.5	XI.B.3.
Chemical and Allied Products Manufacturing Facilities	VIII.C.6	XI.C.4.
Asphalt Paving and Roofing Materials Manufacturers and Lubricant Manufacturers	VIII.D.4	XI.D.3.
Glass, Clay, Cement, Concrete, and Gypsum Product Manufacturing Facilities	VIII.E.5	XI.E.3.
Primary Metals Facilities	VIII.F.6	XI.F.3.
Metal Mining (Ore Mining and Dressing) Facilities	VIII.G.5	XI.G.3.
Coal Mines and Coal Mining-Related Facilities	VIII.H.4	XI.H.3.
Oil and Gas Extraction Facilities	VIII.I.5	XI.I.3.
Mineral Mining and Processing Facilities	VIII.J.4	XI.J.3.
Hazardous Waste Treatment, Storage, or Disposal Facilities	VIII.K.5	XI.K.3.
Landfills and Land Application Sites	VIII.L.5	XI.L.3.
Automobile Salvage Yards	VIII.M.5	XI.M.2.
Scrap and Waste Recycling Facilities	VIII.N.5	XI.N.3.
Steam Electric Power Generating Facilities, Including Coal Handling Areas	VIII.O.5	XI.O.3.
Vehicle Maintenance or Equipment Cleaning Areas at Motor Freight Transportation Facilities, Passenger Transportation Facilities, Petroleum Bulk Oil Stations and Terminals, Rail Transportation Facilities, and the United States Postal Service Transportation Facilities.	VIII.P.5	XI.P.3.
Vehicle Maintenance Areas and/or Equipment Cleaning Operations at Water Transportation Facilities.	VIII.Q.5	XI.Q.3.
Ship and Boat Building or Repairing Yards	VIII.R.6	XI.R.3.
Vehicle Maintenance Areas, Equipment Cleaning Areas, or Deicing Areas Located at Air Transportation Facilities.	VIII.S.4	XI.S.3.
Treatment Works	VIII.T.5	XI.T.3.
Food and Kindred Products Facilities	VIII.U.4	XI.U.3.
Textile Mills, Apparel, and Other Fabric Product Manufacturing Facilities	VIII.V.5	XI.V.3.
Wood and Metal Furniture and Fixture Manufacturing Facilities	VIII.W.4	XI.W.3.
Printing and Publishing Facilities	VIII.X.5	XI.X.3.
Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries	VIII.Y.4	XI.Y.3.
Leather Tanning and Finishing Facilities	VIII.Z.5	XI.Z.3.
Fabricated Metal Products Industry	VIII.AA.3	XI.AA.3.
Facilities That Manufacture Transportation Equipment, Industrial, or Commercial Machinery.	VIII.AB.5	XI.AB.3.
Facilities That Manufacture Electronic and Electrical Equipment and Components, Photographic and Optical Goods.	VIII.AC.5	XI.AC.3.

The pollution prevention approach in today's general permit focuses on two major objectives: (1) to identify sources of pollution potentially affecting the quality of storm water discharges associated with industrial activity from the facility; and (2) to describe and ensure implementation of practices to minimize and control pollutants in storm water discharges associated with industrial activity from the facility and to ensure compliance with the terms and conditions of this permit.

The storm water pollution prevention plan requirements in the general permit are intended to facilitate a process whereby the operator of the industrial facility thoroughly evaluates potential pollution sources at the site and selects and implements appropriate measures designed to prevent or control the discharge of pollutants in storm water runoff. The process involves the following four steps: (1) Formation of a team of qualified plant personnel who will be responsible for preparing the plan and assisting the plant manager in its implementation; (2) assessment of potential storm water pollution sources; (3) selection and implementation of appropriate management practices and controls; and (4) periodic evaluation of the effectiveness of the plan to prevent storm water contamination and comply with the terms and conditions of this permit. The authorization to include best management practices in the permit to control or abate the discharge of pollutants is derived from 40 CFR 144.45(k).

EPA believes the pollution prevention approach is the most environmentally sound and cost-effective way to control the discharge of pollutants in storm water runoff from industrial facilities. This position is supported by the results of a comprehensive technical survey EPA completed in 1979.[6] The survey found that two classes of management practices are generally employed at industries to control the nonroutine discharge of pollutants from sources such as storm water runoff, drainage from raw material storage and waste disposal areas, and discharges from places where spills or leaks have occurred. The first class of management practices includes those that are low in cost, applicable to a broad class of industries and substances, and widely considered essential to a good pollution control program. Some examples of practices in this class are good housekeeping, employee training, and spill response and prevention procedures. The second class includes management practices that provide a second line of defense against the release of pollutants. This class addresses containment, mitigation, and cleanup. Since publication of the 1979 survey, EPA has imposed management practices and controls in NPDES permits on a case-by-case basis. The Agency also has continued to review the appropriateness and effectiveness of such practices,[7] as well as the techniques used to prevent and contain oil spills.[8] Experience with these practices and controls has shown that they can be used in permits to reduce pollutants in storm water discharges in a cost-effective manner. In keeping with both the present and previous administration's objective to attain environmental goals through pollution prevention, pollution prevention has been and continues to be the cornerstone of the NPDES Permitting program for storm water. EPA has developed guidance entitled ''Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices,'' September 1992, to assist permittees in developing and implementing pollution prevention measures.

1. Pollution Prevention Team

As a first step in the process of developing and implementing a storm water pollution prevention plan, permittees are required to identify a qualified individual or team of individuals to be responsible for developing the plan and assisting the facility or plant manager in its implementation. When selecting members of the team, the plant manager should draw on the expertise of all relevant departments within the plant to ensure that all aspects of plant operations are considered when the plan is developed. The plan must clearly describe the responsibilities of each team member as they relate to specific components of the plan. In addition to enhancing the quality of communication between team members and other personnel, clear delineation of responsibilities will ensure that every aspect of the plan is addressed by a specified individual or group of individuals. Pollution Prevention Teams may consist of one individual where appropriate (e.g., in certain small businesses with limited storm water pollution potential).

2. Description of Potential Pollution Sources

Each storm water pollution prevention plan must describe activities, materials, and physical features of the facility that may contribute significant amounts of pollutants to storm water runoff or, during periods of dry weather, result in pollutant discharges through the separate storm sewers or storm water drainage systems that drain the facility. This assessment of storm water pollution risk will support subsequent efforts to identify and set priorities for necessary changes in materials, materials management practices, or site features, as well as aid in the selection of appropriate structural and nonstructural control techniques. Some operators may find that significant amounts of pollutants are running onto the facility property. Such operators should identify and address the contaminated runon in the storm water pollution prevention plan. If the runon cannot be addressed or diverted by the permittee, the permitting authority should be notified. If necessary, the permitting authority may require the operator of the adjacent facility to obtain a permit.

Part XI of the permit includes specific requirements for the various industry sectors covered by today's permit. The storm water pollution prevention plans generally must describe the following elements:

a. Drainage. The plan must contain a map of the site that shows the location of outfalls covered by the permit (or by other NPDES permits), the pattern of storm water drainage, an indication of the types of discharges contained in the drainage areas of the outfalls, structural features that control pollutants in runoff,[9] surface water bodies (including wetlands), places where significant materials [10] are exposed to rainfall and runoff, and locations of major spills and leaks that occurred in the 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. The map also must show areas where the following activities take place: fueling, vehicle and equipment maintenance and/or cleaning, loading and unloading, material storage (including tanks or other vessels used for liquid or waste storage), material processing, and waste disposal. For areas of the facility that generate storm water discharges with a reasonable potential to contain significant amounts of pollutants, the map must indicate the probable direction of storm water flow and the pollutants likely to be in the discharge. Flows with a significant potential to cause soil erosion also must be identified. In order to increase the readability of the map, the inventory of the types of discharges contained in each outfall may be kept as an attachment to the site map.

b. Inventory of Exposed Materials. Facility operators are required to

[6] See ''Storm Water Management for Industrial Activities,'' EPA, September 1992, EPA–832–R–92–006.

[7] For example, see ''Best Management Practices: Useful Tools for Cleaning Up,'' Thron, H. Rogoshewski, P., 1982, Proceedings of the 1982 Hazardous Material Spills Conference; ''The Chemical Industries' Approach to Spill Prevention,'' Thompson, C., Goodier, J. 1980, Proceedings of the 1980 National Conference of Control of Hazardous Materials Spills; a series of EPA memorandum entitled ''Best Management Practices in NPDES Permits—Information Memorandum,'' 1983, 1985, 1986, 1987, 1988; Review of Emergency Systems: Report to Congress,'' EPA, 1988; and ''Analysis of Implementing Permitting Activities for Storm Water Discharges Associated with Industrial Activity,'' EPA, 1991.

[8] See for example, ''The Oil Spill Prevention, Control and Countermeasures Program Task Force Report,'' EPA, 1988; and ''Guidance Manual for the Development of an Accidental Spill Prevention Program,'' prepared by SAIC for EPA, 1986.

[9] Nonstructural features such as grass swales and vegetative buffer strips also should be shown.

[10] Significant materials include, but are not limited to the following: raw materials; fuels; solvents, detergents, and plastic pellets; finished materials, such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); any chemical the facility is required to report pursuant to EPCRA Section 313; fertilizers; pesticides; and waste products, such as ashes, slag, and sludge that have the potential to be released with storm water discharges. (See 40 CFR 122.26(b)(8)).

carefully conduct an inspection of the site and related records to identify significant materials that are or may be exposed to storm water. The inventory must address materials that within 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit have been handled, stored, processed, treated, or disposed of in a manner to allow exposure to storm water. Findings of the inventory must be documented in detail in the pollution prevention plan. At a minimum, the plan must describe the method and location of onsite storage or disposal; practices used to minimize contact of materials with rainfall and runoff; existing structural and nonstructural controls that reduce pollutants in runoff; and any treatment the runoff receives before it is discharged to surface waters or a separate storm sewer system. The description must be updated whenever there is a significant change in the types or amounts of materials, or material management practices, that may affect the exposure of materials to storm water.

c. Significant Spills and Leaks. The plan must include a list of any significant spills and leaks of toxic or hazardous pollutants that occurred in the 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Significant spills include, but are not limited to, releases of oil or hazardous substances in excess of quantities that are reportable under Section 311 of CWA (see 40 CFR 110.10 and 40 CFR 117.21) or Section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (see 40 CFR 302.4). Significant spills may also include releases of oil or hazardous substances that are not in excess of reporting requirements and releases of materials that are not classified as oil or a hazardous substance.

The listing should include a description of the causes of each spill or leak, the actions taken to respond to each release, and the actions taken to prevent similar such spills or leaks in the future. This effort will aid the facility operator as she or he examines existing spill prevention and response procedures and develops any additional procedures necessary to fulfill the requirements of Part XI. of this permit.

d. Non-storm Water Discharges. Each pollution prevention plan must include a certification, signed by an authorized individual, that discharges from the site have been tested or evaluated for the presence of non-storm water discharges. The certification must describe possible significant sources of non-storm water, the results of any test and/or evaluation conducted to detect such discharges, the test method or evaluation criteria used, the dates on which tests or evaluations were performed, and the onsite drainage points directly observed during the test or evaluation. Acceptable test or evaluation techniques include dye tests, television surveillance, observation of outfalls or other appropriate locations during dry weather, water balance calculations, and analysis of piping and drainage schematics.[11]

Except for flows that originate from fire fighting activities, sources of non-storm water that are specifically identified in the permit as being eligible for authorization under the general permit must be identified in the plan. Pollution prevention plans must identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water discharge.

EPA recognizes that certification may not be feasible where facility personnel do not have access to an outfall, manhole, or other point of access to the conduit that ultimately receives the discharge. In such cases, the plan must describe why certification was not feasible. Permittees who are not able to certify that discharges have been tested or evaluated must notify the Director in accordance with Part XI. of the permit.

e. Sampling Data. Any existing data on the quality or quantity of storm water discharges from the facility must be described in the plan, including data collected for part 2 of the group application process. These data may be useful for locating areas that have contributed pollutants to storm water. The description should include a discussion of the methods used to collect and analyze the data. Sample collection points should be identified in the plan and shown on the site map.

f. Summary of Potential Pollutant Sources. The description of potential pollution sources culminates in a narrative assessment of the risk potential that sources of pollution pose to storm water quality. This assessment should clearly point to activities, materials, and physical features of the facility that have a reasonable potential to contribute significant amounts of pollutants to storm water. Any such activities, materials, or features must be addressed by the measures and controls subsequently described in the plan. In conducting the assessment, the facility operator must consider the following activities: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; significant dust or particulate generating processes; and onsite waste disposal practices. The assessment must list any significant pollution sources at the site and identify the pollutant parameter or parameters (i.e., biochemical oxygen demand, suspended solids, etc.) associated with each source.

3. Measures and Controls

Following completion of the source identification and assessment phase, the permit requires the permittee to evaluate, select, and describe the pollution prevention measures, best management practices (BMPs), and other controls that will be implemented at the facility. BMPs include processes, procedures, schedules of activities, prohibitions on practices, and other management practices that prevent or reduce the discharge of pollutants in storm water runoff.

EPA emphasizes the implementation of pollution prevention measures and BMPs that reduce possible pollutant discharges at the source. Source reduction measures include, among others, preventive maintenance, chemical substitution, spill prevention, good housekeeping, training, and proper materials management. Where such practices are not appropriate to a particular source or do not effectively reduce pollutant discharges, EPA supports the use of source control measures and BMPs such as material segregation or covering, water diversion, and dust control. Like source reduction measures, source control measures and BMPs are intended to keep pollutants out of storm water. The remaining classes of BMPs, which involve recycling or treatment of storm water, allow the reuse of storm water or attempt to lower pollutant concentrations prior to discharge.

The pollution prevention plan must discuss the reasons each selected control or practice is appropriate for the facility and how each will address one or more of the potential pollution sources identified in the plan. The plan also must include a schedule specifying the time or times during which each control or practice will be implemented. In addition, the plan should discuss ways in which the controls and practices relate to one another and, when taken as a whole, produce an integrated and consistent approach for preventing or controlling potential storm water contamination problems. The permit requirements included for the various industry sectors in Part XI

[11] In general, smoke tests should not be used for evaluating the discharge of non-storm water to a separate storm sewer as many sources of non-storm water typically pass through a trap that would limit the effectiveness of the smoke test.

of today's permit generally require that the portion of the plan that describes the measures and controls address the following minimum components.

When ''minimize/reduce'' is used relative to pollution prevention plan measures, EPA means to consider and implement best management practices that will result in an improvement over the baseline conditions as it relates to the levels of pollutants identified in storm water discharges with due consideration to economic feasibility and effectiveness.

a. Good Housekeeping. Good housekeeping involves using practical, cost-effective methods to identify ways to maintain a clean and orderly facility and keep contaminants out of separate storm sewers. It includes establishing protocols to reduce the possibility of mishandling chemicals or equipment and training employees in good housekeeping techniques. These protocols must be described in the plan and communicated to appropriate plant personnel.

b. Preventive Maintenance. Permittees must develop a preventive maintenance program that involves regular inspection and maintenance of storm water management devices and other equipment and systems. The program description should identify the devices, equipment, and systems that will be inspected; provide a schedule for inspections and tests; and address appropriate adjustment, cleaning, repair, or replacement of devices, equipment, and systems. For storm water management devices such as catch basins and oil/water separators, the preventive maintenance program should provide for periodic removal of debris to ensure that the devices are operating efficiently. For other equipment and systems, the program should reveal and enable the correction of conditions that could cause breakdowns or failures that may result in the release of pollutants.

c. Spill Prevention and Response Procedures. Based on an assessment of possible spill scenarios, permittees must specify appropriate material handling procedures, storage requirements, containment or diversion equipment, and spill cleanup procedures that will minimize the potential for spills and in the event of a spill enable proper and timely response. Areas and activities that typically pose a high risk for spills include loading and unloading areas, storage areas, process activities, and waste disposal activities. These activities and areas, and their accompanying drainage points, must be described in the plan. For a spill prevention and response program to be effective, employees should clearly understand the proper procedures and requirements and have the equipment necessary to respond to spills.

d. Inspections. In addition to the comprehensive site evaluation, facilities are required to conduct periodic inspections of designated equipment and areas of the facility. Industry-specific requirements for such inspections, if any, are discussed in Section VIII. of this fact sheet. When required, qualified personnel must be identified to conduct inspections at appropriate intervals specified in the plan. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections must be maintained. These periodic inspections are different from the comprehensive site evaluation, even though the former may be incorporated into the latter. Equipment, area, or other inspections are typically visual and are normally conducted on a regular basis, e.g., daily inspections of loading areas. Requirements for such periodic inspections are specific to each industrial sector in today's permit, whereas the comprehensive site compliance evaluation is required of all industrial sectors. Area inspections help ensure that storm water pollution prevention measures (e.g., BMPs) are operating and properly maintained on a regular basis. The comprehensive site evaluation is intended to provide an overview of the entire facility's pollution prevention activities. Refer to Part VI.C.4. below for more information on the comprehensive site evaluation.

e. Employee Training. The pollution prevention plan must describe a program for informing personnel at all levels of responsibility of the components and goals of the storm water pollution prevention plan. The training program should address topics such as good housekeeping, materials management, and spill response procedures. Where appropriate, contractor personnel also must be trained in relevant aspects of storm water pollution prevention. A schedule for conducting training must be provided in the plan. Several sections in Part XI. of today's permit specify a minimum frequency for training of once per year. Others indicate that training is to be conducted at an appropriate interval. EPA recommends that facilities conduct training annually at a minimum. However, more frequent training may be necessary at facilities with high turnover of employees or where employee participation is essential to the storm water pollution prevention plan.

f. Recordkeeping and Internal Reporting Procedures. The pollution prevention plan must describe procedures for developing and retaining records on the status and effectiveness of plan implementation. At a minimum, records must address spills, monitoring, and inspection and maintenance activities. The plan also must describe a system that enables timely reporting of storm water management-related information to appropriate plant personnel.

g. Sediment and Erosion Control. The pollution prevention plan must identify areas that, due to topography, activities, soils, cover materials, or other factors have a high potential for significant soil erosion. The plan must identify measures that will be implemented to limit erosion in these areas.

h. Management of Runoff. The plan must contain a narrative evaluation of the appropriateness of traditional storm water management practices (i.e., practices other than those that control pollutant sources) that divert, infiltrate, reuse, or otherwise manage storm water runoff so as to reduce the discharge of pollutants. Appropriate measures may include, among others, vegetative swales, collection and reuse of storm water, inlet controls, snow management, infiltration devices, and wet detention/retention basins.

Based on the results of the evaluation, the plan must identify practices that the permittee determines are reasonable and appropriate for the facility. The plan also should describe the particular pollutant source area or activity to be controlled by each storm water management practice. Reasonable and appropriate practices must be implemented and maintained according to the provisions prescribed in the plan.

In selecting storm water management measures, it is important to consider the potential effects of each method on other water resources, such as ground water. Although storm water pollution prevention plans primarily focus on storm water management, facilities must also consider potential ground water pollution problems and take appropriate steps to avoid adversely impacting ground water quality. For example, if the water table is unusually high in an area, an infiltration pond may contaminate a ground water source unless special preventive measures are taken. Under EPA's July 1991 Ground Water Protection Strategy, States are encouraged to develop Comprehensive State Ground Water Protection Programs (CSGWPP). Efforts to control storm water should be compatible with State ground water objectives as reflected in CSGWPPs.

4. Comprehensive Site Compliance Evaluation

The permit requires that the storm water pollution prevention plan describe the scope and content of the comprehensive site evaluations that qualified personnel will conduct to (1) confirm the accuracy of the description of potential pollution sources contained in the plan, (2) determine the effectiveness of the plan, and (3) assess compliance with the terms and conditions of the permit. Note that the comprehensive site evaluations are not the same as periodic or other inspections described for certain industries under Part VI.C.3.d of this fact sheet. However, in the instances when frequencies of inspections and the comprehensive site compliance evaluation overlap they may be combined allowing for efficiency, as long as the requirements for both types of inspections are met. The plan must indicate the frequency of comprehensive evaluations which must be at least once a year, except where comprehensive site evaluations are shown in the plan to be impractical for inactive mining sites, due to remote location and inaccessibility. [12] The individual or individuals who will conduct the comprehensive site evaluation must be identified in the plan and should be members of the pollution prevention team. Material handling and storage areas and other potential sources of pollution must be visually inspected for evidence of actual or potential pollutant discharges to the drainage system. Inspectors also must observe erosion controls and structural storm water management devices to ensure that each is operating correctly. Equipment needed to implement the pollution prevention plan, such as that used during spill response activities, must be inspected to confirm that it is in proper working order.

The results of each comprehensive site evaluation must be documented in a report signed by an authorized company official. The report must describe the scope of the comprehensive site evaluation, the personnel making the comprehensive site evaluation, the date(s) of the comprehensive site evaluation, and any major observations relating to implementation of the storm water pollution prevention plan. Comprehensive site evaluation reports must be retained for at least 3 years after the date of the evaluation. Based on the results of each comprehensive site evaluation, the description in the plan of potential pollution sources and measures and controls must be revised as appropriate within 2 weeks after each comprehensive site evaluation, unless indicated otherwise in Section XI of the permit. Changes in procedural operations must be implemented on the site in a timely manner for non-structural measures and controls not more than 12 weeks after completion of the comprehensive site evaluation. Procedural changes that require construction of structural measures and controls are allowed up to 3 years for implementation. In both instances, an extension may be requested from the Director.

[12] Where annual site inspections are shown in the plan to be impractical for inactive mining sites, due to remote location and inaccessibility, site inspections must be conducted at least once every 3 years.

D. Special Requirements

1. Special Requirements for Storm Water Discharges Associated With Industrial Activity Through Large and Medium Municipal Separate Storm Sewer Systems

Permittees that discharge storm water associated with industrial activity through large or medium municipal separate storm sewer systems [13] are required to submit notification of the discharge to the operator of the municipal separate storm sewer system. A list of these systems is provided in Addendum D of today's notice.

Facilities covered by this permit must comply with applicable requirements in municipal storm water management programs developed under NPDES permits issued for the discharge of the municipal separate storm sewer system that receives the facility's discharge, provided the discharger has been notified of such conditions. In addition, permittees that discharge storm water associated with industrial activity through a large or medium municipal separate storm sewer system must make their pollution prevention plans available to the municipal operator of the system upon request by the municipal operator.

2. Special Requirements for Storm Water Discharges Associated With Industrial Activity From Facilities Subject to EPCRA Section 313 Requirements

Today's permit contains special requirements for certain permittees subject to reporting requirements under Section 313 of the EPCRA (also known as Title III of the Superfund Amendments and Reauthorization Act (SARA)). EPCRA Section 313 requires operators of certain facilities that manufacture (including import), process, or otherwise use listed toxic chemicals to report annually their releases of those chemicals to any environmental media. Listed toxic chemicals include more than 500 chemicals and chemical classes listed at 40 CFR Part 372 (including the recently added chemicals published November 30, 1994).

[13] Large and medium municipal separate storm sewer systems are systems located in an incorporated city with a population of 100,000 or more, or in a county identified as having a large or medium system (see 40 CFR 122.26(b) (4) and (7) and Appendices F through I to Part 122). A list of these municipalities is provided in Addendum D to today's notice.

The criteria for facilities that must report under Section 313 are given at 40 CFR 372.22. A facility is subject to the annual reporting provisions of Section 313 if it meets all three of the following criteria for a calendar year: it is included in SIC codes 20 through 39; it has 10 or more full-time employees; and it manufactures (including imports), processes, or otherwise uses a chemical listed in 40 CFR 372.65 in amounts greater than the ''threshold'' quantities specified in 40 CFR 372.25.

There are more than 300 individually listed Section 313 chemicals, as well as 20 categories of Toxic Release Inventory (TRI) chemicals for which reporting is required. EPA has the authority to add to and delete from this list. The Agency has identified approximately 175 chemicals that it is classifying for the purposes of this general permit as ''Section 313 water priority chemicals.'' For the purposes of this permit, Section 313 water priority chemicals are defined as chemicals or chemical categories that (1) are listed at 40 CFR 372.65 pursuant to EPCRA Section 313; (2) are manufactured, processed, or otherwise used at or above threshold levels at a facility subject to EPCRA Section 313 reporting requirements; and (3) meet at least one of the following criteria: (i) are listed in Appendix D of 40 CFR Part 122 on either Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols), or Table V (certain toxic pollutants and hazardous substances); (ii) are listed as a hazardous substance pursuant to Section 311(b)(2)(A) of the CWA at 40 CFR 116.4; or (iii) are pollutants for which EPA has published acute or chronic toxicity criteria. A list of the water priority chemicals is provided in Addendum F to today's notice. In today's permit, EPA is not extending the special requirements to facilities that store liquid chemicals in above-ground tanks or handle liquid chemicals in areas exposed to precipitation if such facilities are not subject to EPCRA Section 313 reporting requirements.

a. Summary of Special Requirements. The special requirements in today's permit for facilities subject to reporting requirements under EPCRA Section 313 for a water priority chemical, except those that are handled and stored only in gaseous or non-soluble liquids or solids (at atmospheric pressure and temperature) forms (see Part VI.D.2.c below), state that storm water pollution prevention plans, in addition to the baseline requirements for plans, must contain special provisions addressing areas where Section 313 water priority chemicals are stored, processed, or otherwise handled. These requirements reflect the Best Available Technology for controlling discharges of water priority chemicals in storm water. The permit provides that appropriate containment, drainage control, and/or diversionary structures must be provided for such areas. An exemption from the special provisions for Section 313 facilities will be granted if the facility can certify in the pollution prevention plan that all water priority chemicals handled or used are gaseous or non-soluble liquids or solids (at atmospheric pressure and temperature). At a minimum, one of the following preventive systems or its equivalent must be used: curbing, culverting, gutters, sewers, or other forms of drainage control to prevent or minimize the potential for storm water runon to come into contact with significant sources of pollutants; or roofs, covers, or other forms of appropriate protection to prevent storage piles from exposure to storm water and wind.

In addition, the permit establishes requirements for priority areas of the facility. Priority areas of the facility include the following: liquid storage areas where storm water comes into contact with any equipment, tank, container, or other vessel used for Section 313 water priority chemicals; material storage areas for Section 313 water priority chemicals other than liquids; truck and rail car loading and unloading areas for liquid Section 313 water priority chemicals; and areas where Section 313 water priority chemicals are transferred, processed, or otherwise handled.

The permit provides that site runoff from other industrial areas of the facility that may contain Section 313 water priority chemicals or spills of Section 313 water priority chemicals must incorporate the necessary drainage or other control features to prevent the discharge of spilled or improperly disposed material and to ensure the mitigation of pollutants in runoff or leachate. The permit also establishes special requirements for preventive maintenance and good housekeeping, facility security, and employee training.

In the proposed permit, EPA proposed to require facilities subject to EPCRA Section 313 requirements to have a Registered Professional Engineer (PE) certify their pollution prevention plans every 3 years. However, in response to commentors' concerns, EPA has revised the permit to eliminate the PE certification requirement. Instead, the permit now requires facilities subject to the special requirements to satisfy the pollution prevention plan signature requirements in Part IV.B.1. of the permit. EPA agrees with commentors that the operator is the most appropriate person to perform the certification. In addition, instead of certifying the plan every 3 years, facilities subject to EPCRA Section 313 requirements must amend the pollution prevention plan only when significant modifications are made to the facility, such as the addition of material handling areas or chemical storage units.

b. Requirements for Priority Areas. The permit provides that drainage from priority areas should be restrained by valves or other positive means to prevent the discharge of a spill or other excessive leakage of Section 313 water priority chemicals. Where containment units are employed, such units may be emptied by pumps or ejectors; however, these must be manually activated. Flapper-type drain valves must not be used to drain containment areas, as these will not effectively control spills. Valves used for the drainage of containment areas should, as far as is practical, be of manual, open-and-closed design. If facility drainage does not meet these requirements, the final discharge conveyance of all in-facility storm sewers must be equipped to be equivalent with a diversion system that could, in the event of an uncontrolled spill of Section 313 water priority chemicals, return the spilled material or contaminated storm water to the facility. Records must be kept of the frequency and estimated volume (in gallons) of discharges from containment areas.

Additional special requirements are related to the types of industrial activities that occur within the priority area. These requirements are summarized below:

(1) Liquid Storage Areas. Where storm water comes into contact with any equipment, tank, container, or other vessel used for Section 313 water priority chemicals, the material and construction of tanks or containers used for the storage of a Section 313 water priority chemical must be compatible with the material stored and conditions of storage, such as pressure and temperature. Liquid storage areas for Section 313 water priority chemicals must be operated to minimize discharges of Section 313 chemicals. Appropriate measures to minimize discharges of Section 313 chemicals may include secondary containment provided for at least the entire contents of the largest single tank plus sufficient freeboard to allow for precipitation, a strong spill contingency and integrity testing plan, and/or other equivalent measures. A strong spill contingency plan would typically contain, at a minimum, a description of response plans, personnel needs, and methods of mechanical containment (such as use of sorbents, booms, collection devices, etc.), steps to taken for removal of spill chemicals or materials, and procedures to ensure access to and availability of sorbents and other equipment. The testing component of the plan would provide for conducting integrity testing of storage tanks at set intervals such as once every 5 years, and conducting integrity and leak testing of valves and piping at a minimum frequency, such as once per year. In addition, a strong plan would include a written and actual commitment of manpower, equipment and materials required to comply with the permit and to expeditiously control and remove any quantity of spilled or leaked chemicals that may result in a toxic discharge.

(2) Other Material Storage Areas. Material storage areas for Section 313 water priority chemicals other than liquids that are subject to runoff, leaching, or wind must incorporate drainage or other control features to minimize the discharge of Section 313 water priority chemicals by reducing storm water contact with Section 313 water priority chemicals.

(3) Truck and Rail Car Loading and Unloading Areas. Truck and rail car loading and unloading areas for liquid Section 313 water priority chemicals must be operated to minimize discharges of Section 313 water priority chemicals. Appropriate measures to minimize discharges of Section 313 chemicals may include the placement and maintenance of drip pans (including the proper disposal of materials collected in the drip pans) where spillage may occur (such as hose connections, hose reels, and filler nozzles) when making and breaking hose connections; a strong spill contingency and integrity testing plan; and/or other equivalent measures.

(4) Other Transfer, Process, or Handling Areas. Processing equipment and materials handling equipment must be operated to minimize discharges of Section 313 water priority chemicals.

Materials used in piping and equipment must be compatible with the substances handled. Drainage from process and materials handling areas must minimize storm water contact with Section 313 water priority chemicals. Additional protection such as covers or guards to prevent exposure to wind, spraying or releases from pressure relief vents to prevent a discharge of Section 313 water priority chemicals to the drainage system, and overhangs or door skirts to enclose trailer ends at truck loading/unloading docks must be provided as appropriate. Visual inspections or leak tests must be provided for overhead piping conveying Section 313 water priority chemicals without secondary containment.

c. Today's permit allows facilities to provide a certification, signed in accordance with Part VII.G. (signatory requirements) of this permit, that all Section 313 water priority chemicals handled and/or stored onsite are only in gaseous or non-soluble liquid or solid (at atmospheric pressure and temperature) forms in lieu of the additional requirements in Part VI.E.2 of today's permit. By allowing such a certification, EPA hopes to limit the application of the special requirements Part IV.E.2. of the permit to those facilities with 313 water priority chemicals that truly have the potential to contaminate storm water discharges associated with industrial activity.

3. Special Requirements for Storm Water Discharges Associated With Industrial Activity From Salt Storage Facilities

Today's general permit contains special requirements for storm water discharges associated with industrial activity from salt storage facilities. Storage piles of salt used for deicing or other commercial or industrial purposes must be enclosed or covered to prevent exposure to precipitation, except for exposure resulting from adding or removing materials from the pile. This requirement only applies to runoff from storage piles discharged to waters of the United States. Facilities that collect all of the runoff from their salt piles and reuse it in their processes or discharge it subject to a separate NPDES permit do not need to enclose or cover their piles. Permittees must comply with this requirement as expeditiously as practicable, but in no event later than 3 years from the date of permit issuance.

These special requirements have been included in today's permit based on human health and aquatic effects resulting from storm water runoff from salt storage piles compounded with the prevalence of salt storage piles across the United States.

4. Consistency With Other Plans

Storm water pollution prevention plans may reference the existence of other plans for Spill Prevention Control and Countermeasure (SPCC) plans developed for the facility under Section 311 of the CWA or Best Management Practices (BMP) Programs otherwise required by an NPDES permit for the facility as long as such requirement is incorporated into the storm water pollution prevention plan.

E. Monitoring and Reporting Requirements

The permit contains three general types of monitoring requirements: analytical monitoring or chemical monitoring; compliance monitoring for effluent guidelines compliance, and visual examinations of storm water discharges. This section provides a general description of each of these types of monitoring. Actual monitoring requirements for a given facility under the permit will vary depending upon the industrial activities that occur at a facility and the criteria for determining monitoring used to develop the permit. Table 3 lists the sections of the permit and of this fact sheet that describe the monitoring requirements as they apply to the specific industrial activities eligible for coverage under the permit. These are minimum monitoring requirements and if a permittee so chooses, he may conduct additional sampling to acquire more data to improve the statistical validity of the results. Through increased analytical or visual monitoring the permittee may be able to better ascertain the effectiveness of their pollution prevention plan.

Analytical monitoring requirements involve laboratory chemical analyses of samples collected by the permittee. The results of the analytical monitoring are quantitative concentration values for different pollutants, which can be easily compared to the results from other sampling events, other facilities, or to National benchmarks. Section VI.E.1. describes the analytical monitoring requirements and the process and criteria by which an industry sector or subsector was selected for analytical monitoring. Compliance monitoring requirements are imposed under today's permit to insure that discharges subject to numerical effluent limitations under the storm water effluent limitations guidelines are in compliance with those limitations. The compliance monitoring requirements are explained in Section VI.E.2.

Visual examinations of storm water discharges are the least burdensome type of monitoring requirement under the permit. Almost all of the industrial activities are required to perform visual examinations of their storm water discharges when they are occurring on a quarterly basis. Visual examinations are described in Section VI.E.8.

TABLE 3.—STORM WATER MONITORING REQUIREMENTS

Industrial activity	Section of fact sheet describing monitoring requirements	Permit section describing monitoring requirements
Timber Products Facilities*	VIII.A.8	XI.A.5.
Paper and Allied Products Manufacturing Facilities*	VIII.B.7	XI.B.5.
Chemical and Allied Products Manufacturing Facilities*	VIII.C.8	XI.C.5.
Asphalt Paving and Roofing Materials Manufacturers and Lubricant Manufacturers*	VIII.D.5	XI.D.5.
Glass, Clay, Cement, Concrete, and Gypsum Product Manufacturing Facilities*	VIII.E.7	XI.E.5.
Primary Metals Facilities*	VIII.F.7	XI.F.5.
Metal Mining (Ore Mining and Dressing) Facilities*	VIII.G.8	XI.G.5.
Coal Mines and Coal Mining-Related Facilities*	VIII.H.6	XI.H.5.
Oil and Gas Extraction Facilities*	VIII.I.7	XI.I.5.
Mineral Mining and Processing Facilities*	VIII.J.6	XI.J.5.
Hazardous Waste Treatment, Storage, or Disposal Facilities*	VIII.K.7	XI.K.5.
Landfills and Land Application Sites*	VIII.L.6	XI.L.5.

TABLE 3.—STORM WATER MONITORING REQUIREMENTS—Continued

Industrial activity	Section of fact sheet describing monitoring requirements	Permit section describing monitoring requirements
Automobile Salvage Yards*	VIII.M.6	XI.M.5.
Scrap and Waste Recycling Facilities*	VIII.N.6	XI.N.5.
Steam Electric Power Generating Facilities, Including Coal Handling Areas*	VIII.O.6	XI.O.5.
Vehicle Maintenance or Equipment Cleaning Areas at Motor Freight Transportation Facilities, Passenger Transportation Facilities, Petroleum Bulk Oil Stations and Terminals, Rail Transportation Facilities, and the United States Postal Service Transportation Facilities.	VIII.P.6	XI.P.5
Vehicle Maintenance Areas and/or Equipment Cleaning Operations at Water Transportation Facilities*	VIII.Q.6	XI.Q.5.
Ship and Boat Building or Repairing Yards	VIII.R.6	XI.R.5.
Vehicle Maintenance Areas, Equipment Cleaning Areas, or Deicing Areas Located at Air Transportation Facilities*.	VIII.S.6	XI.S.5.
Treatment Works*	VIII.T.6	XI.T.5.
Food and Kindred Products Facilities*	VIII.U.5	XI.U.5.
Textile Mills, Apparel, and Other Fabric Product Manufacturing Facilities*	VIII.V.6	XI.V.5.
Wood and Metal Furniture and Fixture Manufacturing Facilities	VIII.W.5	XI.W.5.
Printing and Publishing Facilities	VIII.X.7	XI.X.5.
Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries*	VIII.Y.7	XI.Y.5.
Leather Tanning and Finishing Facilities	VIII.Z.7	XI.Z.5.
Fabricated Metal Products Industry*	VIII.AA.7	XI.AA.5.
Facilities That Manufacture Transportation Equipment, Industrial, or Commercial Machinery	VIII.AB.7	XI.AB.5.
Facilities That Manufacture Electronic and Electrical Equipment and Components, Photographic and Optical Goods.	VIII.AC.7	XI.AC.5.

*Denotes a sector that contains analytical monitoring requirements for an entire sector or a subsector.

1. Analytical Monitoring Requirements.

Today's permit requires analytical monitoring for discharges from certain classes of industrial facilities. EPA believes that industries may reduce the level of pollutants in storm water runoff from their sites through the development and proper implementation of a storm water pollution prevention plan discussed in today's permit. Analytical monitoring is a means by which to measure the concentration of a pollutant in a storm water discharge. Analytical results are quantitative and therefore can be used to compare results from discharge to discharge and to quantify the improvement in storm water quality attributable to the storm water pollution prevention plan, or to identify a pollutant that is not being successfully controlled by the plan. EPA realizes there are greater cost burdens associated with analytical monitoring in comparison to visual examinations. Today's permit only requires analytical monitoring for the industry sectors or subsectors that demonstrated a potential to discharge pollutants at concentrations of concern.

To determine the industry sectors and subsectors that would be subject to analytical monitoring requirements contained in the sections listed in Table 3, EPA reviewed the data submitted in the group application process. First, EPA divided the Part 1 and Part 2 application data by the industry sectors listed in Table 3. Where a sector was found to contain a wide range of industrial activities or potential pollutant sources, it was further subdivided into the industry subsectors listed in Table 4. Next, EPA reviewed the information submitted in Part 1 of the group applications regarding the industrial activities, significant materials exposed to storm water, and the material management measures employed. This information helped identify potential pollutants that may be present in the storm water discharges. Then, EPA entered into a database, the sampling data submitted in Part 2 of the group applications. That data was arrayed according to industrial sector and subsector for the purposes of determining when analytical monitoring would be appropriate. Data received by EPA prior to January 1, 1993 (three months after the application deadline) were entered into EPA's database. Some additional data that was submitted even after January 1, 1993 was also entered into the database to bolster the data set for some sectors or subsectors (e.g., the auto salvage industry). All data submitted even later by group applicants which was not loaded into the database was reviewed by EPA during development of the permit. EPA notes that preliminary copies of the database were distributed to the public upon request in advance of a complete screening of the quality of the data set. These copies of the database contained a variety of errors that were screened and removed prior to EPA statistical analysis and evaluation of the results. The results of the statistical analyses are presented in the appropriate section of the fact sheet referenced in Table 3.

TABLE 4.—SECTOR/SUBSECTOR DIVISION OF GROUP APPLICANTS FOR ANALYSES OF SAMPLING DATA

Subsector	SIC code	Activity represented
Sector A. Timber Products		
1*	2421	General Sawmills and Planning Mills.
2	2491	Wood Preserving.
3*	2411	Log Storage and Handling.
4*	2426	Hardwood Dimension and Flooring Mills.

TABLE 4.—SECTOR/SUBSECTOR DIVISION OF GROUP APPLICANTS FOR ANALYSES OF SAMPLING DATA—Continued

Subsector	SIC code	Activity represented
	2429	Special Product Sawmills, Not Elsewhere Classified.
	243X	Millwork, Veneer, Plywood, and Structural Wood.
	244X	Wood Containers.
	245X	Wood Buildings and Mobile Homes.
	2493	Reconstituted Wood Products.
	2499	Wood Products, Not Elsewhere Classified.
Sector B. Paper and Allied Products Manufacturing		
1	261X	Pulp Mills.
2	262X	Paper Mills.
3*	263X	Paperboard Mills.
4	265X	Paperboard Containers and Boxes.
5	267X	Converted Paper and Paperboard Products, Except Containers and Boxes.
Sector C. Chemical and Allied Products Manufacturing.		
1*	281X	Industrial Inorganic Chemicals.
2*	282X	Plastics Materials and Synthetic Resins, Synthetic Rubber, Cellulosic and Other Manmade Fibers Except Glass.
3	283X	Drugs.
4*	284X	Soaps, Detergents, and Cleaning Preparations; Perfumes, Cosmetics, and Other Toilet Preparations.
5	285X	Paints, Varnishes, Lacquers, Enamels, and Allied Products.
6	286X	Industrial Organic Chemicals.
7*	287X	Agricultural Chemicals.
8	289X	Miscellaneous Chemical Products.
Sector D. Asphalt Paving and Roofing Materials Manufacturers and Lubricant Manufacturers		
1*	295X	Asphalt Paving and Roofing Materials.
2	299X	Miscellaneous Products of Petroleum and Coal.
Sector E. Glass, Clay, Cement, Concrete, and Gypsum Product Manufacturing		
1	321X	Flat Glass.
	322X	Glass and Glassware, Pressed or Blown.
	323X	Glass Products Made of Purchased Glass.
2	324X	Hydraulic Cement.
3*	325X	Structural Clay Products.
	326X	Pottery and Related Products.
	3297	Non-Clay Refractories.
4*	327X	Concrete, Gypsum and Plaster Products.
	3295	Minerals and Earth's, Ground, or Otherwise Treated.
Sector F. Primary Metals		
1*	331X	Steel Works, Blast Furnaces, and Rolling and Finishing Mills.
2*	332X	Iron and Steel Foundries.
3	333X	Primary Smelting and Refining of Nonferrous Metals.
4	334X	Secondary Smelting and Refining of Nonferrous Metals.
5*	335X	Rolling, Drawing, and Extruding of Nonferrous Metals.
6*	336X	Nonferrous Foundries (Castings).
7	339X	Miscellaneous Primary Metal Products.
Sector G. Metal Mining (Ore Mining and Dressing)		
1	101X	Iron Ores.
2*	102X	Copper Ores.
3	103X	Lead and Zinc Ores.
4	104X	Gold and Silver Ores.
5	106X	Ferroalloy Ores, Except Vanadium.
6	108X	Metal Mining Services.
7	109X	Miscellaneous Metal Ores.
Sector H. Coal Mines and Coal Mining-Related Facilities		
NA*	12XX	Coal Mines and Coal Mining-Related Facilities.

TABLE 4.—SECTOR/SUBSECTOR DIVISION OF GROUP APPLICANTS FOR ANALYSES OF SAMPLING DATA—Continued

Subsector	SIC code	Activity represented
Sector I. Oil and Gas Extraction		
1*	131X	Crude Petroleum and Natural Gas.
2	132X	Natural Gas Liquids.
3*	138X	Oil and Gas Field Services.
Sector J. Mineral Mining and Dressing		
1*	141X	Dimension Stone.
	142X	Crushed and Broken Stone, Including Rip Rap.
	148X	Nonmetallic Minerals, Except Fuels.
2*	144X	Sand and Gravel.
3	145X	Clay, Ceramic, and Refractory Materials.
4	147X	Chemical and Fertilizer Mineral Mining.
Sector K. Hazardous Waste Treatment Storage or Disposal Facilities		
NA*	NA	Hazardous Waste Treatment Storage or Disposal.
Sector L. Landfills and Land Application Sites		
NA*	NA	Landfills and Land Application Sites.
Sector M. Automobile Salvage Yards		
NA*	5015	Automobile Salvage Yards.
Sector N. Scrap Recycling Facilities		
NA*	5093	Scrap Recycling Facilities.
Sector O. Steam Electric Generating Facilities		
NA*	NA	Steam Electric Generating Facilities.
Sector P. Land Transportation		
1	40XX	Railroad Transportation.
2	41XX	Local and Highway Passenger Transportation.
3	42XX	Motor Freight Transportation and Warehousing.
4	43XX	United States Postal Service.
5	5171	Petroleum Bulk Stations and Terminals.
Sector Q. Water Transportation		
NA*	44XX	Water Transportation.
Sector R. Ship and Boat Building or Repairing Yards		
NA	373X	Ship and Boat Building or Repairing Yards.
Sector S. Air Transportation Facilities		
NA*	45XX	Air Transportation Facilities.
Sector T. Treatment Works		
NA*	NA	Treatment Works.
Sector U. Food and Kindred Products		
1	201X	Meat Products.
2	202X	Dairy Products.
3	203X	Canned, Frozen and Preserved Fruits, Vegetables and Food Specialties.
4*	204X	Grain Mill Products.

TABLE 4.—SECTOR/SUBSECTOR DIVISION OF GROUP APPLICANTS FOR ANALYSES OF SAMPLING DATA—Continued

Subsector	SIC code	Activity represented
5	205X	Bakery Products.
6	206X	Sugar and Confectionery Products.
7*	207X	Fats and Oils.
8	208X	Beverages.
9	209X	Miscellaneous Food Preparations and Kindred Products.
Sector V. Textile Mills, Apparel, and Other Fabric Product Manufacturing		
1	22XX	Textile Mill Products.
2	23XX	Apparel and Other Finished Products Made From Fabrics and Similar Materials.
Sector W. Furniture and Fixtures		
NA	25XX	Furniture and Fixtures.
	2434	Wood Kitchen Cabinets.
Sector X. Printing and Publishing		
NA	27XX	Printing and Publishing.
Sector Y. Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries		
1*	301X	Tires and Inner Tubes.
	302X	Rubber and Plastics Footwear.
	305X	Gaskets, Packing, and Sealing Devices and Rubber and Plastics Hose and Belting.
	306X	Fabricated Rubber Products, Not Elsewhere Classified.
2	308X	Miscellaneous Plastics Products.
	393X	Musical Instruments.
	394X	Dolls, Toys, Games and Sporting and Athletic Goods.
	395X	Pens, Pencils, and Other Artists' Materials.
	396X	Costume Jewelry, Costume Novelties, Buttons, and Miscellaneous Notions, Except Precious Metal.
	399X	Miscellaneous Manufacturing Industries.
Sector Z. Leather Tanning and Finishing		
NA	311X	Leather Tanning and Finishing.
Sector AA. Fabricated Metal Products		
1*	342X	Cutlery, Handtools, and General Hardware.
	344X	Fabricated Structural Metal Products.
	345X	Screw Machine Products, and Bolts, Nuts, Screws, Rivets, and Washer.
	346X	Metal Forgings and Stampings.
	3471	Electroplating, Plating, Polishing, Anodizing, and Coloring.
	349X	Miscellaneous Fabricated Metal Products.
	391X	Jewelry, Silverware, and Plated Ware.
2*	3479	Coating, Engraving, and Allied Services.
Sector AB. Transportation Equipment, Industrial or Commercial Machinery		
NA	35XX	Industrial and Commercial Machinery.
Sector AC. Electronic, Electrical, Photographic and Optical Goods		
NA	36XX	Electronic, Electrical.
	38XX	Measuring, Analyzing and Controlling Instrument; Photographic and Optical Goods.

*Denotes subsector with analytical (chemical) monitoring requirements.
NA indicated those industry sectors in which subdivision into subsectors was determined to be not applicable.

To conduct a comparison of the results of the statistical analyses to determine when analytical monitoring would be required, EPA established ''benchmark'' concentrations for the pollutant parameters on which monitoring results had been received. The ''benchmarks'' are the pollutant concentrations above which EPA determined represents a level of concern. The level of concern is a concentration at which a storm water discharge could potentially impair, or contribute to impairing water quality or affect human health from ingestion of water or fish. The benchmarks are also viewed by EPA as a level, that if below, a facility represents little potential for water quality concern. As such, the benchmarks also provide an appropriate level to determine whether a facility's storm water pollution prevention measures are successfully implemented. The benchmark concentrations are not effluent limitations and should not be interpreted or adopted as such. These values are merely levels which EPA has used to determine if a storm water discharge from any given facility merits further monitoring to insure that the facility has been successful in implementing a storm water pollution prevention plan. As such these levels represent a target concentration for a facility to achieve through implementation of pollution prevention measures at the facility. Table 5 lists the parameter benchmark values.

As can be seen in Table 5, benchmark concentrations were determined based upon a number of existing standards or other sources to represent a level above which water quality concerns could arise. EPA has also sought to develop values which can realistically be measured and achieved by industrial facilities. Moreover, storm water discharges with pollutant concentrations occurring below these levels would not warrant further analytical monitoring due to their de minimis potential effect on water quality.

The primary source of benchmark concentrations is EPA's National Water Quality Criteria, published in 1986 (often referred to as the ''Gold Book''). For the majority of the benchmarks, EPA chose to use the acute aquatic life, fresh water ambient water quality criteria. These criteria represent maximum concentration values for a pollutant, above which, could cause acute effects on aquatic life such as mortality in a short period of time. Where acute criteria values were not available, EPA used the lowest observed effect level (LOEL) acute fresh water value. The LOEL values represent the lowest concentration of a pollutant that results in an adverse effect over a short period of time. These two acute freshwater values were selected as benchmark concentrations if the value was not below the approved method detection limit as listed in 40 CFR Part 136 and the value was not substantially above the concentration which EPA believes a facility can attain through the implementation of a storm water pollution prevention plan. These acute freshwater values best represent, on a national basis, the highest concentrations at which typical fresh water species can survive exposures of pollutants for short durations (i.e., a storm discharge event).

Acute freshwater criteria do not exist for a number of parameters on which EPA received data. For these parameters, EPA selected benchmark values from several other references. The benchmark concentrations for five day biochemical oxygen demand (BOD_5) and for pH are determined based upon the secondary wastewater treatment regulations (40 CFR 133.102). EPA believes that the BOD_5 value of 30 mg/L is a reasonable concentration below which adverse effects in receiving waters under wet weather flow conditions should not occur. EPA also believes, that given group application data on BOD_5, this value should be readily achievable by industrial storm water dischargers. The benchmark value for pH is a range of 6.0–9.0 standard units. EPA believes this level, given the group application data, is reasonably achievable by industrial storm water dischargers and represents and acceptable range within which aquatic life impacts will not occur. The benchmark concentration for chemical oxygen demand (COD) is based upon the State of North Carolina benchmark values for storm water discharges, and is a factor of four times the BOD_5 benchmark concentration. EPA has concluded that COD is generally discharged in domestic wastewater at four times the concentration of BOD_5 without causing adverse impacts on aquatic life. EPA selected the median concentration from the National Urban Runoff Program as the benchmark for total suspended solids (TSS) and for nitrate plus nitrite as nitrogen. EPA believes the median concentration, which is the mid-point concentration (half the samples are above this level and half are below) represents concentration above which water quality concerns may result. For TSS a value of 100mg/L is similar to the storm water benchmark used by North Carolina for storm water permits, and given the group application data, should be readily achievable by industry with implementation of BMPs, many of which are designed for the purpose of controlling TSS. EPA also believes, given the group application data, that there is a relationship between TSS and the amount of exposed industrial activity and that industrial activities even in arid western States should be able to implement BMPs that will accomplish this benchmark. EPA selected the storm water effluent limitation guideline for petroleum refining facilities as the benchmark for oil and grease. Given the lack of an acute criteria, EPA selected the chronic fresh water quality criteria as the benchmark for iron. Water quality criteria for waterbodies in the State of North Carolina were used to determine benchmarks for total phosphorus and for fluoride. The concentration value for phosphorus was designed to prevent eutrophication of fresh waterbodies from storm water runoff. The fluoride value was designed by North Carolina to be protective of water quality, as was the manganese value developed by Colorado. EPA believes that each of these benchmark values represent a reasonable level below which water quality impacts should not occur and they therefore represent a useful level to assess whether a pollution prevention plan is controlling pollution in storm water discharges.

For several other parameters, EPA chose a benchmark value base on a numerical adjustment of the acute fresh water quality criteria. Where the acute water quality criteria was below the method detection level for a pollutant, EPA used the ''minimum level'' (ML) as the benchmark concentration to ensure that the benchmark levels could be measured by permittees. For a few pollutants minimum levels have been published and these were used. For other pollutants, minimum levels need to be calculated. EPA calculated the minimum levels using the methodology described in the draft ''National Guidance for the Permitting, Monitoring, and Enforcement of Water Quality-based Effluent Limitations Set Below Analytical Detection/Quantitation Levels'' (Michael Cook, OWEC, March 18, 1994).

Additionally, several organic compounds (ethylbenzene, fluoranthene, toluene, and trichloroethylene) have acute fresh water quality criteria at substantially high concentrations, much higher than criteria developed for the protection of human health when ingesting water or fish. In addition, trichloroethylene is a human carcinogen. Therefore, EPA selected the human health criteria as benchmarks for these parameters. For dimethyl phthalate and total phenols, EPA selected benchmark concentrations based upon existing discharge limitations and compliance data (no industry had median concentrations above the selected benchmark for these parameters and therefore no industry sector is required to monitor for these two pollutants).

EPA conducted statistical analyses of the group Part 2 data for each parameter within every industry sector or subsector listed in Table 5. The pollutants, benchmark values, and source of the benchmark values are indicated below in Table 5.

TABLE 5.—PARAMETER BENCHMARK VALUES

Parameter name	Benchmark level	Source
Biochemical Oxygen Demand(5)	30 mg/L	4
Chemical Oxygen Demand	120 mg/L	5
Total Suspended Solids	100 mg/L	7
Oil and Grease	15 mg/L	8
Nitrate + Nitrite Nitrogen	0.68 mg/L	7
Total Phosphorus	2.0 mg/L	6
pH	6.0–9.0 s.u.	4
Acrylonitrile (c)	7.55 mg/L	2
Aluminum, Total (pH 6.5–9)	0.75 mg/L	1
Ammonia	19 mg/L	1
Antimony, Total	0.636 mg/L	9
Arsenic, Total (c)	0.16854 mg/L	9
Benzene	0.01 mg/L	10
Beryllium, Total (c)	0.13 mg/L	2
Butylbenzyl Phthalate	3 mg/L	3
Cadmium, Total (H)	0.0159 mg/L	9
Chloride	860 mg/L	1
Copper, Total (H)	0.0636 mg/L	9
Dimethyl Phthalate	1.0 mg/L	11
Ethylbenzene	3.1 mg/L	3
Fluoranthene	0.042 mg/L	3
Fluoride	1.8 mg/L	6
Iron, Total	1.0 mg/L	12
Lead, Total (H)	0.0816 mg/L	1
Manganese	1.0 mg/L	13
Mercury, Total	l0.0024 mg/L	1
Nickel, Total (H)	1.417 mg/L	1
PCB–1016 (c)	0.000127 mg/L	9
PCB–1221 (c)	0.10 mg/L	10
PCB–1232 (c)	0.000318 mg/L	9
PCB–1242 (c)	0.00020 mg/L	10
PCB–1248 (c)	0.002544 mg/L	9
PCB–1254 (c)	0.10 mg/L	10
PCB–1260 (c)	0.000477 mg/L	9
Phenols, Total	1.0 mg/L	11
Pyrene (PAH,c)	0.01 mg/L	10
Selenium, Total (*)	0.2385 mg/L	9
Silver, Total (H)	0.0318 mg/L	9
Toluene	10.0 mg/L	3
Trichloroethylene (c)	0.0027 mg/L	3
Zinc, Total (H)	0.065 mg/L	1

Sources:
1. ''EPA Recommended Ambient Water Quality Criteria.'' Acute Aquatic Life Freshwater.
2. ''EPA Recommended Ambient Water Quality Criteria.'' LOEL Acute Freshwater.
3. ''EPA Recommended Ambient Water Quality Criteria.'' Human Health Criteria for Consumption of Water and Organisms.
4. Secondary Treatment Regulations (40 CFR 133).
5. Factor of 4 times BOD5 concentration—North Carolina benchmark.
6. North Carolina storm water benchmark derived from NC Water Quality Standards.
7. National Urban Runoff Program (NURP) median concentration.
8. Median concentration of Storm Water Effluent Limitation Guideline (40 CFR Part 419).
9. Minimum Level (ML) based upon highest Method Detection Limit (MDL) times a factor of 3.18.
10. Laboratory derived Minimum Level (ML).
11. Discharge limitations and compliance data.
12. ''EPA Recommended Ambient Water Quality Criteria.'' Chronic Aquatic Life Freshwater.
13. Colorado—Chronic Aquatic Life Freshwater—Water Quality Criteria.

Notes:
(*) Limit established for oil and gas exploration and production facilities only.
(c) carcinogen.
(H) hardness dependent.
(PAH) Polynuclear Aromatic Hydrocarbon.

Assumptions:
Receiving water temperature—20 C.
Receiving water pH—7.8.
Receiving water hardness CaCO3 100 mg/L.
Receiving water salinity 20 g/kg.
Acute to Chronic Ratio (ACR)—10.

EPA prepared a statistical analysis of the sampling data for each pollutant parameter reported within each sector or subsector. (Only where EPA did not subdivide an industry sector into subsectors was an analysis of the entire sector's data performed.) The statistical analysis was performed assuming a delta log normal distribution of the sampling data within each sector/subsector. The analyses calculated median, mean, maximum, minimum, 95th, and 99th percentile concentrations for each parameter. The results of the analyses may be found in the appropriate section of Part VIII of this Fact Sheet. From this analysis, EPA was able to identify pollutants for further evaluation within each sector or subsector.

EPA next compared the median concentration for each pollutant for each sector or subsector to the benchmark concentrations listed in Table 5. EPA also compared the other statistical results to the benchmarks to better ascertain the magnitude and range of the discharge concentrations to help identify the pollutants of concern. EPA did not conduct this analysis if a sector had data for a pollutant from less than three individual facilities. Under these circumstances, the sector or subsector would not have this pollutant identified as a pollutant of concern. This was done to ensure that a reasonable number of facilities represented the industry sector or subsector as a whole and that the analysis did not rely on data from only one facility.

For each industry sector or subsector, parameters with a median concentration higher than the benchmark level were considered pollutants of concern for the industry and identified as potential pollutants for analytical monitoring under today's permit. EPA then analyzed the list of potential pollutants to be monitored against the lists of significant materials exposed and industrial activities which occur within each industry sector or subsector as described in the part I application information. Where EPA could identify a source of a potential pollutant which is directly related to industrial activities of the industry sector or subsector, the permit identifies that parameter for analytical monitoring. If EPA could not identify a source of a potential pollutant which was associated with the sector/subsector's industrial activity, the permit does not require monitoring for the pollutant in that sector/subsector. Industries with no pollutants for which the median concentrations are higher than the benchmark levels are not required to perform analytical monitoring under this permit, with the exceptions explained below.

In addition to the sectors and subsectors identified for analytical monitoring using the methods described above, EPA determined, based upon a review of the degree of exposure, types of materials exposed, special studies and in some cases inadequate sampling data in the group applications, that industries in the following sections of today's fact sheet also warrant analytical monitoring not withstanding the absence of data on the presence or absence of certain pollutants in the group applications: VIII.K.7 (hazardous waste treatment storage and disposal facilities), and VIII.S.6 (airports which use more than 100,000 gallons per year of glycol-based fluids or 100 tons of urea for deicing). These industries are required to perform analytical monitoring under the permit due to the high potential for contamination of storm water discharge, which EPA believes was not adequately characterized by group applicants in the information they provided in the group application process.

All facilities within an industry sector or subsector identified for analytical monitoring must, at a minimum, monitor their storm water discharges during the second year of permit coverage, unless the facility exercises the Alternative Certification described in Section VI.E.3 of this fact sheet. At the end of the second year of permit coverage, a facility must calculate the average concentration for each parameter for which the facility is required to monitor. If the permittee collects more than four samples in this period, then they must calculate an average concentration for each pollutant of concern for all samples analyzed. Monitoring must be conducted for the same storm water discharge outfall in each sampling period. Where a given storm water discharge is addressed by more than one sector/subsector's monitoring requirements, then the monitoring requirements for the applicable sector's/subsector's activities are cumulative. Therefore, if a particular discharge fits under more than one set of monitoring requirements, the facility must comply with all sets of sampling requirements. Monitoring requirements must be evaluated on an outfall-by-outfall basis.

If the average concentration for a pollutant parameter is less than or equal to the benchmark value, then the permittee is not required to conduct analytical monitoring for that pollutant during the fourth year of the permit. If, however, the average concentration for a pollutant is greater than the benchmark value, then the permittee is required to conduct quarterly monitoring for that pollutant during the fourth year of permit coverage. Analytical monitoring is not required during the first, third, and fifth year of the permit. The exclusion from analytical monitoring in the fourth year of the permit is conditional on the facility maintaining industrial operations and BMPs that will ensure a quality of storm water discharges consistent with the average concentrations recorded during the second year of the permit.

2. Compliance Monitoring

In addition to the analytical monitoring requirements for certain sectors, today's permit contains monitoring requirements for discharges which are subject to effluent limitations. These discharges must be sampled annually and tested for the parameters which are limited by the permit. Discharges subject to compliance monitoring include: coal pile runoff, contaminated runoff from phosphate fertilizer manufacturing facilities, runoff from asphalt paving and roofing emulsion production areas, material storage pile runoff from cement manufacturing facilities, and mine dewatering discharges from crushed stone, construction sand and gravel, and industrial sand mines located in Texas, Louisiana, Oklahoma, New Mexico, and Arizona. All samples are to be grabs taken within the first 30 minutes of discharge where practicable, but in no case later than the first hour of discharge. Where practicable, the samples shall be taken from the discharges subject to the numeric effluent limitations prior to mixing with other discharges.

Monitoring for these discharges is required to determine compliance with numeric effluent limitations. Furthermore, discharges covered under today's permit which are subject to numeric effluent limitations are not eligible for the alternative certification in Part VI.E.3. of this fact sheet.

3. Alternate Certification

Throughout today's permit, EPA has included monitoring requirements for facilities which the Agency believes have the potential for contributing significant levels of pollutants to storm water discharges. The alternative certification described below is included in the permit to ensure that monitoring requirements are only imposed on those facilities which do, in fact, have storm water discharges containing pollutants at concentrations of concern. EPA has determined that if there are no sources of a pollutant exposed to storm water at the site then the potential for that pollutant to contaminate storm water discharges does not warrant monitoring.

Therefore, a discharger is not subject to the analytical monitoring requirements provided the discharger makes a certification for a given outfall, on a pollutant-by-pollutant basis, that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, significant materials from past industrial activity that are located in areas of the facility that are within the drainage area of the outfall are not presently exposed to storm water and will not be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan, and submitted to EPA in lieu of monitoring reports required under Part XI of the permit. The permittee is required to complete any and all sampling until the exposure is eliminated. If the facility is reporting for a partial year, the permittee must specify the date exposure was eliminated. If the permittee is certifying that a pollutant was present for part of the reporting period, nothing relieves the permittee from the responsibility to sample that parameter up until the exposure was eliminated and it was determined that no significant materials remained. This certification is not to be confused with the low concentration sampling waiver. The test for the application of this certification is whether the pollutant is exposed, or can be expected to be present in the storm water discharge. If the facility does not and has not used a parameter, or if exposure is eliminated and no significant materials remain, then the facility can exercise this certification.

The permit does not allow facilities with discharges subject to numeric effluent limitations to submit alternative certification in lieu of the compliance monitoring requirements in Sections VI.C., XI.C.6., XI.D.5., XI.E.5., and XI.J.5. The permit also does not allow air transportation facilities subject to the analytical monitoring requirements under Section XI.S.5. to exercise an alternative certification.

A facility is not precluded from exercising the alternative certification in lieu of analytical monitoring requirements in the fourth year of permit coverage, even if that facility failed to qualify for a low concentration waiver in year two. EPA encourages facilities to eliminate exposure of industrial activities and significant materials where practicable.

4. Reporting and Retention Requirements

Permittees are required to submit all analytical monitoring results obtained during the second and fourth year of permit coverage within three months of the conclusion of the second and fourth year of coverage of the permit. For each outfall, one Discharge Monitoring Report Form must be submitted per storm event sampled. For facilities conducting monitoring beyond the minimum requirements an additional Discharge Monitoring Report Form must be filed for each analysis. The permittee must include a measurement or estimate of the total precipitation, volume of runoff, and peak flow rate of runoff for each storm event sampled. Permittees subject to compliance monitoring requirements are required to submit all compliance monitoring results annually on the 28th day of the month following the anniversary of the publication of this permit. Compliance monitoring results must be submitted on signed Discharge Monitoring Report Forms. For each outfall, one Discharge Monitoring Report form must be submitted for each storm event sampled.

Permittees are not required to submit records of the visual examinations of storm water discharges unless specifically asked to do so by the Director. Records of the visual examinations must be maintained at the facility. Records of visual examination of storm water discharge need not be lengthy. Permittees may prepare typed or hand written reports using forms or tables which they may develop for their facility. The report need only document: the date and time of the examination; the name of the individual making the examination; and any observations of color, odor, clarity, floating solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution.

The location for submittal of all reports is contained in the permit. Consistent with Office of Management and Budget Circular A–105, facilities located on the following Federal Indian Reservations, which cross EPA Regional boundaries, should note that permitting authority for such lands is consolidated in one single EPA Region.

a. Duck Valley Reservations lands, located in Regions IX and X, are handled by Region IX.

b. Fort McDermitt Reservation lands, located in Regions IX and X, are handled by Region IX.

c. Goshute Reservation lands, located in Regions VIII and IX, are handled by Region IX.

d. Navajo Reservation lands, located in Regions VI, VIII, and IX, are handled by Region IX.

e. Ute Mountain Reservation lands, located in Regions VI and VIII, are handled Region VIII (no areas in Region VIII are receiving coverage under this permit).

Pursuant to the requirements of 40 CFR 122.41(j), today's permit requires permittees to retain all records for a minimum of 3 years from the date of the sampling, examination, or other activity that generated the data.

5. Sample Type

The discussion below is a general description of the sample type required for monitoring under today's permit. Certain industries have different requirements, however, so permittees should check the industry-specific requirements in Part XI. of today's permit to confirm these requirements. Grab samples may be used for all monitoring unless otherwise stated. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval may be waived by the permittee where the preceding measurable storm event did not result in a measurable discharge from the facility. The 72-hour requirement may also be waived by the permittee where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample must be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger must submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. A minimum of one grab is required. Where the discharge to be sampled contains both storm water and non-storm water, the facility shall sample the storm water component of the discharge at a point upstream of the location where the non-storm water mixes with the storm water, if practicable.

6. Representative Discharge

The permit allows permittees to use the substantially identical outfalls to reduce their monitoring burden. This representative discharge provision provides facilities with multiple storm water outfalls, a means for reducing the number of outfalls that must be sampled and analyzed. This may result in a substantial reduction of the resources required for a facility to comply with analytical monitoring requirements. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfalls provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explaining in detail why the outfalls are expected to discharge substantially identical effluent. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area (e.g., low (under 40 percent), medium (40 to 65 percent) or high (above 65 percent)) shall be provided in the plan. Facilities that select and sample a representative discharge are prohibited from changing the selected discharge in future monitoring periods unless the selected discharge ceases to be representative or is eliminated. Permittees do not need EPA approval to claim discharges are representative, provided they have documented their rationale within the storm water pollution prevention plan. However, the Director may determine the discharges are not representative and require sampling of all non-identical outfalls.

The representative discharge provision in the permit is available to almost all facilities subject to the analytical monitoring requirements (not including compliance monitoring for effluent guideline limit compliance purposes) and to facilities subject to visual examination requirements.

The representative discharge provisions described above are consistent with Section 5.2 of NPDES Storm Water Sampling Guidance Document (EPA 833–B–92–001, July 1992).

7. Sampling Waiver

a. Adverse Weather Conditions. The permit allows for temporary waivers from sampling based on adverse climatic conditions. This temporary sampling waiver is only intended to apply to insurmountable weather conditions such as drought or dangerous conditions such as lightning, flash flooding, or hurricanes. These events tend to be isolated incidents and should not be used as an excuse for not conducting sampling under more favorable conditions associated with other storm events. The sampling waiver is not intended to apply to difficult logistical conditions, such as remote facilities with few employees or discharge locations which are difficult to access. When a discharger is unable to collect samples within a specified sampling period due to adverse climatic conditions, the discharger shall collect a substitute sample from a separate qualifying event in the next sampling period as well as a sample for the routine monitoring required in that period. Both samples should be analyzed separately and the results of that analysis submitted to EPA. Permittees are not required to obtain advance approval for sampling waivers.

b. Unstaffed and Inactive Sites—Chemical Waiver. The permit allows for a waiver from sampling for facilities that are both inactive and unstaffed. This waiver is only intended to apply to these types of facilities when the ability to conduct sampling would be severely hindered and result in the inability to meet the time and representative rainfall sampling specifications. This sampling waiver is not intended to apply to remote facilities that are active and staffed, or typical difficult logistical conditions. When a discharger is unable to collect samples as specified in this permit, the discharger shall certify to the Director in the DMR that the facility is unstaffed and inactive and the ability to conduct samples within the specifications is not possible. Permittees are not required to obtain advance approval for this waiver.

c. Unstaffed and Inactive Sites—Visual Waiver. The permit allows for a waiver from sampling for facilities that are both inactive and unstaffed. This waiver is only intended to apply to these types of facilities when the ability to conduct visual examinations would be severely hindered and result in the inability to meet the time and representative rainfall sampling specifications. This sampling waiver is not intended to apply to remote facilities that are active and staffed, or typical difficult logistical conditions. When a discharger is unable to perform visual examinations as specified in this permit, the discharger shall maintain on site with the pollution prevention plan a certification stating that the facility is unstaffed and inactive and the ability to perform visual examinations within the specifications is not possible. Permittees are not required to obtain advance approval for visual examination waivers.

8. Quarterly Visual Examination of Storm Water Quality

In order to provide a tool for evaluating the effectiveness of the pollution prevention plan, the permit requires the majority of industries covered under today’s permit to perform quarterly visual examinations of storm water discharges. EPA believes these visual examinations will assist with the evaluation of the pollution prevention plan. This section provides a general description of the monitoring and reporting requirements under today’s permit. The visual examination provides a simple, low cost means of assessing the quality of storm water discharge with immediate feedback. Most facilities covered under today’s permit are required to conduct a quarterly visual examination of storm water discharges associated with industrial activity from each outfall, except discharges exempted under the representative discharge provision. The visual examination of storm water outfalls should include any observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, or other obvious indicators of storm water pollution. No analytical tests are required to be performed on these samples.

The examination of the sample must be made in well lit areas. The visual examination is not required if there is insufficient rainfall or snow-melt to runoff or if hazardous conditions prevent sampling. Whenever practicable the same individual should carry out the collection and examination of discharges throughout the life of the permit to ensure the greatest degree of consistency possible in recording observations. Grab samples for the examination shall be collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff begins discharging. Reports of the visual examination include: the examination date and time, examination personnel, visual quality of the storm water discharge, and probable sources of any observed storm water contamination. The visual examination reports must be maintained on site with the pollution prevention plan.

When conducting a storm water visual examination, the pollution prevention team, or team member, should attempt to relate the results of the examination to potential sources of storm water contamination on the site. For example, if the visual examination reveals an oil sheen, the facility personnel (preferably members of the pollution prevention team) should conduct an inspection of the area of the site draining to the examined discharge to look for obvious sources of spilled oil, leaks, etc. If a source can be located, then this information allows the facility operator to immediately conduct a clean-up of the pollutant source, and/or to design a change to the pollution prevention plan to eliminate or minimize the contaminant source from occurring in the future.

To be most effective, the personnel conducting the visual examination should be fully knowledgeable about the storm water pollution prevention plan, the sources of contaminants on the site, the industrial activities conducted exposed to storm water and the day to day operations that may cause unexpected pollutant releases.

Other examples include; if the visual examination results in an observation of floating solids, the personnel should carefully examine the solids to see if they are raw materials, waste materials or other known products stored or used at the site. If an unusual color or odor is sensed, the personnel should attempt to compare the color or odor to the colors or odors of known chemicals and other materials used at the facility. If the examination reveals a large amount of settled solids, the personnel may check for unpaved, unstabilized areas or areas of erosion. If the examination results in a cloudy sample that is very slow to settle-out, the personnel should evaluate the site draining to the discharge point for fine particulate material, such as dust, ash, or other pulverized, ground, or powdered chemicals.

If the visual examination results in a clean and clear sample of the storm water discharge, this may indicate that no visible pollutants are present. This would be a indication of a high quality result, however, the visual examination will not provide information about dissolved contamination. If the facility is in a sector or subsector required to conduct analytical (chemical) monitoring, the results of the chemical monitoring, if conducted on the same sample, would help to identify the presence of any dissolved pollutants and the ultimate effectiveness of the pollution prevention plan. If the facility is not required to conduct analytical monitoring, it may do so if it chooses to confirm the cleanliness of the sample.

While conducting the visual examinations, personnel should constantly be attempting to relate any contamination that is observed in the samples to the sources of pollutants on site. When contamination is observed, the personnel should be evaluating whether or not additional BMPs should be implemented in the pollution prevention plan to address the observed contaminant, and if BMPs have already been implemented, evaluating whether or not these are working correctly or need maintenance. Permittees may also conduct more frequent visual examinations than the minimum quarterly requirement, if they so choose. By doing so, they may improve their ability to ascertain the effectiveness of their plan. Using this guidance, and employing a strong knowledge of the facility operations, EPA believes that permittees should be able to maximize the effectiveness of their storm water pollution prevention efforts through conducting visual examinations which give direct, frequent feedback to the facility operator or pollution prevention team on the quality of the storm water discharge.

EPA believes that this quick and simple assessment will help the permittee to determine the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. EPA recommends that the visual examination be conducted at different times than the chemical monitoring, but is not requiring this. In addition, more frequent visual examinations can be conducted if the permittee so chooses. In this way, better assessments of the effectiveness of the pollution prevention plan can be achieved. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examinations. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the site's storm water problems and the effects of the management practices that are included in the plan.

9. SARA Title III, Section 313 Facilities

Today's permit does not contain special monitoring requirements for facilities subject to the Toxic Release Inventory (TRI) reporting requirements under Section 313 of the EPCRA. EPA has reviewed data submitted by facilities in the group application and determined that storm water monitoring requirements are more appropriately based upon the industrial activity or significant material exposed than upon a facility's status as a TRI reporter under Section 313 of EPCRA. This determination is based upon a comparison of the data submitted by TRI facilities included in the group application process to data from group application sampling facilities that were not found on the TRI list. Table 6 summarizes the data comparison. The data indicate that there are no consistent differences in the level of water priority chemicals present in samples from TRI facilities when compared to the samples from facilities not subject to TRI reporting requirements.

EPA has included a revised Appendix A that lists 44 additional water priority chemicals that meet the definition of a section 313 water priority chemical or chemical categories requirements as defined by EPA in the permit under Part X, Definitions.

TABLE 6.—COMPARISON OF POLLUTANT CONCENTRATION IN GRAB SAMPLES

Pollutant	Non-TRI facility median concen-tration (mg/L)	TRI facility median concen-tration (mg/L)	Non-TRI facility mean concen-tration (mg/L)	TRI facility mean concen-tration (mg/L)	Non-TRI facility 95th percentile concen-tration (mg/L)	TRI facility 95th percentile concen-tration (mg/L)
Acrylonitrile	0.100	0.000	0.085	0.000	0.100	0.000
Aluminum	0.922	0.819	12.061	28.893	58.000	12.000
Ammonia	0.640	0.000	10.507	23.231	9.500	17.200
Antimony	0.000	0.000	0.603	0.014	2.096	0.078
Arsenic	0.000	0.000	0.231	0.008	0.170	0.033
Benzene	0.000	0.000	0.001	0.000	0.001	0.000
Beryllium	0.001	0.000	0.002	0.080	0.007	0.400
Butylbenzyl phthalate	0.000	0.000	0.007	0.000	0.018	0.000
Cadmium	0.000	0.000	0.014	0.030	0.050	0.028
Chlorine	0.000	0.000	1.590	0.052	11.000	0.300

TABLE 6.—COMPARISON OF POLLUTANT CONCENTRATION IN GRAB SAMPLES—Continued

Pollutant	Non-TRI facility median concen-tration (mg/L)	TRI facility median concen-tration (mg/L)	Non-TRI facility mean concen-tration (mg/L)	TRI facility mean concen-tration (mg/L)	Non-TRI facility 95th percentile concen-tration (mg/L)	TRI facility 95th percentile concen-tration (mg/L)
Chloroform	0.000	0.000	0.083	0.001	0.022	0.006
Chromium	0.006	0.000	1.236	0.109	0.250	0.270
Copper	0.047	0.028	1.430	0.344	2.200	1.300
Cyanide	0.000	0.000	0.021	0.007	0.008	0.020
Di-n-butyl phthalate	0.000	0.000	0.005	0.168	0.014	1.595
Dimethyl phthalate	0.000	0.000	0.005	0.000	0.016	0.000
Ethylbenzene	0.000	0.000	0.000	0.000	0.001	0.005
Hexavalent chromium	0.000	0.000	0.001	0.003	0.002	0.011
Lead	0.020	0.006	0.556	0.480	1.900	1.100
Manganese	0.150	0.090	2.015	0.273	9.550	1.244
Mercury	0.000	0.000	0.530	0.006	0.001	0.005
Naphthalene	0.000	0.000	2.998	0.001	24.000	0.013
Nickel	0.020	0.000	0.087	0.311	0.390	0.458
Phenols	0.000	0.000	0.063	0.019	0.100	0.075
Selenium	0.000	0.000	0.262	0.000	0.020	0.001
Silver	0.000	0.000	0.034	0.001	0.006	0.010
Toluene	0.000	0.000	0.052	0.011	0.037	0.009
Trichloroethylene	0.000	0.000	0.004	0.040	0.001	0.030
1,1,1-Trichloroethane	0.000	0.000	0.004	0.460	0.015	6.000
Xylene	0.000	0.000	0.000	0.004	0.003	0.037
Zinc	0.320	0.250	3.761	1.720	8.800	5.140

F. Numeric Effluent Limitations

1. Industry-specific Limitations

Part XI. of today's permit contains numeric effluent limitations for phosphate fertilizer manufacturing facilities, asphalt emulsion manufacturers, cement manufacturers, coal pile runoff from steam electric power generating facilities, and sand, gravel, and crushed stone quarries. These limitations are required under EPA's storm water effluent limitation guidelines in the Code of Federal Regulations at 40 CFR Part 418, Part 443, Part 411, Part 423, and Part 436. Parts VIII.C.6., VIII.D.5., VIII.E.6., and VIII.J.5. of this fact sheet discuss these limitations.

2. Coal Pile Runoff

Today's permit establishes effluent limitations of 50 mg/L total suspended solids and a pH range of 6.0–9.0 for coal pile runoff. Any untreated overflow from facilities designed, constructed, and operated to treat the volume of coal pile runoff associated with a 10-year, 24-hour rainfall event is not subject to the 50 mg/L limitation for total suspended solids. Steam electric generating facilities must comply with these limitations upon submittal of the NOI. EPA has adopted these technology-based pH limitations in today's general permit in accordance with setting limits on a case-by-case basis as allowed under 40 CFR 125.3 and Section 402 of the Clean Water Act. These case-by-case limits are derived by transferring the known achievable technology from an effluent guideline to a similar type of discharge. When developing these technology-based limitations, variables such as rainfall pH, sizes of coal piles, pollutant characteristics, and runoff volume were considered. Therefore, these variables need not be considered again. As discussed above, these pH limitations are technology-based and are not based on water quality. All other types of facilities must comply with this requirement as expeditiously as practicable, but in no event later than 3 years from the date of permit issuance.

The pollutants in coal pile runoff can be classified into specific types according to chemical characteristics. Each type relates to the pH of the coal pile drainage. The pH tends to be of an acidic nature, primarily as a result of the oxidation of iron sulfide in the presence of oxygen and water. The potential influence of pH on the ability of toxic and heavy metals to leach from coal piles is of particular concern. Many of the metals are amphoteric with regard to their solubility behavior. These factors affect acidity, pH, and the subsequent leaching of trace metals: concentration and form of pyritic sulfur in coal; size of the coal pile; method of coal preparation and clearing prior to storage; climatic conditions, including rainfall and temperature; concentrations of calcium carbonate and other neutralizing substances in the coal; concentration and form of trace metals in the coal; and the residence time of water in the coal pile.

Coal piles can generate runoff with low pH values, with the acid values being quite variable. The suspended solids levels can be significant, with levels of 2,500 mg/L not uncommon. Metals present in the greatest concentrations are copper, iron, aluminum, nickel, and zinc. Others present in trace amounts include chromium, cadmium, mercury, arsenic, selenium, and beryllium [14].

G. Regional Offices

1. Notice of Intent Address

Notices of Intent to be authorized to discharge under this permit should be sent to: NOI/NOT Processing Center (4203), 401 M Street, S.W., Washington, DC 20460.

2. Address for Other Submittals

Other submittals of information required under this permit or individual permit applications should be sent to the appropriate EPA Regional Office:

a. ME, MA, NH, Federal Indian Reservations in CT, MA, NH, ME, RI, and Federal Facilities in VT

EPA, Region I, Water Management Division, (WCP), Storm Water Staff, JFK Federal Building, Boston, MA 02203

b. PR and Federal Facilities in PR

[14] A more complete description of pollutants in coal pile runoff is provided in the ''Final Development Document for Effluent Limitations Guidelines and Standards and Pretreatment Standards for the Steam Electric Point Source Category,'' (EPA–440/1–82/029), EPA, November 1982.

EPA, Region II, Water Management Division, (2WM-WPC), Storm Water Staff, 290 Broadway, New York, NY 10007–1866

c. DC and Federal Facilities in DC and DE

EPA, Region III, Water Management Division, (3WM55), Storm Water Staff, 841 Chestnut Building, Philadelphia, PA 19107

d. FL

EPA, Region IV, Water Management Division, Permits Section (WPEB–7), 345 Courtland Street, NE, Atlanta, GA 30365

e. LA, NM, OK, and TX and Federal Indian Reservations in LA, NM (Except Navajo and Ute Mountain Reservation Lands), OK, and TX

EPA, Region VI, Water Management Division, (6W–EA), EPA SW MSGP, P.O. Box 50625, Dallas, TX 75202

f. AZ, Johnston Atoll, Midway Island, Wake Island, all Federal Indian Reservations in AZ, CA, and NV; those portions of the Duck Valley, Fort McDermitt, and Goshute Reservations that are outside NV; those portions of the Navajo Reservation that are outside AZ; and Federal facilities in AZ, Johnston Atoll, Midway Island, and Wake Island.

EPA, Region IX, Water Management Division, (W–5–3), Storm Water Staff, 75 Hawthorne Street, San Francisco, CA 94105

g. ID, OR, and WA; Federal Indian Reservations in AK, ID (except the Duck Valley Reservation), OR (except the Fort McDermitt Reservation), and WA; and Federal facilities in ID, and WA

EPA, Region X, Water Division, (WD–134), Storm Water Staff, 1200 Sixth Avenue, Seattle, WA 98101

H. Compliance Deadlines

For most permittees, today's permit imposes a deadline of 270 days following date of publication of this permit for development of pollution prevention plans and for compliance with the terms of the plan.

Today's general permit provides additional time if constructing structural best management practices is called for in the plan. The portions of a plan addressing these BMP construction requirements must provide for compliance with the plan as soon as practicable, but in no case later than 3 years from the effective date of the permit. However, storm water pollution prevention plans for facilities subject to these additional requirements must be prepared within 270 days of the date of publication of this permit and provide for compliance with the baseline terms and conditions of the permit (other than the numeric effluent limitation) as expeditiously as practicable, but in no case later than 270 days after the publication date of this permit.

Facilities are not required to submit the pollution prevention plans for review unless they are requested by EPA or by the operator of a large or medium municipal separate storm sewer system. When a plan is reviewed by EPA, the Director can require the permittee to amend the plan if it does not meet the minimum permit requirements.

VII. Cost Estimates for Common Permit Requirements

The conditions of today's general permit reflects the baseline permit requirements established in EPA's NPDES permits for Storm Water Discharges Associated With Industrial Activity (57 FR 41175 and 57 FR 44412). The requirements found under today's permit are more specific to the conditions found in the industries. EPA does not consider these requirements to be more costly than the pollution prevention plan requirements established in the baseline general permit. The following section contains the estimates of the cost of compliance with the baseline permit requirements.

A. Pollution Prevention Plan Implementation

Storm water pollution prevention plans for the majority of facilities will include relatively low cost baseline controls. EPA's analysis of storm water pollution prevention plans indicates that the cost of developing and implementing these plans is variable and will depend on a number of the following factors: the size of the facility, the type and amount of significant materials stored or used at a facility, the nature of the plant operations, the plant designs (e.g., the processes used and layout of a plan), and the extent to which housekeeping measures are already employed. Table 7 provides estimates of the range of costs for preparing and implementing the common requirements for a storm water pollution prevention plan. It is expected that the low cost estimates provided in Table 7 are appropriate for the majority of smaller facilities. The high cost estimates in Table 7 are more applicable to larger, more complex facilities with more potential sources of pollutants. Please note that the costs in this table exclude special requirements, such as EPCRA 313 requirements. EPA estimated the cost of preparing a storm water pollution prevention plan for a hypothetical small business in the automobile salvage yard industry. Based on experience and best professional judgment, EPA estimates that a typical small automobile salvage yard would face a one-time cost of about $874. This cost is lower than the low end of the cost estimate provided in Table 7 because it is based on a particular (though hypothetical) small business. Table 7 estimates are based on what EPA expects are appropriate for the majority of small facilities. Some facilities are likely to face lower costs, such as the hypothetical small automobile junk yard, and other facilities are likely to face higher costs.

The cost of compliance, monitoring and preparing the PPP for the multi-sector permit are not high when compared to the site-specific requirements to comply with an individual permit. The Clean Water Act does not give EPA the authority to exempt permitted facilities from requirements designed to improve the quality of the nation's waters. The economic ability of small businesses to comply with this permit can be a factor to consider if water quality concerns are not applicable to the surface water body receiving the storm water discharge.

The operators of regulated storm water discharges have to consider the economic effects of coverage under the multi-sector permit, the baseline general permit, or an individual NPDES permit. Coverage under either of the two general permits is not required by EPA. The NPDES regulations give EPA the authority to require coverage under an individual NPDES permit, not general permits. A facility's decision to be covered under a general permit is voluntary. Individual permits can require numerical limits and more frequent monitoring and reporting, along with the development and implementation of SWPPPs. The burden of developing an SWPPP is controlled by the facility's ability to achieve the permits goal: reduce or eliminate the discharge of pollutants to the nation's waters.

TABLE 7.—SUMMARY OF ESTIMATED RANGES OF COSTS FOR COMPLIANCE WITH STORM WATER POLLUTION PREVENTION PLANS WITH BASELINE REQUIREMENTS

	Low costs		High costs	
	First year costs	Annual costs	First year costs	Annual costs
Submittal of NOI	$14		$14	
Notification of Municipality	14		14	
Plan Preparation	1,518		76,153	
Plan Implementation	90	294	35,400	9,371
Comprehensive Site Compliance Evaluation/Plan Revision		267		8,875
Reportable Quantities	(1) No Costs		8,501	
Total	1,636	561	120,082	18,246

This table identifies estimated low and high costs (in 1992 dollars) to develop and implement storm water pollution prevention plans.
Low costs of implementing program components are zero where existing programs or procedures is assumed adequate.
The estimated costs for plan preparation and plan revisions includes costs of preparing/revising plan to address baseline requirements. However, the costs of implementing special requirements, such as those for EPCRA Section 313 facilities coal piles and salt piles are not otherwise addressed in this table.

B. Cost Estimates for EPCRA Section 313

Table 8 provides estimates of the range of costs of preparing and implementing a storm water pollution prevention plan for facilities subject to the special requirements for facilities subject to EPCRA Section 313 reporting requirements for chemicals classified as ''Section 313 water priority chemicals.'' EPA expects the majority of facilities to have existing containment systems that meet the majority of the requirements of this permit. High cost estimates correspond to facilities that are expected to be required to undertake some actions to upgrade existing containment systems to meet the requirements of this permit.

TABLE 8.—SUMMARY OF ESTIMATED ADDITIONAL COSTS FOR COMPLIANCE WITH STORM WATER POLLUTION PREVENTION PLANS FOR FACILITIES SUBJECT TO SECTION 313 OF EPCRA FOR WATER PRIORITY CHEMICALS

	Low costs		High costs	
	Costs during first 3 years	Annual costs	Costs during first 3 years	Annual costs
Plan Preparation	$630		0	
Liquid Storage Areas			$11,200	
Material Storage Areas			560	
Loading Areas			21,000	
Process Areas			11,190	
Drainage/Runoff			7,750	
Housekeeping/Maintenance				$5,957
Facility Security			3,240	
Employee Training				1,403
Toxicity Reduction				3,046
Totals	630	$0	54,940	10,406

This table identifies estimated additional low and high costs to develop and implement storm water pollution prevention plans for EPCRA Section 313 facilities subject to special conditions.
Low costs of implementing program components are zero where existing programs, procedures or security is assumed adequate.
The high costs for preparing pollution prevention plans to include EPCRA Section 313 additional requirement were addressed as part of the estimated high costs for preparation of baseline pollution prevention plans (see Table 7).

C. Cost Estimates for Coal Piles

The effluent limitations for coal pile runoff in the permit can be achieved by these two primary methods: limiting exposure to coal by use of covers or tarpaulins and collecting and treating the runoff. In some cases, coal pile runoff may be in compliance with the effluent limitations without covering of the pile or collection or treatment of the runoff. In these cases, the operator of the discharge would not have a control cost.

The use of covers or tarpaulins to prevent or minimize exposure of the coal pile to storm water is generally expected to be practical only for relatively small piles. Coal pile covers or tarpaulins are anticipated to have a fixed cost of $400 and annual cost of $160.

Table 9 provides estimates of the costs of treating coal pile runoff.[15] These costs are based on a consideration of a treatment train requiring equalization, pH adjustment, and settling, including the costs for impoundment (for equalization), a lime feed system and mixing tanks for pH adjustment, and a clarifier for settling. The costs for the

[15] The type and degree of treatment required to meet the effluent limitations of this permit vary depending on factors such as the amount of sulfur in the coal. This section describes a model treatment scheme for estimating costs for compliance with the effluent limitations. Dischargers may implement other less expensive treatment approaches to enable them to discharge in accordance with these limits where appropriate.

impoundment area include diking and containment around each coal pile and associated sumps and pumps and piping from runoff areas to the impoundment area. The costs for land are not included. The lime feed system employed for pH adjustment includes a storage silo, shaker, feeder, and lime slurry storage tank, instrumentation, electrical connections, piping, and controls.

Additional costs may be incurred if a polymer system is needed. In this case, costs would include impoundment for equalization, a lime feed system, mixing tank, and polymer feed system for chemical precipitation, a clarifier for settling, and an acid feeder and mixing tank to readjust the pH within the range of 6 to 9. The equipment and system design, with the exception of the polymer feeder, acid feeder, and final mixing tank, are essentially the same as shown in Table 9. Two tanks are required for a treatment train with a polymer system, one for precipitation and another for final pH adjustment with acid. The cost of mixing is therefore twice that shown in Table 9. The polymer feed system includes storage hoppers, chemical feeder, solution tanks, solution pumps, interconnecting piping, electrical connections, and instrumentation. The costs of clarification are identical to that of Table 9. A treatment train with a polymer system requires the use of an acid addition system to readjust the pH within the range of 6 to 9. The components of this system include a lined acid storage tank, two feed pumps, an acid pH control loop, and associated piping, electrical connections, and instrumentation.

Additional information regarding the cost of these technologies can be found in ‘‘Development Document for Effluent Limitations Guidelines and Standards and Pretreatment Standards for the Steam Electric Point Source Category,’’ (EPA–440/182/029), November 1982, EPA.

TABLE 9.—SUMMARY OF ESTIMATED COSTS FOR TREATMENT OF COAL PILE RUNOFF

	30,000 cubic meter coal pile	120,000 cubic meter coal pile
IMPOUNDMENT:		
Installed Capital Cost	6,850	6,850
Operation and Maintenance ($/year)	Negligible	Negligible
LIME FEED SYSTEM:		
Installed Capital Cost ($)	138,800	255,700
Operation and Maintenance ($/year)	5,780	10,655
Energy Requirements (kwh/yr)	3.6×10**4	3.6×10**4
Land Requirements (ft**2)	5,000	5,000
MIXING EQUIPMENT:		
Installed Capital Cost ($)	65,750	91,320
Operation and Maintenance ($/year)	2,280	2,430
Energy Requirements (kwh/yr)	1.3×10**3	3.3×10**3
Land Requirements (ft**2)	2,000	2,000
CLARIFICATION:		
Installed Capital Cost ($)	182,650	237,450
Operation and Maintenance ($/year)	3,200	3,650
Energy Requirements (kwh/yr)	1.3×10**3	3.3×10**3
Land Requirements (acres)	0.1	0.1

Source: ‘‘Development Document for Effluent Limitations Guidelines and Standards and Pretreatment Standards for the Steam Electric Point Source Category’’ (EPA–440/182/029), November 1982, EPA). Costs estimates are in 1992 dollars.

D. Cost Estimates for Salt Piles

Salt pile covers or tarpaulins are anticipated to have a fixed cost of $400 and an annual cost of $160 for medium-sized piles and a fixed cost of $4,000 and an annual cost of $2,000 for very large piles. Structures such as salt domes are generally expected to have a fixed cost of between $30,000 for small piles ($70 to $80 per cubic yard) and $100,000 for larger piles ($18 per cubic yard) with costs depending on size and other construction parameters.

VIII. Special Requirements for Discharges Associated With Specific Industrial Activities

The industry-specific requirements allow the implementation of site-specific measures that address features, activities, or priorities for control associated with the identified storm water discharges. This framework provides the necessary flexibility to address the variable risk for pollutants in storm water discharges associated with the different types of industrial activity addressed by this permit. This approach also assures that facilities have the opportunity to identify procedures to prevent storm water pollution at a particular site that are appropriate, given processes employed, engineering aspects, functions, costs of controls, location, and age of the facility (as contemplated by 40 CFR 125.3). The approach taken also allows the flexibility to establish controls that can appropriately address different sources of pollutants at different facilities.

A. Storm Water Discharges Associated With Industrial Activity From Timber Products Facilities

1. Discharges Covered Under This Sector

Eligibility for coverage under this section is limited to those facilities in the lumber and wood products industry (primary SIC Major Group is 24), except wood kitchen cabinets manufacturers (SIC Code 2434). Permit conditions for facilities in the wood kitchen cabinets manufacturers industry (SIC Code 2434) are discussed in the wood and metal furniture and fixture manufacturing sector (Part XI.W of today’s permit). SIC Major group 24 represents those ‘‘establishments engaged in cutting timber and pulpwood, merchant sawmills, lath mills, shingle mills, cooperage stock mills, planing mills, and plywood and veneer mills engaged in producing lumber and wood basic materials; and establishments engaged in wood preserving or in manufacturing finished articles made entirely of wood or related materials.’’ [16]

[16] ‘‘Handbook of Standard Industrial Classifications,’’ Office of Management and Budget, 1987.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

Wood kitchen cabinet facilities (SIC Code 2434) are excluded from coverage under this section because EPA believes it is more appropriate to cover manufacturers of wood cabinets with furniture manufacturing facilities (SIC Major group 25). As indicated in the November 16, 1990, Federal Register (55 FR 48008), ''Facilities under SIC Code 2434 and 25 are establishments engaged in furniture making.'' EPA believes that this grouping is more appropriate due to the typical use by cabinet makers of wood treating solutions such as mineral spirits and propenyl butyl.[17] This practice is common to wood furniture manufacturing, but is atypical of the other industrial operations performed at facilities in the lumber and wood products industry (SIC Major group 24).

Certain silvicultural activities are not required to be covered under National Pollutant Discharge Elimination System (NPDES) storm water permits (40 CFR 122.27). In accordance with 40 CFR 122.27(b), point sources that must be covered by an NPDES permit are ''any discernible, confined and discrete conveyance related to rock crushing, gravel washing, log sorting, or log storage facilities, which are operated in connection with silvicultural activities and from which pollutants are discharged into waters of the United States.'' Discharges from nonpoint source silvicultural activities, including harvesting operations (see 40 CFR 122.27) are not required to be covered.

It is EPA's determination harvesting activities include: the felling, skidding, preparation (e.g., delimbing and trimming), loading and initial transport of forest products from an active harvest site. An active harvest site is considered to be an area where harvesting operations are actually on-going. EPA also interprets the definition of harvesting operations to include incidental stacking and temporary storage of harvested timber on the harvest site prior to its initial transport to either an intermediate storage area or other processing site. EPA considers this activity to be an inherent part of harvesting operations. However, EPA does not intend the definition of active harvesting operations to include sites that are processing, sorting, or storing harvested timber which has been transported there from one or more active harvesting sites. Consequently, EPA considers these site activities a point source under 40 CFR 122.27(b)(1) and operators of these sites must seek an NPDES permit for discharges of storm water.

Effluent guidelines have been promulgated for the Timber Products Processing Point Source Category at 40 CFR Part 429 (46 FR 8260; January 26, 1981). Under these regulations, effluent limitations and standards were set for process wastewaters from any timber products processing operation, and any plant producing insulation board with wood as the major raw material. The definition of process wastewater excluded ''noncontact cooling water, material storage yard runoff (either raw material or processed wood storage) and boiler blowdown. For the dry process hardboard, veneer, finishing, particleboard, and sawmills and planing mills subcategories, fire control water is excluded from the definition.'' Any discharge subject to an effluent limitation guideline is not eligible for coverage under this section. Even though discharges of boiler blowdown and noncontact cooling water are not considered ''process water discharges,'' they do not fall under the definition of storm water discharges. As such, this section does not provide for their coverage. In addition, contact cooling waters and water treatment wastewater discharges from steam operated sawmills will not be covered. Finally, material storage yard runoff, exempted from coverage under the effluent limitation guidelines, is eligible to be covered in accordance with the terms and conditions of this section.

In addition, it should be noted that certain wood preserving wastes have been listed under 40 CFR 261.31 as hazardous wastes from nonspecific sources (55 FR 50450; December 6, 1990). Storm water discharges that come in contact and/or commingle with these wastes will be considered a hazardous waste and will not be authorized for discharge under this section. Despite the listing of these wastes, however, there remains a potential for storm water to become contaminated through incidental activities such as tracking of materials, fugitive emissions, and miscellaneous other activities. These discharges are covered under today's permit. Wastewaters, process residuals, preservative or protectant drippage, and spent formulations from wood preserving processes that use chlorophenolic formulations, creosote formulations, or arsenic and chromium formulations have been listed as hazardous wastes. Wastes from wood surface protection were proposed for listing under this subpart (53 FR 53282; December 30, 1988, and 58 FR 25706; April 27, 1993) but listing the wastes was determined unnecessary in a subsequent rulemaking (59 FR 458; January 4, 1994). Storm water discharges containing these wastes are therefore covered under today's permit.

2. Industry Profile/Description of Industrial Activities

Facilities engaged in activities classified under SIC Major Group 24 use wood as their primary raw material. Although there is diversity among the types of final products that are produced at timber products facilities, there are common industrial activities performed among them. These activities are broadly classified for ease of discussion and include the following: log storage and handling; untreated wood lumber and residue generation activities, and untreated wood materials storage; wood surface protection activities, and chemicals and surface protected materials storage; wood preservation activities, and chemicals and preserved wood material storage; wood assembly/fabrication activities and final fabricated wood product storage; and equipment/vehicle maintenance, repair and storage.

In many cases, more than one of these activities may be conducted at a single facility location.

a. Log Storage and Handling. Log storage and handling activities may occur onsite at many types of facilities covered under this section of today's permit, such as wood collection yards and lumber processing and veneer manufacturing facilities. However, facilities that are primarily engaged in these activities (e.g., wood collection yards) are most appropriately classified under SIC Code 2411.

Typical industrial activities performed include loading and unloading of logs onto trucks or railroad cars for transport to other facilities, log

[17] Part 1 Storm Water Group Permit Applications. Summaries from individual applicant descriptions including Applicant No. 1156 (Westvaco), Applicant No. 92 (Bowater), and Applicant No. 866 (Louisiana-Pacific).

sorting, and storage of logs. In addition, some cutting may be performed such as chopping off tree branches and sectioning of tree trunks for easier handling during transport. Although not typically performed at wood collection facilities, chipping may be performed at facilities serving pulp industries. Residues generated at these sites may include bark, coarse sawdust, and wood chunks.

Significant materials that have the potential to come in contact with storm water discharges at facilities practicing these activities include: uncut logs (hardwood and softwoods), wood bark, wood chips, coarse saw dust, other waste wood material, petroleum and other products for equipment maintenance (fuels, motor oils, hydraulic oils, lubricant fluids, brake fluids, and antifreeze), herbicides, pesticides, and fertilizers, material handling equipment (forklifts, loaders, vehicles, chippers, debarkers, cranes, etc.).

These log storage and handling activities described above have the potential to discharge pollutants including bark and wood debris, total suspended solids (TSS), and leachates.[18] The leachate generated from these operations from the decay of wood products can contain high levels of TSS and biochemical oxygen demand (BOD_5).[19]

b. Untreated Wood Lumber and Residue Generation Activities and Untreated Wood Materials Storage. The primary product from sawmills and other cutting activities is lumber. However, residues such as debarked wood chips; whole tree chips and slab wood; bark; and sawdust constitutes approximately 25 percent of the total wood production.[20] At large saw mills, approximately 2,500 lbs of residue is generated for each 1,000 board feet of lumber derived.[21]

Facilities that produce untreated lumber and residues can be classified under most of the SIC Codes in Major group 24. These facilities include saw mill and planing mill facilities classified in group 242; millwork, veneer, plywood and structural wood member manufacturing facilities classified in group 243; wood container manufacturing facilities in group 244; wood building and mobile home manufacturing facilities in group 245; and miscellaneous wood product manufacturers in group 249.

These facilities may engage in one or more activities such as log washing, bark removal, milling, sawing, resawing edging, trimming, planing, machining, air drying, and kiln drying. In addition, there may be associated boiler operations, loading and unloading activities and storage activates.

Effluent guidelines have been established at 40 CFR Part 429 Subparts A, I, and J for discharges from log washing, debarking and wet storage, respectively. These discharges are considered process waters and are subject to the effluent limitations of each subpart.

Some facilities generate residue as a product, in lieu of lumber or other finished products, while other facilities may generate residues as a waste product. In most cases, there are markets for these residues. For example, chips and sawdust are used in the production of pulp and paper and wood products manufacturing. A summary of the residues generated and their potential uses include: bark (used in landscaping, compost, recreational applications (trails), energy recovery); wood chips (used in pulp and paper mill feed, landscaping, recreational applications, fire logs, energy recovery); planer shavings (used in particle board, livestock bedding, compost, fire logs, domestic pet litter, energy recovery); and sawdust (used in particle board, livestock bedding, compost, fire logs, domestic pet litter, energy recovery.) [22]

Storage activities at these sites include wet and dry storage of logs and storage of residuals. Wet storage, called ''wet decking,'' is a process used when logs are to be stored for an extended period of time. Wet storage retards decaying and infestation by insects. The logs may be stored under water in ponds or may be placed in areas where water is continuously sprayed over them. Residuals are typically stored dry.

Storm water discharges from lumber and residue generation and storage may come in contact with the following types of wastes and/or materials at the facility which can then contribute pollutants to the storm water: uncut logs (hardwood and softwoods), wood bark, wood chips, wood shavings, sawdust, green lumber, rough and finished lumber, other waste wood material, nonhazardous wood ash, above and below ground fuel storage tanks for diesel, gasoline, propane and fuel oil, finishing chemicals (stain, lacquer, varnish, paints, water repellant, sealants), solvents and cleaners, petroleum and other products for equipment maintenance (fuels, motor oils, hydraulic oils, lubricant fluids, brake fluids, and antifreeze), herbicides, pesticides, and fertilizers, sawmill equipment, material handling equipment (Forklifts, loaders, vehicles, chippers, debarkers, cranes, etc.), boiler water treatment chemicals, scrap metals, scrap equipment and plastics, boiler blowdown water, and leachate from decaying organic matter.

Pollutants resulting from lumber and residue generation and storage activities are typically conventional in nature. Low pH levels can result from the leachate of decaying organic materials. TSS and BOD_5 may be elevated in this leachate.[23] In addition to leachate, washed away residue particles contribute to TSS loadings. Equipment and machinery at the facility site may result in the discharge of oil and grease.

c. Wood Surface Protection Activities, Chemicals and Surface Protected Materials Storage. At many hardwood saw mills, wood surface protection is conducted to prevent sap stain. Sap stain is the unsightly discoloration of lumber products caused by fungus.[24] Surface protection is a cosmetic fix only and differs from wood preservation which is a practice designed to enhance the wood's structural integrity.

Surface protection is accomplished by one of three methods: spraying, ranging from manual spraying with a garden hose to more sophisticated on-line high pressure spray boxes; dipping, a batch process where lumber is immersed then removed from the formulation; and green chain operations, a continuous immersion operation where lumber is pulled through the protection tanks by conveyer.[25]

Historically, the primary chemical used in surface protection has been commercial pentachlorophenate. Concentrated chemicals are diluted to 0.5 to 1 percent pentachlorophenol for surface protection. This concentration is lower than the 2 percent to 9 percent pentachlorophenol used in wood

[18] ''NPDES Docket No. 1085–07–22–402, NPDES Appeal No. 86–14: In the Matter of Shee Atika, Incorporated,'' January 21, 1988.

[19] ''Regulatory Guidance and Waste Reduction Manual for United States Sawmills (Draft),'' EPA Office of Solid Waste, January 12, 1993.

[20] ''Using Best Management Practices to Prevent and Control Pollution from Hardwood Residue Storage Sites,'' Pennsylvania Hardwoods Development Council, May 15, 1992.

[21] ''Regulatory Guidance and Waste Reduction Manual for United States Sawmills (Draft),'' EPA Office of Solid Waste, January 12, 1993.

[22] ''Regulatory Guidance and Waste Reduction Manual for United States Sawmills (Draft),'' EPA Office of Solid Waste, January 12, 1993.

[23] ''Regulatory Guidance and Waste Reduction Manual for United States Sawmills (Draft),'' EPA Office of Solid Waste, January 12, 1993.

[24] ''Background Document Supporting the Proposed Listing of Wastes from Surface Protection Processes, Part One Final Engineering Analysis Volume 1,'' EPA Office of Solid Wastes, February 1993.

[25] ''Regulatory Guidance and Waste Reduction Manual for United States Sawmills (Draft),'' EPA Office of Solid Waste, January 12, 1993.

preserving. Producers of chlorophenolic formulations used in surface protection have recently discontinued the product due to the pending hazardous waste regulations and it is expected that stocks will soon be exhausted. Alternatives to pentachlorophenate solutions which have been developed and are currently used include: iodo-prophenyl butyl carbamate, dimethyl sulfoxide, didecyl dimethyl ammonium chloride mixtures; sodium azide mixtures; iodo-prophenyl butyl carbamate, didecyl dimethyl ammonium chloride mixture; 8-quinolinol, copper (II) chelate mixtures; iodo-prophenyl butyl carbamate mixtures; sodium ortho-phenylphenate mixtures; 2-(thiocyanomethylthio)-benzothiozole (TCMTB) and methylene bis (thiocyanate) mixture; and zinc naphthenate mixtures.[26]

Industrial activities at saw mills with the potential to contaminate storm water include spills from surface protection areas, storage and mixing tank areas, treated wood drippage, transport or storage areas, maintenance and shop areas, and areas used for treatment/disposal of wastes. Fugitive emissions from negative pressure spraying activities and hand spraying surface protection formulations may also result in the contamination of storm water.[27]

Significant materials that have the potential to come in contact with storm water discharges at facilities practicing these activities include: all of the materials stated in 3.b. above (under untreated wood lumber and residue generation activities and untreated materials storage) plus treated lumber, treatment chemicals, and treatment equipment (dipping tanks, green chain, material handling equipment, etc.).

Pollutants which result from these types of surface protection operations may include the constituents of those surface protection chemicals listed above, as well as aggregate parameters such as BOD_5, COD, and TSS.

d. Wood Preservation Activities, and Chemicals and Preserved Wood Material Storage. Wood preserving is the application of chemicals to wood and wood products to preserve the structural integrity of the wood. Wood preserving is designed to prevent/delay the deterioration/decay of wood through the addition of flame retardants, water repellents, and chemicals. Wood preserving differs from wood surface protection which is generally performed for aesthetic reasons.[28]

Wood preserving is accomplished by two steps. First, the moisture content of wood is reduced to increase its permeability (this is referred to as conditioning). Conditioning may be accomplished by: (1) allowing wood to dry at ambient temperatures; (2) kiln drying; (3) steaming the wood, then applying a vacuum; (4) dipping the wood in a heated salt bath; or (5) vapor drying, and immersing the wood in a solvent (usually naphtha or Stoddard solvent). After conditioning, wood is impregnated with a preservative for fire retardency, insecticidal resistance, and/or fungicidal resistance. Preservation may be accomplished by either nonpressurized and pressurized methods. The nonpressurized method involves dipping stock in a bath containing the preservatives (either heated or at ambient temperatures), while pressurized methods involve subjecting the wood to the preservative when under pressure. After treatment, the wood stock is often subject to cleaning in order to remove excess preservative prior to stacking treated lumber products outside.[29]

There are a number of different avenues by which wood preserving wastes may contaminate storm water. These may include: drippage of condensate or preservative after pressurized treatment; washing after preservation to remove excess preservative, which usually occurs either in the treatment or storage areas; spills and leaks from process equipment and preservative tanks; fugitive emissions from vapors in the process, as well as blow outs and emergency pressure releases; and kick-back (phenomenon where preservative leaks as it returns to normal pressure) from the lumber.[30]

A wide variety of chemicals are used in the preservation of wood, the most common are creosote, pentachlorophenol and inorganics.

Creosote-based preservatives are mixtures of coal-tar derivatives and creosote solutions (creosotes fortified with insecticide additives such as pentachlorophenol, arsenic trioxide, copper compounds or malathion). Pentachlorophenol preservatives are typically formulations using petroleum solvents and 5 percent total pentachlorophenol. Waxes and resins may also be added.[31] Inorganic preservatives consist of arsenical and chromate salts and fluorides dissolved in water. The most commonly used inorganic preservatives include:[32] chromated copper arsenate (CCA); ammoniacal copper arsenate (ACA); acid copper chromate (ACC); chromated zinc chloride (CZC); and fluor-chrome-arsenate-phenol (FCAP).

Significant materials that have the potential to come in contact with storm water discharges at facilities practicing wood preservation include: all of the materials stated in 3.b. (untreated wood lumber and residue generation activities and untreated wood materials storage) plus treated lumber, treatment chemicals, and treatment equipment (preservative, tanks, preservative contaminated material handling equipment).

Pollutants expected to be discharged from wood preserving facilities typically include conventional pollutants such as BOD_5, TSS and oil and grease, as well as toxics which are dependent upon the preserving formulations used. Organic solvent components such as benzene, toluene, xylene, and ethylbenzene can be found at pentachlorophenol preservation operations. Phenolic compounds such as phenol, chlorophenols, nitrophenols can be found at plants using pentachlorophenol and creosote preservatives. The polynuclear aromatic hydrocarbons of creosote, including anthracene, pyrene, and phenanthrene are often contained in the entrained oils. High phenolic, COD, and oil and grease concentrations have been noted to result from creosote and pentachlorophenol operations. Traces of copper, chromium, arsenic, zinc, and boron often can be found in the wastewaters of plants which use waterborne salt preservatives.[33]

e. Wood Assembly/Fabrication Activities and Final Fabricated Wood Product Storage. The industrial

[26] ''Regulatory Guidance and Waste Reduction Manual for United States Sawmills (Draft),'' EPA Office of Solid Waste, January 12, 1993.

[27] ''Background Document Support the Proposed Listing of Wastes From Wood Preservation and Surface Protection Processes,'' EPA Office of Solid Waste, July 1987.

[28] ''Background Document Supporting the Proposed Listing of Wastes from Surface Protection Processes, Part One Final Engineering Analysis Volume 1,'' EPA Office of Solid Wastes, February 1993.

[29] ''Development Document for Effluent Limitations Guidelines and Standards for the Timber Products Point Source Category, Final (EPA 440/1–81/023),'' EPA, Effluent Guidelines Division, January 1981.

[30] ''Background Document Support the Proposed Listing of Wastes From Wood Preservation and Surface Protection Processes,'' EPA Office of Solid Waste, July 1987.

[31] ''Background Document Support the Proposed Listing of Wastes From Wood Preservation and Surface Protection Processes,'' EPA Office of Solid Waste, July 1987.

[32] ''Background Document Support the Proposed Listing of Wastes From Wood Preservation and Surface Protection Processes,'' EPA Office of Solid Waste, July 1987.

[33] ''Development Document for Effluent Limitations Guidelines and Standards for the Timber Products Point Source Category, Final (EPA 440/1–81/023),'' EPA, Effluent Guidelines Division, January 1981.

activities conducted as part of the assembly and fabrication process are very diverse. For the most part, industrial activities that have the potential to come in contact with precipitation are similar to those described under lumber and residue generation (see Section A.3.b). However, there are a number of additional industrial activities that differ. For example, the fabrication of fiberboard, insulation board, and hardboard may involve the use of wax emulsions, paraffin, aluminum sulfate, melamine formaldehyde, and miscellaneous thermosetting resins. These chemicals may be introduced as part of the board formation process or as a coating to maintain the board's integrity. Generally, these additives account for less than 20 percent of the board. In the formation of fiberboard/insulation board/hardboards, the digestion of pulp and fiber by mechanical, thermal, and sometimes chemical means takes place.[34] Another operation which involves resinous agents is the formation of veneer. In this process, veneer is placed in hot ponds or vats to soften the wood. Veneer strips are removed and often bound by glue or a resinous agent. Glues are also used in the assembly of wood components.[35] Other types of activities include the finishing of wood products. Stains, paints, lacquers, varnish, water repellents and sealants, etc. may be applied to some of the wood products. Many of these materials may not have the potential to come in contact with precipitation as most of these processes are performed within a covered area or building.

Pollutants expected to be found in storm water discharges at facilities that perform these types of industrial activities include BOD_5 and TSS. Oil and grease may be present due to material handling equipment and transport vehicles.

f. Equipment/Vehicle Maintenance, Repair and Storage. Many of the facilities included in the SIC Major group 24 employ the use of material handling equipment, vehicles and other machinery. These facilities store the equipment onsite and may also engage in maintenance and repair activities on them. These types of activities are performed in either covered or outdoor areas of the facility. Associated with these activities is the storage of significant materials such as petroleum products and other maintenance fluids such as fuels, motor oil, hydraulic oils, lubricant fluids, brake fluids, solvents, cleaners and antifreeze.

3. Pollutants Contributing to Storm Water Contamination

Based on the wide variety of industrial activities and significant materials at the facilities included in this sector, EPA believes it is appropriate to divide the timber products industry into subsectors to properly analyze sampling data and determine monitoring requirements. As a result, this sector has been divided into the following subsectors: general saw mills and planning mills; wood preserving; log storage and handling; and hardwood dimension and flooring mills, special products saw mills, millwork, veneer, plywood and structural wood, wood containers, wood buildings and mobile homes, reconstituted wood products and wood products not elsewhere classified. Tables A–1 through A–4 below include data for the eight pollutants that all facilities were required to monitor for under Form 2F. The tables also lists those parameters that EPA has determined may merit further monitoring.

TABLE A–1.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY GENERAL SAWMILLS AND PLANING MILLS FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant	# of Facilities		# of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
Sample type	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	34	35	74	73	48.6	47.2	0.0	0.0	440.0	660.0	18.5	18.0	169.8	151.5	400.2	322.6
COD	34	34	75	72	337.0	289.6	0.0	0.0	2156.0	1804.0	115.0	165.5	1346.7	1012.2	3442.9	2170.3
Nitrate + Nitrite Nitrogen	35	34	75	71	0.47	0.47	0.00	0.00	1.50	2.00	0.40	0.40	1.82	1.92	3.57	3.87
Total Kjeldahl Nitrogen	35	34	75	71	2.80	2.42	0.00	0.00	21.00	27.00	1.40	1.40	9.41	7.01	19.18	12.99
Oil & Grease	35	N/A	79	N/A	8.5	N/A	0.0	N/A	55.0	N/A	3.8	N/A	30.5	N/A	62.0	N/A
pH	40	N/A	84	N/A	N/A	N/A	4.7	N/A	9.7	N/A	7.5	N/A	9.5	N/A	10.8	N/A
Total Phosphorus	35	35	75	72	0.61	0.57	0.00	0.00	2.80	3.97	0.30	0.38	2.78	2.34	6.78	5.34
Total Suspended Solids	34	34	74	71	1459	798	1	0	18000	6460	252	400	8998	4376	36040	12921
Zinc	5	5	13	12	0.448	0.362	0.050	0.11	1.7	1.2	0.32	0.29	1.359	0.842	2.456	1.307

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.

[ii] Composite samples.

TABLE A–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY WOOD PRESERVING FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant	# of Facilities		# of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
Sample type	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	9	9	13	13	14.5	14.3	2.4	2.1	39.0	32.0	13.7	12.4	45.9	44.7	84.4	80.9
COD	9	9	13	13	115.2	98.7	36.0	31.0	274.0	191.0	100.0	98.0	264.3	236.1	398.4	362.7
Nitrate + Nitrite Nitrogen	9	9	13	13	1.05	1.47	0.30	0.20	2.20	5.20	0.90	1.10	2.29	4.74	3.36	9.06
Total Kjeldahl Nitrogen	9	9	13	13	2.20	2.25	1.00	0.80	4.00	3.60	2.20	2.20	3.97	4.74	5.21	6.78
Oil & Grease	9	N/A	13	N/A	7.6	N/A	0.0	N/A	80.0	N/A	0.00	N/A	60.9	N/A	380.8	N/A
pH	8	N/A	12	N/A	N/A	N/A	6.0	N/A	16.0	N/A	7.0	N/A	11.4	N/A	13.5	N/A
Total Phosphorus	9	9	13	13	0.44	0.26	0.60	0.06	1.57	0.90	0.25	0.19	1.54	0.74	3.19	1.30

[34] "Development Document for Effluent Limitations Guidelines and Standards for the Timber Products Point Source Category, Final (EPA 440/1–81/023)," EPA, Effluent Guidelines Division, January 1981.

[35] Part 1 Storm Water Group Permit Applications. Summaries from individual applicant descriptions including Applicant No. 1156 (Westvaco), Applicant No. 92 (Bowater), and Applicant No. 866 (Louisiana-Pacific).

TABLE A–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY WOOD PRESERVING FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)—Continued

Pollutant	# of Facilities		# of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
Sample type	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
Total Suspended Solids	9	9	13	13	242	107	11	12	916	260	50	99	1025	343.8	2661	638.5

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE A–3.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY LOG STORAGE AND HANDLING FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant	# of Facilities		# of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
Sample type	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	22	24	52	56	18.7	22.6	0.0	0.0	260.0	130.0	8.3	7.3	66.4	89.3	150.7	206.6
COD	21	23	51	54	286.8	262.1	0.0	0.0	1500	1500	136.0	110.0	1127.8	940.5	2713.2	2110.7
Nitrate + Nitrite Nitrogen	15	17	43	46	0.17	0.19	0.0	0.0	0.82	1.10	0.09	0.11	0.74	0.74	1.61	1.48
Total Kjeldahl Nitrogen	14	17	40	45	2.30	2.14	0.0	0.0	9.30	12.2	1.46	1.30	8.12	5.98	15.63	10.49
Oil & Grease	25	N/A	57	N/A	3.8	N/A	0.0	N/A	37.0	N/A	1.8	N/A	12.9	N/A	24.5	N/A
pH	25	N/A	57	N/A	N/A	N/A	2.8	N/A	8.3	N/A	7.0	N/A	9.3	N/A	10.5	N/A
Total Phosphorus	22	24	52	55	89.49	21.38	0.0	0.0	3000.00	1160	0.20	0.23	15.63	3.86	87.17	13.49
Total Suspended Solids	22	24	52	55	1024	566.8	0.0	0.0	16520	5192	518	164	6657	3121	25663	10723

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE A–4.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY HARDWOOD DIMENSION AND FLOORING MILLS; SPECIAL PRODUCTS SAWMILLS, NOT ELSEWHERE CLASSIFIED; MILLWORK, VENEER, PLYWOOD AND STRUCTURAL WOOD; WOOD CONTAINERS; WOOD BUILDINGS AND MOBILE HOMES; RECONSTITUTED WOOD PRODUCTS; AND WOOD PRODUCTS FACILITIES NOT ELSEWHERE CLASSIFIED SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant	# of Facilities		# of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
Sample type	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	41	42	74	74	55.8	94.9	0.0	0.0	580.0	1925.0	13.5	17	201.8	225.8	532.8	599.6
COD	41	42	74	74	366.3	239.4	636.5	0.0	3315.0	1350.0	151.5	128.0	1155.0	702.3	2417.4	1333.8
Nitrate + Nitrite Nitrogen	41	42	74	74	2.78	1.43	0.0	0.0	66.00	22.5	0.25	0.31	7.49	4.81	25.93	13.03
Total Kjeldahl Nitrogen	41	42	74	74	2.65	2.56	0.0	0.0	14.70	12.5	1.68	1.70	9.11	8.78	18.16	17.85
Oil & Grease	41	N/A	74	N/A	30.7	N/A	0.0	N/A	591.7	N/A	2.0	N/A	74.8	N/A	252.3	N/A
pH	40	N/A	74	N/A	7.0	N/A	3.6	N/A	9.8	N/A	7.0	N/A	9.1	N/A	10.2	N/A
Total Phosphorus	41	42	73	74	0.91	0.55	0.0	0.0	12.00	3.10	0.36	0.38	3.42	2.03	8.15	4.17
Total Suspended Solids	41	42	74	74	891	444	0.0	1.0	17000	3700	242	282	5555	2957	21438	9434

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

The descriptions of industrial activities and significant materials exposed submitted by the group applicants in the wood preserving subsector indicated that these facilities has a high potential to discharge wood preservatives in their storm water discharge. These preservatives typically contain copper and arsenic compounds. The monitoring data which was statistically analyzed for the wood treatment indicated the presence of both arsenic and copper in the discharges. However, data from only eight facilities had been submitted in time for EPA to perform a statistical analysis. EPA, therefore reviewed additional data submitted by wood preserving facilities,and found that copper was present in concentrations greater than the benchmark value in 22 out of 34 observations. Arsenic was higher than bench mark in 12 out of 34 observations.

4. Options for Controlling Pollutants

There are three options for controlling pollutants at timber products facilities: source reduction, best management practices (BMPs), and/or end-of-pipe treatment. In evaluating the options for controlling pollutants in discharges of storm water associated with industrial activity, EPA must provide for compliance with the Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) requirements of Section 402(p)(3) of the Clean Water Act. The variabilities in both the industrial activities performed on a specific site and the storm water discharges from timber product facilities, coupled with the lack of sufficient characterization data make it infeasible to develop effluent limitations at this point in time. EPA believes that enabling the owner/operator of the facility to develop BMPs based on site-specific factors such as facility size, industrial activities performed, climate, geographic location, hydrogeology and the environmental setting of each facility will provide the flexibility needed to address appropriate controls to meet the BAT/BCT requirements. Development of a storm water pollution prevention plan that addresses exposure minimization BMPs, will be required for all facilities that discharge storm water from timber product facilities. EPA believes that exposure minimization BMPs will provide appropriate levels of control for pollutants in storm water discharges while allowing relatively inexpensive BMPs to be implemented.

In some instances, however, more labor and resource intensive structural controls such as sedimentation ponds may be appropriate. EPA believes that the BMPs discussed below will help provide a sufficient level of control for the types of pollutants found in discharges associated with timber product facilities.

In developing these industry-specific BMPs both the part 1 application data for facilities that sampled were reviewed, as well as industry-specific literature sources. The BMPs provided are separated into those most appropriate for certain areas of a site where pollutants may be released such as: log, lumber, and other wood product storage areas; residue storage areas; loading and unloading and material handling areas; chemical storage areas; and equipment/vehicle maintenance, storage and repair areas. These types of activities can be found at all types of timber product facilities. Table A–5 provides a summary of the effective practices for the control of pollutants for all timber product facilities.

TABLE A–5.—EFFECTIVE POLLUTANT CONTROL OPTIONS FOR ALL TIMBER PRODUCT FACILITIES

Activity	Associated BMPs
Log, Lumber, and Other Wood Product Storage Areas.	Divert storm water around storage areas with ditches, swales and/or berms.
	Locate storage areas on stable, well-drained soils with slopes of 2–5 percent.
	Line storage areas with crushed rock or gravel or porous pavement to promote infiltration, minimize discharge and provide sediment and erosion control.
	Stack materials to minimize surface areas of materials exposed to precipitation.
	Practice good housekeeping measures such as frequent removal of debris.
	Provide collection and treatment of runoff with containment basins, sedimentation ponds and infiltration basins.
	Use ponds for collection, containment and recycle for log spraying operations.
	Use of silt fence and rip rap check dams in drainage ways.
Residue Storage Areas	Locate stored residues away from drainage pathways and surface waters.
	Avoid contamination of residues with oil, solvents, chemically treated wood, trash, etc.
	Limit storage time of residues to prevent degradation and generation of leachates.
	Divert storm water around residue storage areas with ditches, swales and/or berms.
	Assemble piles to minimize surface areas exposed to precipitation.
	Spray surfaces to reduce windblown dust and residue particles.
	Place materials on raised pads of compacted earth, clay, shale, or stone to collect and drain runoff.
	Cover and/or enclose stored residues to prevent contact with precipitation using silos, van trailers, shed, roofs, buildings or tarps.
	Limit slopes of storage areas to minimize velocities of runoff which may transport residues.
	Provide collection and treatment of runoff with containment basins, sedimentation ponds and infiltration basins.
	Use of silt fence and rip rap check dams in drainage ways.
Loading and Unloading and Material Handling Areas.	Provide diversion berms and dikes to limit runon.
	Cover loading and unloading areas.
	Enclose material handling systems for wood wastes.
	Cover materials entering and leaving areas.
	Provide good housekeeping measures to limit debris and to provide dust control.
	Provide paved areas to enable easy collection of spilled materials.
Chemical Storage Areas	Provide secondary containment around chemical storage areas.
	Provide fluid level indicators.
	Inventory of fluids to identify leakage.
	Locate storage areas away from high traffic areas and surface waters.
	Develop spill prevention, containment and countermeasure (SPCC) plans and implement.
	Cover and/or enclose chemical storage areas.
	Provide drip pads to allow for recycling of spills and leaks.

Sources:
NPDES Storm Water Group Application—Part 1. Received by EPA March 18, 1991, through December 31, 1992.
''Regulatory Guidance and Waste Reduction Manual for United States Sawmills (Draft),'' EPA Office of Solid Waste, January 12, 1993.
''Background Document Supporting the Proposed Listing of Wastes From Wood Preservation and Surface Protection Processes,'' EPA Office of Solid Waste, July 1987.
''Chlorophenate Wood Protection, Recommendations for Design and Operation,'' Environment Canada, December 1983.
Wood Preserving; Identification and Listing of Hazardous Wastes; Final Rule, ''FEDERAL REGISTER,'' Volume 55, No. 235, December 6, 1990.
Selected pages from ''Texas Best Management Practices for Silviculture,'' Texas Forestry Association, 1989. Submitted for inclusion by American Pulpwood Association, Washington, D.C.

Wood surface protection and preserving facilities should consider additional controls for their storm water discharges because of the types of pollutants which may contaminate the discharges. Therefore, Table A–6 contains a summary of effective practices for the control of pollutants from timber product facilities that treat their wood. These BMPs are to be considered in conjunction with BMPs in Table A–5.

TABLE A–6.—ADDITIONAL EFFECTIVE POLLUTANT CONTROL OPTIONS FOR TIMBER PRODUCT FACILITIES THAT SURFACE PROTECT OR PRESERVE

Activity	Associated BMPs
Wood surface protection and preserving activities.	Extend drip time in process areas before moving to storage areas.
	Pave and berm areas used by equipment that has come in contact with treatment chemicals.
	Dedicate equipment that is used for treatment activities to that specific purpose only to prevent the tracking of treatment chemicals to other areas on the site.
	Locate treatment chemical loading and unloading areas away from high traffic areas where tracking of the chemical may occur.
	Provide drip pads under conveyance equipment from treatment process areas.
	Provide frequent visual inspections of treatment chemical loading and unloading areas during and after activities occur to identify any spills or leaks needing clean-up.
	Cover and/or enclose treatment areas.
	Provide containment in treated wood storage areas.
	Cover storage areas to prevent contact of treated wood products with precipitation.
	Elevate stored, treated wood products to prevent contact with runon/runoff.

Sources:
NPDES Storm Water Group Application—Part 1. Received by EPA March 18, 1991 through December 31, 1992.
''Regulatory Guidance and Waste Reduction Manual for United States Sawmills (Draft),'' EPA Office of Solid Waste, January 12, 1993.
''Background Document Supporting the Proposed Listing of Wastes From Wood Preservation and Surface Protection Processes,'' EPA Office of Solid Waste, July 1987.
''Chlorophenate Wood Protection, Recommendations for Design and Operation,'' Environment Canada, December 1983.
Wood Preserving; Identification and Listing of Hazardous Wastes; Final Rule, ''FEDERAL REGISTER,'' Volume 55, No. 235, December 6, 1990.
Selected pages from ''Texas Best Management Practices for Silviculture,'' Texas Forestry Association, 1989. Submitted for inclusion by American Pulpwood Association, Washington, D.C.

Control of sediments leaving the site should also be considered by timber product facilities as sediments contribute to the total suspended solids in the storm water discharges. There are several areas of the site that may be prone to erosion due to intense industrial activities. These areas include, but are not limited to: loading and unloading areas, access roads, material handling areas, storage areas, and any other areas where heavy equipment and vehicle use is prevalent. Specific erosion and sediment controls should be implemented to minimize the discharge of sediments from the site. Measurements that timber facilities may consider include, but are not limited to: stabilization measures such as seeding, mulching, chemical stabilization, sodding, soil retaining measures and dust control and structural measures such as sediment traps, contouring, sediment basins, check dams and silt fences.

5. Special Conditions

a. Prohibition of Non-storm Water Discharges. Today's permit authorizes, in addition to the discharges described in part III.A.2., an additional non-storm water discharge specific to the timber products industry that, when combined with storm water, is authorized to be discharged under this permit. To be authorized under the permit, the sources of non-storm water must be identified in the storm water pollution prevention plan prepared for the facility. Where these discharges occur, the plan must identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water components of the discharge. Authorized discharges include the following: spray down of lumber and wood product storage yards.

Spray down of lumber and wood product in storage yards is intermittently performed for fire control and pest control. Discharges from spray down activities are not storm water discharges; however, resulting discharges created as a result of spray down of raw lumber and wood product storage yards are authorized under this section where no chemical additives are used in the spray down waters and no chemicals are applied to the wood during storage. EPA believes that this practice, when performed in compliance with the terms and conditions of this section, will not pose any additional risks to human health and the environment because it is an industrial activity which is performed intermittently and within the confines of an area that should already contain controls for pollutants in storm water discharges.

It should be noted that the following discharges are not authorized under this section: noncontact cooling wastewater; contact cooling wastewater; boiler blowdown and water treatment wastewater; and storm water from areas of surface protection hand spraying activities.

This prohibition of unpermitted non-storm water discharges ensures that these discharges are not inadvertently covered under this section and requires the permittee to submit the appropriate NPDES permit applications to gain coverage for the non-storm water portion of the discharge.

6. Storm Water Pollution Prevention Plan Requirements

Several storm water pollution prevention plan requirements are added in the section of today's permit for the timber products industry, in addition to the baseline conditions described in part VI.C. of today's fact sheet. These deal with the identification and description of potential pollutant sources, and requirements to meet specific good housekeeping, inspection, and sediment/erosion control measures. EPA is also recommending that several criteria be considered during the development of the storm water pollution prevention plan.

a. Contents of the Plan

(1) Description of Potential Pollutant Sources

(a) Drainage—There are no additional requirements beyond those described in Part VI.C.2.a. of this fact sheet.

(b) Inventory of Exposed Materials—This section will require those facilities that have conducted activities associated with wood preserving and wood surface protection with pentachlorophenol formulations, creosote formulations, or arsenic/

chromium formulations in the past to identify: areas where soils are contaminated, treatment equipment, and/or stored materials which remain as a result of these operations. This section will also require the identification of any management practices being employed to minimize the contact of these materials with storm water runoff.

EPA has added these requirements because it is aware through studies performed for the hazardous waste listing process that sites where wood surface protection and wood preserving chemicals have been used in the past continue to contribute pollutants to the storm water discharges that come in contact with them, even once the industrial activity has ceased.[36] In particular, soils that have been contaminated with formulation chemicals, equipment such as dipping tanks and those used for material handling, and wastes and materials that are still stored on the site may continue to release pollutants. EPA is requiring the facility to identify these pollutant sources so that appropriate controls can be implemented.

During the EPA process to list wastes from wood preservation and surface protection processes, data were gathered that showed that the concentration of constituents (of the treatment chemicals) in storm water runoff, in some instances, were equivalent to those concentrations found in process wastewaters. These studies also found high concentrations of phenolic compounds, pentachlorodifluron and phenanthrenes, and metals in soils contaminated with process residuals at several sites. These concentrations were attributed to treated wood drippage and precipitation washoff of treated woods.[37]

Where facilities have used chlorophenolic, creosote, or chromium-copper-arsenic formulations for wood surface protection or preserving activities onsite in the past, and information is available, EPA is requiring that the facility inventory the following: areas where soils are contaminated, treatment equipment, and treated materials remain. Once these areas are identified, measures to minimize their exposure to storm water or to limit discharge of pollutants into storm water must be implemented. EPA is requiring this evaluation because soils, equipment, and other materials that are contaminated by treatment chemicals may continue to be a source of pollutants and can contribute to the contamination of storm water runoff.

(c) Non-storm Water Discharges—There are no additional requirements beyond those described in Part III.A.2. of this permit.

(d) Risk Identification and Summary of Potential Pollutant Sources—There are not additional requirements beyond those described in Part VI.C.2.f. of this fact sheet.

(2) Measures and Controls. As contained in Part VIII.A.5. of this fact sheet, EPA has set forth a number of options which are effective in controlling releases of pollutants to storm water discharges associated with industrial activity. Due to the success of BMPs as a cost effective method of pollution control, EPA is requiring that all facilities consider the implementation of BMPs in the following areas of the site: log, lumber and other wood product storage areas; residue storage areas, loading and unloading areas; material handling areas; chemical storage areas; and equipment/vehicle maintenance, storage and repair areas. The conditions of this section also require facilities that surface protect and/or preserve wood products to address specific BMPs for wood surface protection and preserving activities.

EPA believes it is appropriate to require that permittees indicate in their storm water pollution prevention plan all potential sources of pollution. Effective pollution control measures are currently being implemented at timber product facilities and/or are identified in literature sources specific to timber products facilities. Additional practices may also be found in the ‘‘Storm Water Management for Industrial Activities, Developing Pollution Prevention and Best Management Practices’’ (EPA 832–R–92–006), EPA, September 1992. The determination of the appropriateness or inappropriateness of a measure must be indicated in the facility's storm water management plan.

(a) Good Housekeeping—In addition to typical good housekeeping measures that require the maintenance of areas which may contribute pollutants to storm water in a clean and orderly manner, the pollution prevention plan must specifically address good housekeeping measures and the specific frequency of performance of these measures which are designed to: (1) limit the discharge of wood debris; (2) minimize the leachate generated from decaying wood materials; and (3) minimize the generation of dust.

EPA has specified that BMPs limit the discharge of solids because storm water discharges containing TSS and BOD_5 are prevalent at timber products facilities and can often be controlled by good housekeeping measures.

(b) Preventive Maintenance—This section requires periodic removal of debris from ditches, swales, diversion, containment basins, and infiltration measures. The discharge of solids at timber product facilities may inhibit the performance of storm water controls if they are not maintained properly.

(c) Spill Prevention and Response Procedures—This section requires the development of schedules for response procedures to limit the tracking of spilled materials to other areas of the site. Specifically, this section requires that leaks or spills of wood surface protection or preservation chemicals be cleaned up immediately.

Requirements have been placed in this section to limit the tracking of significant materials that have been leaked or spilled on the site from containers, facility equipment, or onsite vehicles. Of particular concern is the tracking of leaks or spills of treatment chemicals outside near where storm water controls are in place. This may occur, for example, during the filling of storage tanks. Vehicles or equipment used to transfer materials may come into contact with any materials spilled during the filling or emptying of tanks. As the vehicles move to other locations at the site, such material may be tracked and eventually lead to contamination of storm water discharges.

(d) Inspections—Facility operators must conduct visual inspections of BMPs on a quarterly basis. Inspections must be performed quarterly at processing areas, transport areas, and treated wood storage areas of facilities performing wood surface protection and preservation activities. Quarterly inspections are designed to assess the usefulness of practices in minimizing drippage of treatment chemicals on unprotected soils and in areas that will come in contact with storm water discharges. In addition, all timber products facilities must conduct daily inspections of material handling activities and unloading and loading areas whenever activities are occurring in those areas (if activities are not occurring in those areas, no inspection is required).

[36] ‘‘Background Document Supporting the Proposed Listing of Wastes from Surface Protection Processes, Part One Final Engineering Analysis Volume 1,’’ EPA Office of Solid Wastes, February 1993.

[37] ‘‘Background Document Supporting the Proposed Listing of Wastes from Surface Protection Processes, Part One Final Engineering Analysis Volume 1,’’ EPA Office of Solid Wastes, February 1993.

Records will be required to be maintained showing that these inspections have been performed at the required frequencies. In addition, a set of tracking or follow-up procedures must be implemented to ensure appropriate actions are taken based on the findings of the inspections. These records should be developed on a case-by-case basis depending upon the facility's needs.

(e) Employee Training—There are no additional requirements beyond those listed in Part VI.C.3.e. of this fact sheet.

(f) Sediment and Erosion Control—This section requires that the following areas of the plant be considered for sediment and erosion controls: loading and unloading areas, access roads, material handling areas, storage areas, and any other areas where heavy equipment and vehicle use is prevalent. Sediment and erosion controls include: stabilization measures such as seeding, mulching, chemical stabilization, sodding, soil retaining measures; and dust control and structural measures such as sediment traps, contouring, sediment basins, check dams, and silt fences. This requirement is added because part 2 storm water group permit application data showed that many of the sites were discharging high TSS concentrations in their storm water discharges. Identifying those areas of the site where erosion occurs will aid the permittee in determining appropriate BMPs that will achieve a reduction in TSS loadings.

(g) Storm Water Management—There are no additional requirements beyond those described in Part VI.C.3.h. of this fact sheet.

(3) Comprehensive Site Compliance Evaluation. There are no additional requirements beyond those described in Part VI.C.4. of this fact sheet.

7. Monitoring and Reporting Requirements

(a) Analytical Monitoring Requirements. Under the revised methodology for determining pollutants of concern for the timber products subsectors, all facilities must monitor their storm water discharges. EPA believes that timber product facilities may reduce the level of pollutants in storm water runoff from their sites through the development and proper implementation of the storm water pollution prevention plan requirements discussed in today's permit. In order to provide a tool for evaluating the effectiveness of the pollution prevention plan and to characterize the discharge for potential environmental impacts, today's permit requires timber products facilities to collect and analyze grab samples of their storm water discharges for the pollutants listed in the applicable Tables (A–7 through A–10). The pollutants listed in Tables A–7 through A–10 were found to be above benchmark levels for a significant portion of facilities in the subsectors that submitted quantitative data in the group application process. Because these pollutants have been reported at or above benchmark levels, EPA is requiring monitoring after the pollution prevention plan has been implemented to assess the effectiveness of the pollution prevention plan and to help ensure that a reduction of pollutants is realized.

Today's permit requires the wood preserving subsector to monitor for arsenic and copper. These parameters are commonly found in wood preservatives. The discharge data initially analyzed by EPA indicate that these parameters are found in the storm water discharges from wood preserving facilities. Review of additional sampling data revealed that there was a substantial portion of the facilities discharging these parameters in concentrations greater than the bench mark values. Therefore, EPA has determined that monitoring of arsenic and copper is necessary to ensure that the storm water pollution prevention plans developed by wood preserving facilities adequately addresses sources of these parameters.

Under the Storm Water Regulations at 40 CFR 122.26(b)(14), EPA defined "storm water discharge associated with industrial activity". The focus of today's permit is to address the presence of pollutants that are associated with the industrial activities identified in this definition and that might be found in storm water discharges. Under the methodology for determining analytical monitoring requirements, described in section VI.E.1 of this fact sheet, nitrate plus nitrite nitrogen is above the bench mark concentrations for the wood preserving subsector. After a review of the nature of industrial activities and the significant materials exposed to storm water described by facilities in this subsector, EPA has determined that the higher concentrations of nitrate plus nitrite nitrogen are not likely to be caused by the industrial activity, but may be primarily due to non-industrial activities on-site. Today's permit does not require wood preserving facilities to conduct analytical monitoring for this parameter.

At a minimum, storm water discharges from timber products facilities must be monitored quarterly during the second year of permit coverage. Samples must be collected at least once in each of the following periods: January through March; April through June; July through September; and October through December. At the end of the second year of permit coverage, a facility must calculate the average concentration for each parameter listed in the applicable Tables (A–7 through A–10). If the permittee collects more than four grab samples in this period, then they must calculate an average concentration for each pollutant of concern for all samples analyzed.

TABLE A–7.—MONITORING REQUIREMENTS FOR GENERAL SAWMILLS AND PLANING MILLS

Pollutants of concern	Cut-off concentration
Chemical Oxygen Demand (COD)	120 mg/L.
Total Suspended Solids (TSS)	100 mg/L.
Zinc, Total Recoverable	0.065 mg/L.

TABLE A–8.—ADDITIONAL MONITORING REQUIREMENTS FOR WOOD PRESERVATION FACILITIES WITH CHLOROPHENOLIC FORMULATIONS

Parameter of concern	Cut-off concentration
Total Recoverable Arsenic	0.16854 mg/L.
Total Recoverable Copper	0.0636 mg/L.

TABLE A–9.—MONITORING REQUIREMENTS FOR LOG STORAGE AND HANDLING FACILITIES

Parameter of concern	Cut-off concentration
Total Suspended Solids (TSS)	100 mg/L.

TABLE A–10.—MONITORING REQUIREMENTS FOR HARDWOOD DIMENSION AND FLOORING MILLS; SPECIAL PRODUCTS SAWMILLS; MILLWORK, VENEER, PLYWOOD AND STRUCTURAL WOOD; WOOD CONTAINERS; WOOD BUILDINGS AND MOBILE HOMES; RECONSTITUTED WOOD PRODUCTS; AND WOOD PRODUCTS FACILITIES NOT ELSEWHERE CLASSIFIED

Parameter of concern	Cut-off concentration
Chemical Oxygen Demand (COD)	120 mg/L.
Total Suspended Solids (TSS)	100 mg/L.

If the average concentration for a parameter is less than or equal to the value listed in the appropriate Tables (A–7 through A–10), then the permittee is not required to conduct quantitative analysis for that parameter during the fourth year of the permit. If, however, the average concentration for a parameter is greater than the cut-off concentration listed in Tables (A–7 through A–10), then the permittee is required to conduct quarterly monitoring for that parameter during the fourth year of permit coverage. Monitoring is not required during the first, third, and fifth year of the permit. The exclusion from monitoring in the fourth year of the permit is conditional on the facility maintaining industrial operations and BMPs that will ensure a quality of storm water discharges consistent with the average concentrations recorded during the second year of the permit.

TABLE A–11.—SCHEDULE OF MONITORING

2nd Year of Permit Coverage	• Conduct quarterly monitoring. • Calculate the average concentration for all parameters analyzed during this period. • If average concentration is greater than the value listed in Tables A–7 through A–10, then quarterly sampling is required during the fourth year of the permit. • If average concentration is less than or equal to the value listed in Tables A–7 through A–10, then no further sampling is required for that parameter.
4th Year of Permit Coverage	• Conduct quarterly monitoring for any parameter where the average concentration in year 2 of the permit is greater than the value listed in Tables A–7 through A–10. • If industrial activities or the pollution prevention plan have been altered such that storm water discharges may be adversely affected, quarterly monitoring is required for all parameters of concern.

In cases where the average concentration of a parameter exceeds the cut-off concentration, EPA expects permittees to place special emphasis on methods for reducing the presence of those parameters in storm water discharges. Quarterly monitoring in the fourth year of the permit will reassess the effectiveness of the adjusted pollution prevention plan.

The monitoring cut off concentrations listed in Tables A–7 through A–10 are not numerical effluent limitations. These values represent a level of pollutant discharge which facilities may achieve through the implementation of pollution prevention plans. At least half of the facilities that submitted Part 2 data from the applicable subsectors reported concentrations more than or equal to the values listed in Tables A–7 through A–10. Facilities that achieve average discharge concentrations which are less than or equal to the values in Tables A–7 through A–10 are not relieved from the pollution prevention plan requirements or any other requirements of the permit.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly chemical sampling.

b. Alternative Certification. Throughout today's permit, there are monitoring requirements for facilities which the Agency believes have the potential for contributing significant levels of pollutants to storm water discharges. The alternative described below is necessary to ensure that monitoring requirements are only imposed on those facilities that do, in fact, have storm water discharges containing pollutants at concentrations of concern. EPA has determined that if materials and activities are not exposed to storm water at the site, then the potential for pollutants to contaminate storm water discharges does not warrant monitoring.

Therefore, a discharger is not subject to the monitoring requirements of this Part provided the discharger makes a certification for a given outfall or on a pollutant-by-pollutant basis in lieu of monitoring reports described under paragraph (*c*) below, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, and significant materials from past industrial activity that are located in areas of the facility that are within the drainage area of the outfall are not presently exposed to storm water and will not be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan and submitted to EPA in accordance with Part VI.C of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph (*c*) below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations. EPA does not expect facilities to be able to exercise this certification for indicator parameters such as TSS and BOD.

c. Reporting Requirements. Permittees are required to submit all monitoring results obtained during the second and fourth year of permit coverage within 3 months of the conclusion of each year. For each outfall, one signed Discharge Monitoring Report Form must be submitted per storm event sampled. For facilities conducting monitoring beyond the minimum requirements an additional Discharge Monitoring Report Form must be filed for each analysis.

d. Sample Type. All discharge data shall be reported for grab samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable.

If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

e. Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluent. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

f. Quarterly Visual Examination of Storm Water Quality. Timber products facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination(s) must be made at least once in each of the following 3-month periods: January through March, April through June, July through September, and October through December. The examination shall be made during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(*1*) Examinations shall be made of grab samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.

(*2*) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(*3*) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(*4*) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(*5*) EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

B. Storm Water Discharges Associated With Industrial Activity From Paper and Allied Products Manufacturing Facilities

1. Discharges Covered Under This Section

On November 16, 1990 (55 FR 47990), EPA promulgated the regulatory definition of ''storm water discharges associated with industrial activity.'' This definition included point source discharges of storm water from 11 categories of facilities, including paper and allied product manufacturing facilities that are commonly identified by Standard Industrial Classification (SIC) Major Group 26. Today's permit establishes special conditions for the storm water discharges associated with industrial activities at paper and allied product manufacturing facilities. Based on an evaluation of part 1 and part 2 group application data, these facilities were determined to perform similar operations, use similar raw materials, and employ similar material handling and storage practices. In light of the available information, it was determined that the storm water discharge characteristics would be similar for facilities covered by this section.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Industry Profile

SIC Major Group 26, the production of pulp, paper, and paperboard, is a highly diversified industry group which manufactures a variety of products. Products include newsprint, printing and writing papers, bleached and unbleached packaging paper, glassine, tissue papers, vegetable parchment, greaseproof papers, bleached and unbleached paperboard, special industrial papers, and pulp. Pulp, paper, and paperboard is produced from wood and nonwood products such as jute, hemp, rags, cotton linters, bagasse, and esparto. Secondary fibers, or wastepaper, is also used to produce paper and paperboard.

Four standard manufacturing processes are involved in the production of pulp, paper, and paperboard: (1) Raw material preparation, (2) pulping, (3) bleaching, and (4) papermaking.

a. Raw Material Preparation. Wood is the most widely used raw material for manufacturing pulp and paper products. Wood must be prepared for pulping by log washing, bark removal, and chipping/sawing. These activities are usually conducted outdoors and produce large amounts of wood chips, sawdust, and other wood debris. If exposed to storm water, these activities may contribute TSS and BOD_5 to the storm water discharge.

b. Pulping. Pulping involves reducing a cellulosic raw material into a form that may be further processed to produce paper or paperboard, or into a form that may be chemically converted. Two pulping methods are used to reduce the raw material: mechanical pulping and chemical pulping.

Mechanical pulping, also known as groundwood pulping, uses two processes to produce pulp, stone groundwood and refiner groundwood. Stone groundwood uses a grindstone to tear fiber from the side of short logs. Refiner groundwood passes wood chips through a disc refiner. In both processes, wood may be softened with chemicals or heat to reduce the amount of energy required for grinding. Mechanical pulp is very suitable for use in newspapers, catalogs, tissues, and one-time publications.

Chemical pulping, using cooking chemicals under controlled conditions, produces a variety of pulps for multipurposes. This process generally produces high quality paper products. Three types of chemical pulping are used: alkaline, sulfite, and semichemical.

Alkaline pulping, more commonly known as the kraft process, produces a very strong pulp and is adaptable to almost all wood species. The pulp is formed by boiling wood chips in an alkaline solution usually containing sodium sulfate. Alkaline pulping also provides for the successful recovery of chemicals used in the process. This pulping technique is the most highly used pulping process worldwide.

Sulfite pulps are generally prepared from softwoods and produce various types of paper including tissue paper and writing paper. Wood chips are boiled with calcium-based chemicals, magnesium-based chemicals, or ammonia-based chemicals. Calcium was the original sulfite liquor base, however, the spent liquor from this base was difficult and expensive to recover. Many sulfite mills have now been converted to the kraft process or have been shut down because of the problems of chemical recovery and the reduced availability of softwoods.

Semichemical pulping involves the cooking of wood chips from hardwoods with a neutral or slightly alkaline sodium sulfite solution. Both sodium and ammonia-based chemicals are used in this process. Pulps produced from semichemical pulping are used in the manufacture of corrugated paperboard. Semichemical pulping mills practice chemical recovery from the waste liquor by balancing the pH of the waste liquor. Spent liquor is then burned in a furnace.

Some facilities use secondary fibers to produce the paper products. Secondary fibers are wastepapers and may be used with little or no preparation depending on their condition. The wastepaper may be blended directly with the virgin pulps or may have to be screened and filtered to remove dirt before being added to the pulp.

Some secondary fibers must be deinked before use. In order to reclaim a useful pulp, all noncellulosic materials, such as ink, fillers, and coatings, must be removed. This process uses detergents and solvents to remove these materials. The detergents and solvents may be stored in an area exposed to storm water.

c. Bleaching. After pulping, the pulp is brown or deeply colored. The color results from the presence of lignins and resins or residue from spent cooking liquor. The pulp must be bleached to produce a light colored or white product.

A brightness scale ranging up to 100 (the brightest) is used to determine the degree of bleaching needed. For example, newspaper and food containers do not need a high degree of brightness so semibleached pulps are used. For white paper products, fully-bleached pulps are used. A bleaching sequence is followed in which specific chemicals are sequentially added. The following sequence may be used in bleaching: chlorination and washing; alkaline extraction and washing;

chlorine dioxide addition and washing; alkaline extraction and washing, and chlorine dioxide addition and washing.

The sequence may be modified to meet specific bleaching requirements. In general, less bleaching is required for mechanical pulps because they contain all of the wood substrate and would require massive amounts of bleaching. Therefore, mechanical pulps are used to produce lower quality paper products, such as telephone directories, newsprint, and disposable products. Chemical pulps may be brightened to a higher degree. Hydrosulfite, hypochlorite, chlorine, oxygen, and peroxides are used in bleaching and may be stored in areas exposed to storm water.

d. Papermaking. After pulps have been bleached, further mixing and blending may be necessary and noncellulosic materials may be added to prepare the pulp for the papermaking stage. Different types of pulp may be blended for desired effects. Softwood pulps are very strong and are used to make high strength, tear resistant paper. These pulps may be blended with hardwood pulps which add porosity, opacity, and printability qualities to the paper. Other materials may be added to the pulp such as clay, talc, or calcium carbonate to improve the texture, brightness, or opacity of the paper. By adding resin or starch, the paper becomes more ink or water resistant. Each of these additives may be a source of contamination for storm water if stored outdoors.

After noncellulosic materials have been blended with the pulp, it is ready for papermaking. The mixture of pulp and additives is called a pulp furnish. In making paper, fiber from a dilute pulp furnish is placed on a fine screen, called a wire. The water is drained through, and the fiber layer is removed, pressed and dried.

Two basic types of processes are used in papermaking: the cylinder machine and the Fourdrinier. The cylinder machine has wire cylinders which rotate in the dilute pulp furnish and collect fibers. The cylinders deposit the collected fibers on a moving felt to form a fibrous sheet. In the Fourdrinier process, the dilute pulp furnish is placed on a continuous wire belt where the fibrous sheet is formed. The cylinder machine is usually associated with the manufacturing of heavy grades of paper and paperboard; the Fourdrinier process is mostly used for producing paper, but may also be used to make paperboard.

The pressing and drying operations are similar for the two processes. After the fibrous sheet is formed, it is transferred to two or more presses to remove water and enhance smoothness and density. The sheet is then dried by being passed through heated hollow iron or steel cylinders. For a smoother finish, the sheet may be passed through a series of rollers (calendaring) used to produce high density paper.

After the sheet is dry, coatings may be applied to increase appearance, printability, water resistance, or texture. Coatings consist of a high density water slurry of pigments and adhesives that are blended together. Mixtures of starches, latices, polyvinylacetate, and recoverable solvents are used depending on the purpose of the coating. The coating is applied using rolls, air knives, blades, or metering rods. High gloss and smoothness is achieved by using high speed rollers with alternating steel and fabric-filled rolls. The coatings, when stored exposed to storm water discharges may be a source of contamination.

e. Wastewater Treatment. Most pulp, paper, and paperboard facilities have onsite wastewater treatment systems for treating process wastewater, although some facilities may discharge to a POTW. To reduce BOD_5 and TSS loads, many facilities use biological treatment. The most common treatment process is aerated stabilization. At nonintegrated facilities (facilities that do not produce pulp) and secondary fibers facilities, however, primary treatment may be the only method used. At these facilities, primary treatment is usually very effective in reducing BOD_5.

f. Activities Contributing to Storm Water Contamination. Although there is diversity among the types of final products produced at pulp, paper, and paperboard facilities, several industrial activities are common to all. These activities are presented in Table B–1 Below.

Table B–1.—Common Industrial Activities at Paper and Allied Product Manufacturing Facilities

Industrial Activities
Bactericide use
Baghouse, cyclone, dust collectors
Coating
Corrugate
Creasing
Cutting
Equipment storage
Vehicle fueling
Gluing
Rail and Truck loading areas
Material handling sites
Printing
Access Railroads
Scoring
Stitching
Storage areas
Taping

Typical activities performed at pulp, paper, and paperboard facilities include log washing, chipping and cutting of logs, log sorting, log storage, and loading and unloading of logs onto trucks or railroad cars for transport to other facilities. These log storage and handling activities may contribute bark and wood debris, TSS, and leachates to a storm water discharge. Leachates from the decay of wood products may contain high levels of TSS and BOD_5.

Many of the facilities in SIC Major group 26 employ the use of material handling equipment (forklifts, loaders, vehicles, chippers, debarkers, cranes, etc.), vehicles, and other machinery. These facilities store the equipment onsite and may also engage in equipment maintenance and repair activities. These types of activities are performed in either covered or outdoor areas of the facility. Associated with these activities is the storage of significant materials such as petroleum products and other maintenance fluids such as fuels, motor oils, hydraulic oils, lubricant fluids, brake fluids, and antifreeze. When exposed to storm water, these materials may cause contamination of a storm water discharge.

The manufacturing processes at paper and allied product manufacturing facilities are not typically exposed to storm water. Because of the lack of industrial activities occurring outdoors, the primary sources of storm water pollutants originate from materials handling, storage of materials, and waste management or disposal activities. Sources of pollutant are most often from spills and leaks of materials at loading and unloading areas, storage areas, and waste disposal areas. Table B–2 lists the materials that may be exposed to storm water at paper and allied product manufacturing facilities.

Table B–2.—Common Significant Materials at Paper and Allied Product Manufacturing Facilities

Significant Materials Onsite
Solvents
Glues
Fuels

TABLE B–2.—COMMON SIGNIFICANT MATERIALS AT PAPER AND ALLIED PRODUCT MANUFACTURING FACILITIES—Continued

Significant Materials Onsite
Oils
Lubricants
Alcohol
Starch
Wooden pallets
Paper rollstock
Waxes
Air emissions from solvent recovery processes
Baled waste paper
Dyes
Inks
Ammonia
Biocides
Miscellaneous materials removed during pulping
Final products
Adhesives
Paper wastes
Dust and particulates from cyclones used in paper trim activities, resins/polymers
Clay slurries.

3. Pollutants in Storm Water Discharges Associated With Industrial Activity From Paper and Allied Product Manufacturing Facilities

Few pollutants are expected in storm water discharges from the manufacturing of paper and allied products, because the majority of industrial activities occur indoors. Pollutants may be present in storm water as a result of outdoor activities associated with the industry such as discharges which come into contact with the following areas of the site: loading or unloading of materials; outdoor storage of raw materials or unpackaged products; outdoor process activities; dust or particulate generating processes; and illicit connections or inappropriate management practices.

The volume and quantity of storm water discharges associated with industrial activity depend upon a number of factors, including the nature of the industrial activities occurring at the facility, the nature of the precipitation, and the degree of surface imperviousness. Storm water may pick up pollutants from structures and other surfaces as it drains from the facility. Even within a group of facilities with similar activities and materials used, handled, stored, or produced, the quality of the storm water can vary greatly.

The regulatory deadline for submission of the part 2 data was October 1, 1992. Many part 2 data submittals remain incomplete and many of those that did submit data did not identify the significant material or industrial activity that may have contributed the pollutants to the storm water discharge. Based on the wide variety of industrial activities and significant materials at the facilities included in this sector, EPA believes it is appropriate to divide the paper and allied products manufacturing industry into subsectors to properly analyze sampling data and determine monitoring requirements. As a result, this sector has been divided into the following subsectors: paper mills; paperboard mills, paperboard containers and boxes; and converted paper and paperboard products, except containers and boxes. Tables B–2, B–3, and B–4 below include data for the eight pollutants that all facilities were required to monitor for under Form 2F. The tables also list those parameters that EPA has determined merit further monitoring. A table has not been included for paper mill facilities because less than 3 facilities submitted data in that subsector.

TABLE B–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY PAPERBOARD MILL FACILITIES SUBMITTING PART II SAMPLING DATA (MG/L)

Pollutant	# of Facilities		# of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
Sample type	Grab	Comp [ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	9	9	10	10	164.2	77.7	2.0	0.0	1000.0	306.0	18.0	28.0	733.9	412.7	2708.8	1153.4
COD	9	9	10	10	402.3	228.9	50.0	31.0	1720.0	780.0	200.0	124.5	1318.6	701.4	2729.5	1301.7
Nitrate + Nitrite Nitrogen	9	9	10	10	0.86	0.84	0.00	0.13	3.19	1.85	0.50	0.62	2.83	2.78	5.38	5.31
Total Kjeldahl Nitrogen	9	9	10	10	3.72	3.88	0.52	0.31	10.20	10.8	2.19	2.47	12.88	15.88	25.84	35.33
Oil & Grease	8	N/A	9	N/A	9.3	N/A	1.0	N/A	35.0	N/A	5.0	N/A	37.8	N/A	87.8	N/A
pH	9	N/A	10	N/A	N/A	N/A	7.1	N/A	....	N/A	7.7	N/A	....	N/A	....	N/A
Total Phosphorus	9	9	10	10	0.37	0.31	0.08	0.09	1.50	0.58	0.27	0.29	1.04	0.71	1.86	1.07
Total Suspended Solids	9	9	10	10	481	54.5	9	8.0	3390	198.0	168	36	1840	184.7	5161	370.0

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE B–3.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY PAPERBOARD CONTAINERS AND BOXES FACILITIES SUBMITTING PART II SAMPLING DATA [i] (mg/L)

Pollutant	# of Facilities		# of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
Sample type	Grab	Comp [ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	47	44	74	66	21.9	16.9	0.0	0.0	163.0	271.0	10.5	8.0	75.4	47.72	164.5	92.63
COD	47	44	74	67	184.8	115.8	0.0	0.0	2200.0	1400.0	79.5	51.00	698.5	350.8	1663.4	738.9
Nitrate + Nitrite Nitrogen	47	44	74	67	1.03	0.838	0.00	0.0	4.97	5.6	0.59	0.48	3.80	3.07	8.44	6.80
Total Kjeldahl Nitrogen	47	44	74	67	4.23	3.61	0.00	0.0	89.60	64.9	1.94	1.90	11.42	9.69	22.99	18.4
Oil & Grease	47	N/A	74	N/A	4.3	N/A	0.0	N/A	61.0	N/A	1.0	N/A	18.4	N/A	44.4	N/A
pH	47	N/A	72	N/A	N/A	N/A	3.8	N/A	9.0	N/A	6.8	N/A	8.8	N/A	9.9	N/A
Total Phosphorus	46	43	73	66	0.45	0.41	0.00	0.0	10.30	10.8	0.17	0.15	1.12	0.94	2.23	1.79
Total Suspended Solids	47	44	74	66	141	39.55	0	0.0	2340	550	47	12.5	658	157.88	1987	413.3

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE B–4.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY CONVERTED PAPER AND PAPERBOARD PRODUCTS, EXCEPT CONTAINERS AND BOXES MANUFACTURING FACILITIES SUBMITTING PART II SAMPLING DATA [i] (mg/L)

Pollutant	# of Facilities		# of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
Sample type	Grab	Comp [ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	19	17	37	35	26.8	24.2	0.0	0.0	152.0	367.0	6.7	8.0	98.8	70.7	239.9	157.2
COD	19	17	37	36	159.1	154.1	8.0	0.0	1300.0	1486.0	49.0	43.5	484.9	503.4	1137.2	1220.7
Nitrate + Nitrite Nitrogen	19	17	37	34	0.93	0.74	0.00	0.0	5.20	2.44	0.40	0.46	3.17	2.19	6.72	3.98
Total Kjeldahl Nitrogen	19	17	37	35	3.28	2.40	0.00	0.0	38.70	23.1	1.00	1.03	10.95	8.45	25.02	18.1
Oil & Grease	19	N/A	39	N/A	1.9	N/A	0.0	N/A	18.0	N/A	0.6	N/A	7.5	N/A	15.9	N/A
pH	19	N/A	39	N/A	N/A	N/A	4.2	N/A	8.9	N/A	7.0	N/A	8.8	N/A	9.8	N/A
Total Phosphorus	19	17	37	35	0.30	0.28	0.00	0.0	2.58	1.25	0.18	0.15	0.92	0.86	1.76	1.56
Total Suspended Solids	19	17	37	35	89	42.9	0	0.0	1240	761	16	9.0	319	160.0	893	500.8

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

4. Options for Controlling Pollutants

There are two options for reducing pollutants in storm water discharge; end-of-pipe treatment, and implementing best management practices (BMPs) to prevent and/or eliminate the contact between significant materials and storm water. A comprehensive storm water management program for a given plant may include controls from each of these categories and should be based on a consideration of site and facility plant characteristics. End-of-pipe treatment is effective for the control of process waters when the types of pollutants and the volume of water to be treated is known. However, storm water discharges from any industry, including the paper and allied product manufacturing industry, can be numerous, intermittent, and of various volumes. Therefore, the channelization of storm water that comes into contact with significant materials into a single treatment facility, or construction of numerous treatment devices for each discharge, may be burdensome and ineffective for treating pollutants contained in storm water from these types of facilities. EPA believes that the most appropriate means of storm water management at paper and allied product manufacturing facilities can be sufficiently determined by the operator of the facility.

EPA believes that the most effective storm water management control for limiting the offsite discharge of pollutants in storm water is a combination of passive and active BMPs.

Examples of BMPs range from simple housekeeping, material handling practices, preventive maintenance, diversions practices, to more advanced structural control such as detention and retention ponds and infiltration devices.

The selection of the most effective BMPs will be based on site-specific considerations such as: facility size, climate, geographic location, hydrogeology and the environmental setting of each facility, volume and type of discharge generated, and number of outfalls. Each facility will be unique in that the source, type and volume of contaminated storm water discharges will differ. In addition, the fate and transport of pollutants in these discharges will vary. EPA believes that the management practices discussed herein are well suited mechanisms to prevent or control the contamination of storm water discharges associated with the paper and allied product manufacturing industry.

As part of the group application review process, a review of the part 1 data was analyzed. The applications indicated that numerous BMPs were already being implemented at many of the representative sites. Table B–5 provides the most common practices presently being employed and the relative percentage of facilities who are implementing them. Table B–6 provides an additional list of BMPs that may be appropriate for the industry. Many of the BMPs identified are examples of practices intended to limit the exposure of significant materials and industrial activities to storm water. Facility operators should review their current operations and consider implementing these BMPs if they are applicable to the site and are expected to reduce the discharge of pollutants from the site in storm water.

TABLE B–5.—BEST MANAGEMENT PRACTICES DISCUSSED IN PART 1 GROUP APPLICATIONS [i]

BMP	Percent of facilities
Catch Basins	22.2
Diversion structures around potential contaminants	43.8
Spill Control Procedures, Contingency Plans (SPCC)	67.4
Swales, ditches, trench or graded surfaces	51.4
Employee training	62.5

[i] Material Management Practices were identified in over 20 percent of the 144 facilities in the sampling subset.

TABLE B–6.—SUGGESTED BEST MANAGEMENT PRACTICES AT PULP AND ALLIED PRODUCTS MANUFACTURING FACILITIES

Activity	Suggested BMPs
Outdoor loading and unloading	• Confine loading/unloading activities to a designated response and control area. • Avoid loading/unloading materials in the rain. • Cover loading/unloading area/or conduct these activities indoors. • Develop and implement spill plans. • Use berms or dikes around area.

TABLE B–6.—SUGGESTED BEST MANAGEMENT PRACTICES AT PULP AND ALLIED PRODUCTS MANUFACTURING FACILITIES—Continued

Activity	Suggested BMPs
Raw and/or waste material storage areas	• Inspect containers for leaks or damage prior to loading. • Use catch buckets, drop cloths, and other spill prevention measures where liquid materials are loaded/unloaded. • Provide paved areas to enable easy collection of spilled materials. • Confine storage to a designated area. • Store materials inside. • Cover storage areas with a roof or tarp. • Use dikes or berms for storage tanks and drum storage. • Cover dumpsters used for waste paper and other materials. • Store materials on concrete pads to allow for recycling and spills of leaks. • Expedite recycling process for exposed scrap paper. • Develop and implement spill plans.
Log, lumber and other wood product storage areas.	• Provide paved areas to enable easy collection of spilled materials. • Provide good housekeeping (i.e., dust and debris collection) where cyclones are utilized. • Divert storm water around storage areas with ditches, swales, and/or berms. • Practice good housekeeping measures such as frequent removal of debris. • Line storage areas with crushed rock or gravel or porous pavement to promote infiltration, minimize discharge and provide sediment and erosion control. • Use ponds for collection, containment and recycle for log spraying operations.

5. Special Conditions

There are no requirements beyond those described in Part VI.B. of this fact sheet.

6. Storm Water Pollution Prevention Plan Requirements

There are no requirements beyond those described in Part VI.C. of this fact sheet.

a. Description of Potential Pollutant Sources. There are no requirements beyond those described in Part VI.C. of this fact sheet.

b. Measures and Controls. There are no requirements beyond those described in Part VI.C. of this fact sheet.

c. Comprehensive Site Compliance Evaluation. There are no requirements beyond those described in Part VI.C. of this fact sheet.

7. Numeric Effluent Limitation.

There are no effluent limits beyond those described in Part VI.B. of this permit.

8. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. Under the revised methodology for determining pollutants of concern for the various industrial sectors, only one subsector, paperboard mills, is required to monitor storm water discharges. As discussed previously, the median value for COD of 124.5 mg/L is higher than the benchmark value for COD of 120 mg/L for the paperboard subsector, thus triggering monitoring for COD. The monitoring requirements are presented in Table B–7 for paperboard mills.

At a minimum, storm water discharges from paperboard mills must be monitored quarterly during the second year of permit coverage. Monitoring must be performed during each of the following periods: January through March; April through June; July through September; and October through December. At the end of the second year of permit coverage, a facility must calculate the average concentration for each parameter listed in Table B–7. If the permittee collects more than four samples in this period, then they must calculate an average concentration for each pollutant of concern for all samples analyzed.

TABLE B–7.—PAPERBOARD MILLS MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Chemical Oxygen Demand	120 mg/L.

If the average concentration for a parameter is less than or equal to the cut-off concentration, then the permittee is not required to conduct quantitative analysis for that parameter during the fourth year of the permit. If, however, the average concentration for a parameter is greater than the cut-off concentration, then the permittee is required to conduct quarterly monitoring for that parameter during the fourth year of permit coverage. Monitoring is not required during the first, third, and fifth year of the permit. The exclusion from monitoring in the fourth year of the permit is conditional on the facility maintaining industrial operations and BMPs that will ensure a quality of storm water discharges consistent with the average concentrations recorded during the second year of the permit. The schedule for monitoring is presented in Table B–8.

TABLE B–8.—SCHEDULE OF MONITORING

2nd Year of Permit Coverage	• Conduct quarterly monitoring. • Calculate the average concentration for all parameters analyzed during this period. • If average concentration is greater than the value listed in Table B–7, then quarterly sampling is required during the fourth year of the permit. • If average concentration is less than or equal to the value listed in Table B–7, then no further sampling is required for that parameter.

TABLE B–8.—SCHEDULE OF MONITORING—Continued

4th Year of Permit Coverage	• Conduct quarterly monitoring for any parameter where the average concentration in year 2 of the permit is greater than the value listed in Table B–7. • If industrial activities or the pollution prevention plan have been altered such that storm water discharges may be adversely affected, quarterly monitoring is required for all parameters of concern.

In cases where the average concentration of a parameter exceeds the cut-off concentration, EPA expects permittees to place special emphasis on methods for reducing the presence of those parameters in storm water discharges. Quarterly monitoring in the fourth year of the permit will be used to reassess the effectiveness of the adjusted pollution prevention plan.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly chemical sampling.

(1) Sample Type. All discharge data shall be reported for grab samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable.

If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

(2) Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluent. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(3) Alternative Certification. Throughout today's permit, EPA has included monitoring requirements for facilities which the Agency believes have the potential for contributing significant levels of pollutants to storm water discharges. The alternative certification described below is necessary to ensure that monitoring requirements are only imposed on those facilities that do, in fact, have storm water discharges containing pollutants at concentrations of concern. EPA has determined that if materials and activities are not exposed to storm water at the site, then the potential for pollutants to contaminate storm water discharges does not warrant monitoring.

Therefore, a discharger is not subject to the monitoring requirements of this Part provided the discharger makes a certification for a given outfall on a pollutant-by-pollutant basis in lieu of monitoring described in Table B–8 under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements) of the permit, that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, significant materials from past industrial activity, and that are located in areas of the facility that are within the drainage area of the outfall are not presently exposed to storm water and will not be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan and submitted to EPA in lieu of monitoring reports required under paragraph b. The permittee is required to complete any and all sampling until the exposure is eliminated. If the facility is reporting for a partial year, the permittee must specify the date exposure was eliminated. If the permittee is certifying that a pollutant was present for part of the reporting period, nothing relieves the permittee from the responsibility to sample that parameter up until the exposure was eliminated and it was determined that no significant materials remained. This certification option is not applicable to compliance monitoring requirements associated with effluent guidelines. EPA does not expect facilities to be able to exercise this certification for indicator parameters, such as TSS and BOD.

b. Reporting Requirements. Permittees are required to submit all monitoring results obtained during the second and fourth year of permit coverage within 3 months of the conclusion of each year. For each outfall, one Discharge Monitoring Report Form must be submitted per storm event sampled. For facilities conducting monitoring beyond the minimum requirements an additional Discharge Monitoring Report Form must be filed for each analysis. The permittee must include a measurement or estimate of the total precipitation, volume of runoff, and peak flow rate of runoff for each storm event sampled.

c. Quarterly Visual Examination of Storm Water Quality. Quarterly visual examinations of a storm water discharge from each outfall are required at all paper and allied products manufacturing facilities. The examination must be of a grab sample collected from each storm water outfall. The examination of storm water grab samples shall include any observations of color, odor, turbidity, floating solids, foam, oil sheen, or other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on these samples.

The examination must be made at least once in each designated period during daylight hours unless there is insufficient rainfall or snow-melt to runoff. Whenever practicable, the same individual should carry out the collection and examination of discharges throughout the life of the permit to ensure the greatest degree of consistency possible. Examinations shall be conducted in each of the following periods for the purposes of inspecting storm water quality associated with storm water runoff and snow melt: January through March; April through June; July through September; October through December. Grab samples shall be collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 60 minutes) of when the runoff begins discharging. Reports of the visual examination include: the examination date and time, examination personnel, visual quality of the storm water discharge, and probable sources of any observed storm water contamination. The visual examination reports must be maintained onsite with the pollution prevention plan.

EPA believes that this quick and simple assessment will help the permittee to determine the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examinations. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and the effects of the management practices that are included in the plan.

When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent from one such outfall and report that the examination data also apply to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

C. Storm Water Discharges Associated With Industrial Activity From Chemical and Allied Products Manufacturing Facilities

1. Discharges Covered Under This Section

EPA regulations define ''storm water discharges associated with industrial activity'' at 40 CFR 122.26(b)(14) in order to specify those discharges that are required to be permitted under the NPDES program. Category (ii) of this definition includes facilities classified as Standard Industrial Classification (SIC) code 28, Chemical and Allied Products Manufacturing, with the exception of facilities classified as SIC code 285—Paints, Varnishes, Lacquers, Enamels, and Allied Products Manufacturing, which are included in category (xi) of the definition. EPA did not receive any group applications from facilities with primary SIC code 283 (Drugs Manufacturing). Therefore, as EPA had no data on such facilities, they are not eligible for coverage under this section of today's permit. The following section describes facilities covered by Part XI.C. of today's permit and the conditions and requirements of facilities covered by Part XI.C.

For additional information on the subsectors and their industrial activities, please see the following documents:

''Development Document for Effluent Limitations Guidelines and Standards for the Paint Formulating Point Source Category.'' EPA–440/1–79/049–b. 1979.

''Development Document for Interim Final Effluent Limitations Guidelines for the Pesticide Chemicals Manufacturing Point Source Category.'' EPA–440/1–75/060d. 1976.

''Development Document for Effluent Limitations Guidelines and New Source Performance Standards for the Major Organic Products Segment of the Organic Chemicals Manufacturing Point Source Category.'' EPA–440/1–74–009a. 1974.

''Development Document for Effluent Limitations Guidelines, New Source Performance Standards and Pretreatment Standards for Organic Chemicals and the Plastics and Synthetic Fibers Point Source Category.'' EPA–440/1–87/009. 1987.

''Development Document for Effluent Limitations Guidelines and New Source Performance Standards for the Basic Fertilizer Chemicals Segment of the Fertilizer Manufacturing Point Source Category.'' 1974.

''Development Document for Final Effluent Limitations Guidelines, New Source Performance Standards and Pretreatment Standards for the Pharmaceutical Manufacturing Point Source Category.'' EPA–440/1–83/084. 1983.

''Development Document for Effluent Limitations Guidelines, New Source Performance Standards and Pretreatment Standards for the Inorganic Chemicals Manufacturing Point Source Category, Phase 2.'' EPA–440/1–84/007. 1984.

Part XI.C. of today's permit has been developed for storm water discharges at facilities primarily engaged in the manufacture of chemicals and allied products. This sector of industry includes facilities which manufacture a broad range of products including plastic and synthetic materials, detergents, paints and varnishes, drugs, fertilizers and pesticides, adhesives, inks, explosives, artist's inks and paints, and organic and inorganic chemicals used for industrial purposes. Specifically, Part XI.C. of today's permit applies to establishments primarily engaged in manufacturing:

a. Industrial inorganic chemicals (including SIC 281).

b. Plastic materials and synthetic resins, synthetic rubbers, and cellulosic and other humanmade fibers, except glass (including SIC 282).

c. Soaps and detergents; specialty cleaning, polishing, and sanitation preparations; surface active preparations used as emulsifiers, wetting agents, and finishing agents, including sulfonated oils; perfumes, cosmetics, and other toilet preparations; glycerin made from vegetable and animal fats and oils (including SIC 284).

d. Paints (in paste and ready-mixed form), varnishes, lacquers, enamels, shellac, putties, wood fillers, and sealers, paint and varnish removers, paint brush cleaners, and allied paint products (including SIC 285).

e. Industrial organic chemicals (including SIC 286).

f. Nitrogenous fertilizers; phosphatic fertilizers; fertilizers, mixing only; pesticides; and other agricultural chemicals, not elsewhere classified (including SIC 287).

g. Industrial and household adhesives, glues, caulking compounds, sealants, and linoleum, tile, and rubber cements from vegetable, animal, or synthetic plastics materials (including SIC 2891).

h. Explosives (including SIC 2892).

i. Printing ink, including gravure, screen process, and lithographic ink, and carbon black (including SIC 2893 and 2895); and, due to the nature of manufacturing activities, EPA has included industrial facilities represented by SIC 3952 in this category, but only those primarily engaged in the manufacturing of ink and paints, including china painting enamels, india and drawing ink, platinum paints for burnt wood or leather work, paints for china painting, artists' paints and artists' water colors.

j. Miscellaneous that are not in Sections a. through i. of this part, such as fatty acids, essential oils, nonvegetable gelatin, sizes, bluing, laundry sours, writing and stamp pad ink, industrial compounds, such as boiler and heat insulating compounds, metal, oil, and water treatment compounds, waterproofing compounds, and chemical supplies for foundries (including SIC 2899).

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Pollutants Found in Storm Water Discharges

Water quality impacts caused by storm water discharges associated with an industrial activity from Chemical and Allied Products Manufacturing facilities are expected to vary depending on several factors. Such factors include the geographic location and hydrology of the site, the type of manufacturing and/or industrial activities, the amount and type of operations and material storage occurring outside, imperviousness of surfaces at the site, and the impact of a given precipitation event. In addition, sources of pollutants from non-storm water discharges such as washwaters from industrial areas, illicit connections, and spills may increase the pollutant loading to waters of the United States. Because there is wide variety of products and manufacturing activities in this sector of today's permit, EPA has subdivided the chemicals and allied products manufacturing industry into ''subsectors.''

Part 1 of the group application required a summary of industrial activities and the significant materials stored exposed to precipitation. This provided useful qualitative information to EPA, but information that is not possible to quantify reliably due to differences in terminology and thoroughness. For the summary of industrial activities, some participants reported their industrial activity as ''manufacture of product X,'' rather than listing the components of that main activity. Other participants listed some or all general industrial actions, e.g., ''shredding'' or ''wastewater treatment.'' (Products listed represent most of the industrial classifications which are subject to this section of today's permit). Table C.1. lists the general industrial actions occurring at facilities according to part 1 of their group applications.

TABLE C–1.—INDUSTRIAL ACTIVITIES OCCURRING AT CHEMICAL AND ALLIED PRODUCT MANUFACTURERS (AS REPORTED IN PART 1 OF GROUP APPLICATIONS)

1. Storage of materials in tanks, either below or above ground.
2. Wastewater treatment, use of activated sludge process, or land application of wastewaters.
3. Bagging of materials/products.
4. Blending and mixing of chemicals.
5. Packaging of chemicals.
6. Cooling towers.
7. Crushing, Milling, Shredding, Granulation and Grinding of materials.
8. Storage of cylinders used to contain industrial gases.
9. Distribution of products.
10. Storage of empty or full drums.
11. Equipment storage and maintenance, including vehicles.
12. Application of fertilizers or pesticides.
13. Operation of a foundry.
14. Fueling of vehicles.
15. Hazardous waste temporary storage or operation of RCRA treatment, storage, or disposal facility.
16. Hot oil system for cooling/heat exchange.
17. Landfills or temporary refuse site.
18. Application of lime.
19. Loading/Unloading.
20. Use of machinery to process materials.
21. Material handling and warehousing.
22. Plant yard and areas of past industrial activity.
23. Access roads and rail tracks.
24. Steam boilers.

TABLE C–1.—INDUSTRIAL ACTIVITIES OCCURRING AT CHEMICAL AND ALLIED PRODUCT MANUFACTURERS (AS REPORTED IN PART 1 OF GROUP APPLICATIONS)—Continued

25. Thermal oxidation of lead.
26. Washing of drums.
27. Waste dumpster or compactor.

Table C–2 shows the subsectors and their corresponding SIC codes and letters (from discharges covered under this section in this fact sheet).

Part 2 of the storm water group application required that quantitative data be submitted by a representative sampling subgroup. Based on the wide variety of industrial activities and significant materials at the facilities included in this sector, EPA believes it is appropriate to divide the chemical and allied products industry into subsectors to properly analyze sampling data and determine monitoring requirements. As a result, this sector has been divided into the following subsectors: industrial inorganic chemicals; plastics, synthetics, and resins; drugs; soaps, detergents, cosmetics, perfumes; paints, varnishes, lacquers, enamels, and allied products; industrial organic chemicals; agricultural chemicals; and miscellaneous chemical products. Tables C–2, C–3, C–4, C–5, C–6, C–7, and C–8 below include data for the eight pollutants that all facilities were required to monitor for under Form 2F. The tables also list those parameters that EPA has determined merit further monitoring. A table has not been included for industrial organic chemical manufacturing facilities because less than 3 facilities submitted data in that subsector.

TABLE C–2.—SUBSECTOR INDEX

Subsector		SIC Code(s)
1	....	281
2	....	282
3	....	284
4	....	285
5	....	286
6	....	287
7	....	289, 2891, 2892, 2893, 2894, 2899, 3952
8	....	28 [i]

[i] Subsector 8 includes those facilities that indicated their SIC code only as 28, without the following 1 or 2 digits.

TABLE C–3.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY INDUSTRIAL INORGANIC CHEMICALS MANUFACTURING FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant	# of Facilities		# of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
Sample type	Grab	Comp [ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	10	10	16	16	12.1	8.872	0.0	0.0	67.0	26.0	7.0	7.5	35.0	22.8	60.4	34.3
COD	10	10	16	16	101.4	63.6	20.0	0.0	350.0	320.0	80.0	36.5	269.2	185.1	453.4	334.2
Nitrate + Nitrite Nitrogen	10	10	16	16	2.79	1.92	0.60	0.07	7.30	7.1	2.40	1.25	14.72	8.24	37.34	18.7
Total Kjeldahl Nitrogen	10	10	16	16	18.71	7.09	0.00	0.0	132.00	19.4	4.09	3.15	110.69	30.8	392.88	68.3
Oil & Grease	9	N/A	15	N/A	1.9	N/A	0.0	N/A	18.0	N/A	0.1	N/A	9.5	N/A	39.7	N/A
pH	9	N/A	15	N/A	N/A	N/A	5.4	N/A	10.4	N/A	7.6	N/A	11.2	N/A	13.1	N/A
Total Phosphorus ..	10	10	16	16	0.98	0.83	0.00	0.0	6.59	6.14	0.34	0.40	3.32	3.19	7.55	7.61
Total Suspended Solids	10	10	16	16	156	80.4	6	0.82	790	320	99	21.5	769	658.5	2043	3258.4
Aluminum	7	7	13	13	2.41	1.7	0.49	0.06	7.82	7.87	1.06	0.77	7.02	6.83	12.8	16.47
Iron	5	5	11	11	3.0	2	0.5	0.1	8.8	7.6	2.2	1.2	10.6	8.7	21.7	21.7

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE C–4.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY PLASTICS MATERIALS AND SYNTHETIC RESINS, SYNTHETIC RUBBERS, CELLULOSIC AND OTHER MANMADE FIBERS EXCEPT GLASS MANUFACTURING FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant	# of Facilities		# of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
Sample type	Grab	Comp [ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	16	14	41	36	11.5	11.4	0.0	1.0	66.0	66.0	6.0	6.6	34.1	34.2	62.8	64.8
COD	17	15	42	38	58.1	52.6	0.0	0.0	162.0	169.0	38.5	35.5	191.7	142.6	360.6	237.7
Nitrate + Nitrite Nitrogen	17	15	43	39	4.31	5.35	0.00	0.0	140.30	158.0	0.76	0.95	7.67	8.88	20.81	23.1
Total Kjeldahl Nitrogen	17	15	42	38	3.51	3.96	0.20	0.0	47.20	56.8	1.50	1.40	9.67	10.6	20.29	22.9
Oil & Grease	16	N/A	42	N/A	2.0	N/A	0.0	N/A	15.0	N/A	0.0	N/A	10.2	N/A	22.4	N/A
pH	15	N/A	42	N/A	N/A	N/A	3.6	N/A	7.7	N/A	6.8	N/A	8.4	N/A	9.4	N/A
Total Phosphorus ..	17	15	43	39	0.40	0.41	0.00	0.0	4.20	4.40	0.11	0.07	1.45	1.56	3.60	4.27
Total Suspended Solids	17	15	42	38	157	94.6	0.0	0.0	2708	816	40	26.5	570	345.4	1665	845.5
Zinc	14	12	36	31	0.391	0.425	0	0	2.1	2.07	0.19	0.23	1.427	1.712	3.183	4.031

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE C–5.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY SOAPS, DETERGENTS, AND CLEANING PREPARATIONS; PERFUMES, COSMETICS, AND OTHER TOILET PREPARATIONS FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant	# of Facilities		# of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
Sample type	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	12	13	19	20	53.2	23.2	0.0	0.0	340.0	108.0	16.0	6.5	286.2	99.8	892.7	253.6
COD	12	12	19	19	245.3	132.5	28.0	0.0	1200.0	530.0	120.0	80.0	834.2	486.8	1803.7	1015.5
Nitrate + Nitrite Nitrogen	12	12	19	19	1.40	0.97	0.00	0.0	5.00	4.2	1.16	0.76	5.60	3.17	12.16	5.97
Total Kjeldahl Nitrogen	12	12	19	19	3.48	2.3	0.80	0.0	11.40	9.0	2.60	1.4	8.90	6.93	14.73	12.2
Oil & Grease	12	N/A	19	N/A	4.6	N/A	0.0	N/A	40.0	N/A	0.0	N/A	21.1	N/A	42.8	N/A
pH	12	N/A	19	N/A	N/A	N/A	3.5	N/A	8.0	N/A	7.1	N/A	9.1	N/A	10.5	N/A
Total Phosphorus	12	12	19	19	1.60	0.57	0.02	0.0	9.00	1.9	0.40	0.40	8.93	2.34	28.97	5.20
Total Suspended Solids	13	13	20	20	313	154	6	0.0	1522	880	74	39	1519	633.2	4714	1744
Zinc	6	6	7	7	1.584	0.941	0.13	0.15	4.8	2.7	0.41	0.26	7.438	3.761	20.20	99.146

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE C–6.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY PAINTS, VARNISHES, LACQUERS, ENAMELS, AND ALLIED PRODUCTS FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant	# of Facilities		# of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
Sample type	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	3	3	3	3	4.7	20.7	0.0	12.0	11.0	36.0	3.0	14.0	21.6	48.5	42.2	72.7
COD	3	3	3	3	50.3	42.3	0.0	0.0	84.0	72.0	67.0	55.0	94.4	82.8	106.1	95.1
Nitrate + Nitrite Nitrogen	3	3	3	3	0.43	0.53	0.00	0.0	1.20	1.3	0.09	0.28	4.59	2.88	17.50	6.36
Total Kjeldahl Nitrogen	3	3	3	3	1.27	1.56	0.30	0.60	1.90	2.78	1.62	1.30	5.24	4.57	10.52	7.70
Oil & Grease	3	N/A	3	N/A	4.7	N/A	0.0	N/A	9.6	N/A	4.6	N/A	14.1	N/A	20.6	N/A
pH	3	N/A	3	N/A	N/A	N/A	6.7	N/A	7.7	N/A	7.1	N/A	8.0	N/A	8.4	N/A
Total Phosphorus	3	3	3	3	0.24	0.23	0.22	0.13	0.26	0.30	0.24	0.25	0.28	0.44	0.29	0.59
Total Suspended Solids	3	3	3	3	433	47.0	4	2.0	824	130	470	9.0	14276	429.9	104964	1815.8

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE C–7.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY AGRICULTURAL CHEMICALS MANUFACTURING FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant	# of Facilities		# of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
Sample type	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	17	17	27	27	4.2	6.00	0.0	0.0	13.0	43.5	4.0	4.0	10.6	19.5	15.2	35.9
COD	17	17	27	27	70.3	45.3	0.0	0.0	400.0	138	55.0	36.0	239.5	166.3	472.2	325.4
Nitrate + Nitrite Nitrogen	12	12	22	22	43.88	19.47	0.00	0.00	315.00	85.0	3.78	3.86	220.52	119.0	898.55	409.7
Total Kjeldahl Nitrogen	17	17	27	27	75.70	92.1	0.00	0.8	1020.00	1460.0	10.00	12.90	214.61	250.0	710.55	777.61
Oil & Grease	17	N/A	28	N/A	8.6	N/A	0.0	N/A	95.0	N/A	0.0	N/A	36.6	N/A	121.2	N/A
pH	15	N/A	2	5N/A	N/A	N/A	5.3	N/A	7.8	N/A	7.1	N/A	8.0	N/A	8.5	N/A
Total Phosphorus	17	17	27	27	15.80	54.96	0.13	0.19	110.00	982.0	5.00	11.0	80.24	180.16	252.70	693.3
Total Suspended Solids	17	15	27	25	434	113	0	0	5182	593.0	103	58	1734	510.8	5506	1251.8
Iron	4	4	9	9	5.3	3.6	0.6	0.6	22	11	1.8	1.5	19	13.2	42.6	28.3
Lead	4	4	6	6	0.094	0.042	0	0	0.167	0.104	0.1	0.03	0.348	0.119	0.652	0.193
Zinc	5	5	10	10	1.527	0.862	0.075	0.063	7.7	4.2	0.58	0.40	6.997	3.116	19.075	6.915

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE C–8.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY MISCELLANEOUS CHEMICAL PRODUCTS MANUFACTURING FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant	# of Facilities		# of Samples			Grab	Minimum		Maximum		Median		95th Percentile		99th Percentile	
Sample type	Grab	Comp[ii]	Grab	Comp	Mean	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	18	14	26	21	143.2	11.3	0.0	0.0	3420.0	98.0	9.0	6.0	128.6	29.3	353.6	51.4
COD	19	15	28	23	70.4	63.3	0.0	19.0	394.0	382.0	42.5	41.0	180.6	150.1	300.5	247.1
Nitrate + Nitrite Nitrogen	19	14	28	22	0.97	1.00	0.00	0.0	4.88	3.12	0.57	0.60	3.37	3.22	6.79	6.18
Total Kjeldahl Nitrogen	19	15	31	23	1.61	1.34	0.00	0.0	5.50	4.1	1.40	1.10	5.83	4.25	11.27	7.45
Oil & Grease	20	N/A	29	N/A	4.4	N/A	0.0	N/A	23.0	N/A	2.0	N/A	16.8	N/A	32.9	N/A
pH	20	N/A	29	N/A	N/A	N/A	4.6	N/A	9.3	N/A	7.3	N/A	9.2	N/A	10.1	N/A
Total Phosphorus	20	15	29	23	0.18	0.11	0.00	0.0	1.63	0.39	0.07	0.10	0.65	0.32	1.29	0.46

TABLE C–8.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY MISCELLANEOUS CHEMICAL PRODUCTS MANUFACTURING FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)—Continued

Pollutant	# of Facilities		# of Samples			Grab	Minimum		Maximum		Median		95th Percentile		99th Percentile	
Sample type	Grab	Comp[ii]	Grab	Comp	Mean	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
Total Suspended Solids	19	15	28	23	50	47.8	0	0.0	415	350	13	8.0	246	220.5	728	687.3

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

3. Options for Controlling Pollutants

As required in part 1 of the storm water group permit application, participants were required to provide information regarding existing storm water management practices and controls. Table C–9 below identifies the material management practices for the identified sampling facilities.

TABLE C–9.—CURRENT STORM WATER MANAGEMENT PRACTICES USED BY THE CHEMICAL AND ALLIED PRODUCTS MANUFACTURING INDUSTRY (AS REPORTED IN PART 1 OF THE GROUP APPLICATIONS)[i]

Subsector	Current management practices
1	Unloading Boot, Catch Basin, Containment, Covering, Curbing, Dike Diversion, Housekeeping, Inspection of Equipment, Infiltration, Oil/Water Separator, Roof, SPCC, Sump, Storm Water Collector for Water Reuse, Training, Indoor Storage.
2	Catch Basin, Covering, Dike, Indoor Storage, Pond, SPCC, Swale, Vegetation Strip.
3	Caps on Tank Vents, Concrete Pad, Containment, Covering, Curbing, Dike, Diversion, Drain, Hazardous Waste Management, Hazardous Waste Pad, Holding Tank, Indoor Storage, Infiltration, Pond, Roof, Sealed Drums, SPCC, Storm Water Collector, Tarp, Vaulted.
4	Containment, Covering, Dike, Holding Tank, Infiltration, Pond, Roof Drain, Site Inspection, SPCC, Swale, Training, Waste Minimization.
5	Curbing, Dike, Pond, SPCC.
6	Catch Basin, Covering, Dike, Housekeeping, Indoor Storage, Infiltration, Oil/Water Separator, Pond, Roof, Site Inspection, SPCC, Sump, Swale, Sweep, Valves.
7	Absorbent Materials, BMP Plan, Catch Basin, Concrete Pad, Containment, Covering, Curbing, Dike, Drain, Drip Pan, Housekeeping, Indoor Storage, Infiltration, Oil/Water Separator, Pond, Roof, Inspection, Sloped Containment, SPCC, Sump, Swale, Training, Valves.
8	Catch basin, Containment, Covering, Dike, Indoor Storage, Pond, Roof, Site Inspection, SPCC, Swale, Training.

[i] The information presented in this table was received from part 1 group applications for Sector 3.

In order to develop achievable storm water management practices and controls, EPA has evaluated all existing management practices as well as practices developed and implemented under the September 9, 1992, storm water general permit. For a detailed explanation regarding specific storm water controls and management practices, the reader may refer to the pollution prevention plan requirements section below.

4. Special Conditions

a. Prohibition of Non-storm Water Discharges. In addition to the discharges prohibited under Part III.A.2 of today's permit, EPA has specified that the following types of discharges are not authorized by this section:

(1) Inks, paints or substances (hazardous, nonhazardous, etc.) resulting from an onsite spill including materials collected in drip pans.

(2) Washwaters from material handling and processing areas. This includes areas where containers, equipment, industrial machinery, and any significant materials are exposed to storm water.

(3) Washwaters from drum, tank or container rinsing and cleaning.

EPA has included these prohibitions in order to emphasize that spilled materials should be cleaned up and properly disposed, and that washwaters constitute process wastewater and not storm water. These types of discharges contribute excessive amounts of pollutants to water bodies and must be permitted by an NPDES permit for process wastewater, as they are not authorized by this section.

5. Storm Water Pollution Prevention Plan Requirements

a. Contents of the Plan. Today's permit requires that all facilities covered under this section prepare a Drainage and Site Plan. Based on the information contained in the part 1 application, EPA has identified and specified areas where materials are commonly handled. EPA is requiring that the site plan detail the drainage patterns of the runoff and identify the outfall and receiving water body. [Language on site map not included.]

(1) Description of Potential Pollutant Sources. The Inventory of Exposed Materials as well as Risk Identification and Summary of Potential Pollutants Sources requirements were further defined to avoid confusion. In addition, EPA is requiring that the information submitted in the group application regarding pollutant sources and current management practices be evaluated and considered when developing the plan.

Measures and Controls. EPA has divided this section of the permit into two parts. The first part addresses nonstructural pollution prevention controls, while the second part addresses structural controls.

The following requirements were established by EPA under the nonstructural conditions to identify specific practices that must be implemented by all permittees:

(a) Good Housekeeping—In addition to the information provided in the group application process, EPA conducted a series of inspections to identify areas of concern, materials exposed to storm water and current management practices used by the chemicals and allied products manufacturing industry. EPA also reviewed a series of existing pollution prevention plans that were developed under the requirements of the baseline general permit. Based on this information, EPA is requiring that at a minimum, permittees shall consider establishing the following good housekeeping practices:

(i) Schedule regular pickup and disposal of garbage and waste materials or other measures to dispose of waste. This schedule may be included in the plan. Individuals responsible for waste management and disposal should be informed of the procedures established under the plan,

(ii) Routinely inspect for leaks and conditions of drums, tanks and containers. Ensure that spill cleanup procedures are understood by employees,

(iii) Keep an up-to-date inventory of all materials present at the facility. While preparing the inventory, all containers should be clearly labeled. Hazardous containers that require special handling, storage, use and disposal considerations should be clearly marked and readily recognizable,

(iv) Maintain clean ground surfaces by using brooms, shovels, vacuum cleaners or cleaning machines.

(b) Employee Training—Training should also address procedures for equipment and containers cleaning and washing. The training should emphasize the human hazards and the potential environmental impacts from the discharges of washwaters. In addition, today's permit requires that the pollution prevention plan for chemical and allied products manufacturing facilities identify periodic dates for such training of at least once per year. EPA recommends that facilities conduct training annually at a minimum. However, more frequent training may be necessary at facilities with high turnover of employees or where employee participation is essential to the storm water pollution prevention plan.

(c) Inspections—Qualified personnel shall conduct quarterly inspections. A wet weather inspection (during a rainfall event) shall be conducted in the second (April to June) and third quarters (July to September) of each year. A dry weather inspection (no precipitation) shall be conducted in the first (January to April) and fourth quarters (October to December).

However, where a seasonal arid period is sustained for more than 3 months, a dry weather inspection will satisfy the wet weather inspection requirement. This requirement will assure that permittees conduct at least one inspection every quarter.

EPA believes that this requirement will satisfy the requirements of this section by measuring the effectiveness of the pollution prevention plan during dry and wet weather conditions. These inspections will increase awareness and responsibility for storm water pollution. Moreover, conducting these dry and wet weather inspections on a quarterly basis will provide permittees with a tool for evaluating best management practices, structural and nonstructural measures, good housekeeping and spill cleaning procedures, among other pollution prevention activities.

(d) Facility Security—Facilities should consider evaluating existing security systems such as fencing, lighting, vehicular traffic control, and securing of equipment and buildings and should include existing and new system into the plan to prevent accidental or intentional entry which could cause a discharge of pollutants to waters of the United States.

(e) Structural Storm Water Management Controls—Under the structural conditions, EPA has identified specific practices that should be considered by all permittees. These structural practices are divided into four activities/areas: material handling and storage; management of runoff; sediment and erosion control; and sampling.

(f) Practices for Material Handling and Storage Areas—Under material handling and storage, EPA is recommending a series of management practices to minimize materials exposed to precipitation. These areas were selected after evaluation of part 1 data and current practices used by the group participants. For areas where liquid or powdered materials are stored, facilities shall consider providing either diking, curbing, or berms. For all other outside storage areas including storage of used containers, machinery, scrap and construction materials, and pallets, facilities shall consider preventing or minimizing storm water runon to the storage area by using curbing, culverting, gutters, sewers or other forms of drainage control. For all storage areas, roofs, covers or other forms of appropriate protection shall be considered to prevent exposure to weather. In areas where liquid or powdered materials are transferred in bulk from truck or rail cars, permittees shall consider appropriate measures to minimize contact of material with precipitation. Permittees shall consider providing for hose connection points at storage containers to be inside containment areas and drip pans to be used in areas which are not in a containment area, where spillage may occur (e.g., hose reels, connection points with rail cars or trucks) or equivalent measures. In areas of transfer of contained or packaged materials and loading/unloading areas, permittees shall consider providing appropriate protection such as overhangs or door skirts to enclose trailer ends at truck loading/unloading docks or an equivalent.

In order to prevent facilities from discharging contaminated storm water from areas where precipitation is contained, contained areas should be restrained by valves or other positive means to prevent the discharge of a spill or leak. Containment units may be emptied by pumps or ejectors; however, these should be manually activated. Flapper-type drain valves should not be used to drain containment areas. Valves used for the drainage of containment areas should, as far as is practical, be of manual, open-or-closed design. If facility drainage is not engineered as above, the final discharge point of all in-facility sewers should be equipped to prevent the discharge in the event of an uncontrolled spill of materials.

(g) Management of Runoff—Under management of runoff conditions, EPA is requiring that the plan contain a description of storm water management practices used and/or to be used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site.

(h) Sediment and Erosion Control—For areas with a potential for significant soil erosion, the permittee should describe permanent stabilization practices to be used in order to stabilize disturbed areas. The measures will minimize the amount of sediment materials in the discharge.

(i) Non-storm Water Discharges—There are no additional requirements beyond those described in Part VI.C of this fact sheet.

(j) Comprehensive Site Compliance Evaluation—In accordance with 40 CFR 122.24(i)(4)(i), EPA has established that comprehensive site compliance evaluations be conducted at least once every year. Members of the pollution prevention team or a qualified professional designated by the team must conduct the evaluation. Requirements for the evaluation are listed under Part VI.C.4 of this fact sheet.

6. Numeric Effluent Limitations

a. Phosphate Fertilizer Manufacturing Runoff. Part XI.C.5.a. of today's permit establishes numeric effluent limitations for storm water discharges from facilities identified by SIC 287, the Phosphate Subcategory of the Fertilizer Manufacturing Point Source Category, which are subject to effluent limitations guidelines at 40 CFR Part 418. The term contaminated storm water runoff shall mean precipitation runoff, which during manufacturing or processing, comes into incidental contact with any raw materials, intermediate product, finished product, by-products or waste product. The concentration of pollutants in storm water discharges shall not exceed the following effluent limitations included in Table C–10 below:

TABLE C–10

Effluent characteristics	Effluent limitations (mg/L) Maximum for any 1 day	Effluent limitations (mg/L) Average of daily values for 30 consecutive days shall not exceed
Total Phosphorus (as P)	105.0	35.0
Fluoride	75.0	25.0

Facilities with discharges as described above must be in compliance with these effluent limitations upon commencement of coverage and for the entire term of this permit. Discharges that are associated with industrial activities that do not contain runoff from the areas or activities specified above are not subject to the effluent limitation in Table C–10 above.

7. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. EPA believes that chemical manufacturing facilities may reduce the level of pollutants in storm water runoff from their sites through the development and proper implementation of the storm water pollution prevention plan requirements discussed in today's permit. Under the revised methodology for determining pollutants of concern for the various industrial sectors, four subsectors in the chemical and allied products manufacturing sector must monitor their storm water discharges. The monitoring requirements are presented in Tables C–11, C–12, C–13, and C–14 for agricultural chemical manufacturing facilities; industrial inorganic chemical facilities; soaps, detergents, cosmetics, and perfume manufacturing facilities; and plastics, synthetics, and resin manufacturing facilities. The pollutants listed in Tables C–11, C–12, C–13, and C–14 were found to be above benchmark levels. Because these pollutants have been reported at benchmark levels from agricultural chemical facilities; industrial inorganic chemical facilities; soaps, detergents, synthetics, and resin manufacturing facilities, EPA is requiring monitoring after the pollution prevention plan has been implemented to assess the effectiveness of the pollution prevention plan and to help ensure that a reduction of pollutants is realized.

Under the Storm Water Regulations at 40 CFR 122.26(b)(14), EPA defined ''storm water discharge associated with industrial activity''. The focus of today's permit is to address the presence of pollutants that are associated with the industrial activities identified in this definition and that might be found in storm water discharges. Under the methodology for determining analytical monitoring requirements, described in section VI.E.1 of this fact sheet, nitrate plus nitrite nitrogen is above the bench mark concentrations for the plastics, synthetics, and resins subsector. After a review of the nature of industrial activities and the significant materials exposed to storm water described by facilities in this subsector, EPA has determined that the higher concentrations of nitrate plus nitrite nitrogen are not likely to be caused by the industrial activity, but may be primarily due to non-industrial activities on-site. Today's permit does not require plastics, synthetics, and resins facilities to conduct analytical monitoring for this parameter.

At a minimum, storm water discharges from agricultural chemical facilities; industrial inorganic chemical facilities; soaps, detergents, cosmetics, and perfume manufacturing facilities; and plastics, synthetics, and resin manufacturing facilities must be monitored quarterly during the second year of permit coverage. Samples must be collected at least once in each of the following periods: January through March; April through June; July through September; and October through December. At the end of the second year of permit coverage, a facility must calculate the average concentration for each parameter listed in Tables C–11, C–12, C–13, and C–14. If the permittee collects more than four samples in this period, then they must calculate an average concentration for each pollutant of concern for all samples analyzed.

TABLE C–11.—AGRICULTURAL CHEMICALS MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Nitrate plus Nitrite Nitrogen	0.68 mg/L
Total Recoverable Lead	0.0816 mg/L
Total Recoverable Iron	1.0 mg/L
Total Recoverable Zinc	0.065 mg/L
Phosphorus	2.0 mg/L

TABLE C–12.—INDUSTRIAL INORGANIC CHEMICALS MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Total Recoverable Aluminum	0.75 mg/L
Total Recoverable Iron	1.0 mg/L
Nitrate plus Nitrite Nitrogen	0.68 mg/L

TABLE C–13.—SOAPS, DETERGENTS, COSMETICS, AND PERFUMES MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Nitrate plus Nitrite Nitrogen	0.68 mg/L
Total Recoverable Zinc	0.065 mg/L

TABLE C–14.—PLASTICS, SYNTHETICS, AND RESIN MANUFACTURING MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Total Recoverable Zinc	0.065 mg/L

If the average concentration for a parameter is less than or equal to the cut-off concentration, then the permittee is not required to conduct quantitative analysis for that parameter during the fourth year of the permit. If, however, the average concentration for a parameter is greater than the cut-off concentration, then the permittee is required to conduct quarterly monitoring for that parameter during the fourth year of permit coverage. Monitoring is not required during the first, third, and fifth year of the permit. The exclusion from monitoring in the fourth year of the permit is conditional on the facility maintaining industrial operations and BMPs that will ensure a quality of storm water discharges consistent with the average concentrations recorded during the second year of the permit. The schedule for monitoring is presented in Table C–15.

TABLE C–15.—SCHEDULE OF MONITORING

2nd Year of Permit Coverage	• Conduct quarterly monitoring. • Calculate the average concentration for all parameters analyzed during this period. • If average concentration is greater than the value listed in Tables C–11, C–12, C–13, and C–14, then quarterly sampling is required during the fourth year of the permit. • If average concentration is less than or equal to the value listed in Tables C–11, C–12, C–13, and C–14, then no further sampling is required for that parameter.
4th Year of Permit Coverage	• Conduct quarterly monitoring for any parameter where the average concentration in year 2 of the permit is greater than the value listed in Tables C–11, C–12, C–13, and C–14. • If industrial activities or the pollution prevention plan have been altered such that storm water discharges may be adversely affected, quarterly monitoring is required for all parameters of concern.

In cases where the average concentration of a parameter exceeds the cut-off concentration, EPA expects permittees to place special emphasis on methods for reducing the presence of those parameters in storm water discharges. Quarterly monitoring in the fourth year of the permit will be used to reassess the effectiveness of the adjusted pollution prevention plan.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly chemical sampling.

(b). Alternative Certification. Throughout today's permit, EPA has included monitoring requirements for facilities which the Agency believes have the potential for contributing significant levels of pollutants to storm water discharges. The alternative certification described below is necessary to ensure that monitoring requirements are only imposed on those facilities that do, in fact, have storm water discharges containing pollutants at concentrations of concern. EPA has determined that if materials and activities are not exposed to storm water at the site, then the potential for pollutants to contaminate storm water discharges does not warrant monitoring.

Therefore, a discharger is not subject to the monitoring requirements of this Part provided the discharger makes a certification for a given outfall or on a pollutant-by-pollutant basis in lieu of monitoring described in Tables C–11, C–12, C–13, and C–14, that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, significant materials from past industrial activity, and that are located in areas of the facility that are within the drainage area of the outfall are not presently exposed to storm water and will not be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan and submitted to EPA in lieu of monitoring reports required under paragraph *c.* below. The permittee is required to complete any and all sampling until the exposure is eliminated. If the facility is reporting for a partial year, the permittee must specify the date exposure was eliminated. If the permittee is certifying that a pollutant was present for part of the reporting period, nothing relieves the permittee from the responsibility to sample that parameter up until the exposure was eliminated and it was determined that no significant materials remained. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations. EPA does not expect facilities to be able to exercise this certification for indicator parameters, such as TSS and BOD.

c. Reporting Requirements. Permittees are required to submit all monitoring results obtained during the second and fourth year of permit coverage within 3 months of the conclusion of each year. For each outfall, one signed Discharge Monitoring Report Form must be submitted to the Director per storm event sampled. For facilities conducting monitoring beyond the minimum requirements, an additional signed Discharge Monitoring Report Form must be filed for each analysis. The permittee must include a measurement or estimate of the total precipitation, volume of runoff, and peak flow rate of runoff for each storm event sampled.

d. Sample Type. All discharge data shall be reported for grab samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable.

If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable, permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

e. Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluent. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

f. Compliance Monitoring Requirements. Today's permit requires permittees with phosphate fertilizer manufacturing facilities with contaminated storm water discharges to monitor for the presence of phosphorus and fluoride. These monitoring requirements are necessary to evaluate compliance with the numeric effluent limitation for these discharges. Monitoring shall be performed upon a minimum of one grab sample. All samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. Monitoring results shall be submitted on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the month following collection of the sample. Facilities which discharge through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must also submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system. Alternative Certification provisions described in Section XI.C.5 of the permit do not apply to facilities subject to compliance monitoring requirements in this section. Compliance monitoring is required at least annually for discharges subject to effluent limitations. Therefore, EPA cannot permit a facility to waive compliance monitoring.

Phosphate fertilizer manufacturing facilities are not required to collect and analyze separate samples for the presence of total phosphorus to satisfy the Compliance Monitoring requirements of Section XI.C.6.c. during a year in which the facilities have collected and analyzed samples for total phosphorus in accordance with the Analytical Monitoring Requirements of Section XI.C.6.a. The results of all Analytical Monitoring analyses may be reported as Compliance Monitoring results in accordance with Section XI.C.5.d.(3) where the monitoring methodologies are consistent.

g. Quarterly Visual Examination of Storm Water Quality. Chemical and allied products manufacturing facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination(s) must be made at least once in each of the following 3-month periods: January through March, April through June, July through September, and October through December. The examination shall be made during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(1) Examinations shall be made of grab samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.

(2) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(3) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfall and report that the examination data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(4) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.). EPA realizes that if a facility is inactive and

unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

D. Storm Water Discharges Associated With Industrial Activity From Asphalt Paving and Roofing Materials Manufacturers and Lubricant Manufacturers

1. Discharges Covered Under This Section

On November 16, 1990 (55 FR 47990), EPA promulgated the regulatory definition of ''storm water discharges associated with an industrial activity.'' This definition includes point source discharges of storm water from eleven major categories of facilities, including facilities commonly identified by Standard Industrial Classification (SIC) 29. Today's permit only covers storm water discharges associated with industrial activities at facilities which manufacture asphalt paving mixtures and blocks (SIC code 2951), asphalt felts and coatings (SIC code 2952), and lubricating oils and greases (SIC code 2992). Hereinafter, facilities with primary SIC codes 2951 or 2952 will be referred to as ''Asphalt Facilities,'' and facilities with primary SIC code 2992 as ''Lubricant Manufacturers.''

Section XI.D of today's permit does not apply to renderers of fats and oils, petroleum refining facilities or to oil recycling facilities. Petroleum refining facilities are not eligible for coverage under today's permit, because these types of facilities did not participate in the group application process. Renderers of fats and oils are covered under Section XI.U of today's permit. Oil recycling facilities are covered under Section XI.N of today's permit. These facilities are more appropriately grouped with the liquid waste recyclers covered under Section XI.N.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

This section is applicable to storm water discharges from portable plants. Although portable plants were not included in the group application process the significant materials and industrial activities conducted at these facilities are sufficiently similar to permanent facilities to allow coverage. This section is applicable to storm water discharges from portable plants, with the condition that a new Notice of Intent (NOI) be submitted for each location and the pollution prevention plan be revised accordingly with each change in location.

a. Industry Profile. Presented below are brief descriptions of the industrial activities associated with asphalt facilities and lubricant manufacturers. Table D–1 shows some common significant materials exposed at these types of facilities.

TABLE D–1.—ACTIVITIES, POLLUTANT SOURCES, AND POLLUTANTS [i, ii]

Activity	Pollutant source	Pollutant
Asphalt Paving Manufacturing Facilities		
Material Storage and Handling	Additives, asphalt, asphalt cement, asphalt concrete, asphalt products, asphalt release agents, crushed stone, fuel, granite, granules, gravel, limestone, lubricants, mineral spirits, oil, quartzite rock, reclaimed asphalt pavement (RAP), sand, sandstone, slag.	TSS, Oil and Grease, pH, COD.
Asphalt Roofing Material Manufacturers		
Material Storage and Handling	Mineral spirits, asphalt, asphalt cutbacks, asphalt shingles, limestone, sand, slag, asphalt rolls, asphalt felt, talc oil and fuel.	TSS, Oil and Grease, pH and COD.
Lubricant Manufacturers		
Material Storage and Handling	Oils, waste solvents, petroleum distillates, lubricants, chemical additives.	Oil and Grease, pH, TSS.

[i] Storm water group applications, parts 1 and 2.
[ii] EPA. Development Document on Paving and Roofing Materials (EPA 440/1–74/049).

(1) Manufacturers of Asphalt Paving Mixtures and Blocks (SIC 2951). Manufacturers classified in SIC 2951 store purchased asphalt in above ground tanks. They stockpile a variety of raw materials such as sand, gravel, crushed limestone, and recycled asphalt products (RAP). These facilities produce asphalt concrete, and may also mold and cure asphalt concrete products such as asphalt blocks. There are two types of facilities associated with these activities, batch plants and drum plants.

Batch plants receive aggregate (sand, stone, limestone, gravel, etc.) in bulk by rail or truck. The aggregate is usually stockpiled outside. It is then transported by a conveyor or front-end loader to a rotary drier. When dried and heated the aggregate is transported to a screening unit which separates the aggregate into various sizes and deposits the graded aggregate into hot storage bins. Aggregate and mineral filler are then weighed and transported to a mixing unit or pug mill where they are mixed with heated asphalt cement to produce asphalt concrete. The resulting asphalt concrete is either stored in a heated silo or loaded directly onto trucks for transport to the job site.

At drum (cold feed) plants a measured amount of aggregate is placed in the drum where it is dried and heated. Heated asphalt cement is added to the same drum and mixed with the aggregate to produce asphalt concrete. The hot asphalt concrete produced by this process then goes to a surge bin or silo for storage until it is loaded onto trucks for delivery.

Hot-mix asphalt plants are often portable. There are three types of portable plants: portable, permanent, and semipermanent. Portable plants move from site to site, and the significant materials and equipment are removed upon completion of the job or project. Portable plants remain at a site anywhere from several days to several months. Permanent portable plants remain at a site on a permanent basis.

Like portable plants, semipermanent plants move from site to site. They differ, however, in that they return to locations on a recurring basis. Significant materials such as aggregate piles remain at the site while the plant is operating elsewhere. For the purposes of this section, semipermanent plants will be referred to as permanent plants, given that the effect on runoff from significant materials will essentially be the same at both sites. 'Asphalt facilities' includes both permanent and portable plants unless specified otherwise.

Facilities which manufacture asphalt concrete block feed the asphalt/aggregate mixture into a block molding machine where the mix is rammed, pressed or vibrated into its final form. The product is then stacked and allowed to cure.

(2) Manufacturers of Roofing Materials (SIC 2952). Manufacturers classified in standard industrial code 2952 typically produce bitumen-based roofing products such as asphalt shingles, built-up roofing (BUR), modified bitumen sheet material, asphalt saturated felts and bitumen-based root coatings, mastics and cements.

The typical manufacturing of bitumen based roofing products, such as shingles, BUR, modified bitumen sheet materials and asphalt saturated felt is a continuous stationary process performed on a roofing machine that begins with a roll of base material such as fiberglass mat, polyester or organic felt, coated or saturated with an asphalt or blend, surfaced with mineral granules, and concludes with a finished product. The sequence of indoor operations builds the product up in stages, adding different raw materials along the way and monitoring their application.

Bitumen-based coatings, mastics and cements are produced inside in a stationary process mixing raw materials received in bulk and containers and blended into finished batches of product. ''Batch processing'' is the common production method relying on the same piece of equipment in manufacturing a variety of products. The products are packaged in containers or stored for bulk shipment.

(*3) Manufacturers of Lubricating Oils and Greases (SIC 2992).* Facilities primarily engaged in blending, compounding, and re-refining lubricating oils and greases from purchased mineral, animal, and vegetable materials are identified as SIC code 2992. SIC code 2992 includes manufacturers of metalworking fluids, cutting oils, gear oils, hydraulic brake fluid, transmission fluid, and other automotive and industrial oil and greases.

Raw materials for SIC code 2992 facilities are typically petroleum or synthetic-based stocks and various additives. The majority of lubricating manufacturers store base stocks and chemical additives in tank farms or 55-gallon drums. SIC code 2992 facilities do not manufacture these raw materials, but rather blend and compound them to produce the product. Raw materials are proportioned according to the type of lubricant being produced.

''Batch processing'' is the common production method relying on the same piece of equipment in manufacturing a variety of products. For example, in one ''batch'' a facility may combine the petroleum base stock with additive X in a 10,000 gallon blending tank to produce product ''A.'' Using the same blending tank, the next ''batch'' is a mixture of the base stock and additive Y to produce product ''B.'' Batch processing allows facilities to manufacture a variety of products. Some facilities, however, tend to specialize in producing a particular type of lubricant (e.g., solid, synthetic, or water-based), often to meet the demands of a specific industry.

Finished products are packaged in containers or stored for bulk shipment. Almost all facilities have shipping and receiving areas and are involved with marketing and interstate distribution of their products. Most facilities have immediate access roads or rail lines at their facility sites.

2. Pollutants in Storm Water Discharges Associated With Asphalt Facilities and Lubricant Manufacturers.

Impacts caused by storm water discharges from asphalt facilities and lubricant manufacturers will vary. Several factors influence to what extent significant materials from these types of facilities and processing operations may affect water quality. Such factors include: geographic location; hydrogeology; the type of industrial activity occurring outside (e.g., material storage, loading and unloading); the type of material stored outside (e.g., asphalt, aggregate, limestone, oil, etc.); the size of the operation; and type, duration, and intensity of precipitation events. These and other factors will interact to influence the quantity and quality of storm water runoff. For example, air emissions (i.e., settled dust) may be a significant source of pollutants at some facilities, while materials storage is a primary source at others. In addition, sources of pollutants other than storm water, such as illicit connections,[38] spills, and other improperly dumped materials, may increase the pollutant loadings discharged into waters of the United States.

Based on group application information and data, EPA has identified the storm water pollutants and sources resulting from asphalt facilities and lubricant manufacturers in Tables D–2 and D–3.

Based on the wide variety of industrial activities and significant materials at the facilities included in this sector, EPA believes it is appropriate to divide the asphalt paving and roofing materials manufacturers and lubricating oils and greases manufacturers industry into 2 subsectors to properly analyze sampling data and determine monitoring requirements. As a result, this sector has been divided into the following subsectors: asphalt paving and roofing materials and lubricating oils and greases manufacturers. The tables below include data for the eight pollutants that all facilities were required to monitor under Form 2F.

[38] Illicit connections are contributions of unpermitted non-storm water discharges to storm sewers from any of a number of sources including sanitary sewers, industrial facilities, commercial establishments, or residential dwellings. The probability of illicit connections at mineral mining and processing facilities is low yet it still may be applicable at some operations.

TABLE D–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY ASPHALT PAVING AND ROOFING MATERIALS MANUFACTURING FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD^5	25	22	45	41	52.5	13.9	0.0	0.0	1220.0	161.0	8.0	5.0	101.2	42.8	256.1	89.3
COD	26	22	46	40	232.4	207.8	0.0	0.0	2740.0	1880.0	83.5	70.5	800.5	903.4	1897.7	2343.1
Nitrate + Nitrite Nitrogen	26	22	46	41	1.02	0.84	0.00	0.0	19.0	12.0	0.44	0.41	3.43	2.15	8.17	4.08
Total Kjeldahl Nitrogen	25	22	45	39	2.24	1.74	0.00	0.0	19.00	18.0	1.10	0.88	6.75	4.79	13.22	9.19
Oil & Grease	27	N/A	47	N/A	5.5	N/A	0.0	N/A	78.0	N/A	1.3	N/A	21.8	N/A	49.9	N/A
pH	27	N/A	47	N/A	N/A	N/A	2.4	N/A	9.6	N/A	7.2	N/A	10.1	N/A	11.8	N/A
Total Phosphorus	25	22	45	41	0.49	0.51	0.00	0.0	3.90	4.30	0.14	0.19	2.06	1.56	5.22	3.38
Total Suspended Solids	25	22	45	41	669	509.6	0	0.0	8050	3320	286	145	3570	3421	12103	13860

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE D–3.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY (LUBRICANT OILS AND GREASES MANUFACTURERS) SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	13	8	15	10	10.7	6.70	0.0	0.0	47.0	22.0	4.0	4.0	36.5	22.52	75.2	40.87
COD	15	10	17	12	108.7	57.66	10.0	10.0	905.0	142.6	42.0	55.1	303.0	175.5	622.2	314.1
Nitrate + Nitrite Nitrogen	13	8	15	10	0.64	0.77	0.00	0.0	2.63	2.43	0.21	0.30	5.01	2.88	17.2	5.83
Total Kjeldahl Nitrogen	15	9	17	11	1.76	1.24	0.00	0.19	7.98	3.0	1.10	1.10	5.17	3.86	9.43	6.86
Oil & Grease	16	N/A	18	N/A	7.8	N/A	0.0	N/A	55.0	N/A	2.0	N/A	32.7	N/A	82.2	N/A
pH	14	N/A	16	N/A	N/A	N/A	5.7	N/A	7.9	N/A	7.1	N/A	8.0	N/A	8.6	N/A
Total Phosphorus	15	10	17	12	0.41	0.28	0.00	0.01	3.66	1.28	0.11	0.14	1.30	1.23	3.03	3.18
Total Suspended Solids	15	10	17	12	271	206	0	2	3870	2130	20	28	696	592	2912	2283

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

3. Options for Controlling Pollutants

In evaluating options for controlling pollutants in storm water discharges, EPA must achieve compliance with the technology-based standards of the Clean Water Act [Best Available Technology (BAT) and Best Conventional Technology (BCT)]. This section establishes requirements for the development and implementation of a site-specific storm water pollution prevention plan consisting of a set of BMPs that are sufficiently flexible to address different sources of pollutants at different sites.

Two types of BMPs which may be implemented to prevent, reduce or eliminate pollutants in storm water discharges are those which minimize exposure (e.g., covering, curbing, or diking) and treatment type BMPs which are used to reduce or remove pollutants in storm water discharges (e.g., oil/water separators, sediment basins, or detention ponds). EPA believes exposure minimization is an effective practice for reducing pollutants in storm water discharges from asphalt facilities and lubricant manufacturers. Exposure minimization practices lessen the potential for storm water to come in contact with pollutants. These methods are often uncomplicated and inexpensive. They can be easy to implement and require little or no maintenance. EPA also believes that in some instances more resource intensive treatment type BMPs are appropriate to reduce pollutant levels such as suspended solids and oil/grease in storm water discharges associated with asphalt facilities or lubricant manufacturers. Though these BMPs are somewhat more resource intensive, they can be effective in reducing pollutant loads and may be necessary depending on the type of discharge, types and concentrations of contaminants, and volume of flow.

Table D–4 lists some BMPs which may be effective in limiting the amount of pollutants in storm water discharges from asphalt facilities and lubricant manufacturers. Based on part 1 information, several of the BMPs suggested are already in place at many of the facilities. Part 1 submittals indicate that diking, curbing, or other types of diversion occur at approximately 57 percent of the facilities. Some form of covering is used as a BMP at 25 percent of the facilities, and detention ponds are in place at 19 percent of the facilities. In addition, 38 percent of the facilities submitting part 1 information reported they had a Spill Prevention Control and Countermeasure Plan in place.

TABLE D–4.—MEASURES TO CONTROL POLLUTANTS IN STORM WATER DISCHARGES FROM ASPHALT FACILITIES AND LUBRICANT MANUFACTURERS

Activity	Suggested BMPs
Material Storage, Handling, and Processing	Cover material storage and handling areas with an awning, tarp or roof. Practice good stockpiling practices such as: storing materials on concrete or asphalt pads; surrounding stockpiles with diversion dikes or curbs; and revegetating areas used for stockpiling in order to slow runoff. Use curbing, diking or channelization around material storage, handling and processing areas to divert runon around areas where it can come into contact with material stored or spilled on the ground. Utilize secondary containment measures such as dikes or berms around asphalt storage tanks and fuel oil tanks.

TABLE D–4.—MEASURES TO CONTROL POLLUTANTS IN STORM WATER DISCHARGES FROM ASPHALT FACILITIES AND LUBRICANT MANUFACTURERS—Continued

Activity	Suggested BMPs
	Use dust collection systems (i.e., baghouses) to collect airborne particles generated as a result of material handling operations or aggregate drying. Properly dispose of waste materials from dust collection systems and other operations. Remove spilled material and dust from paved portions of the facility by shoveling and sweeping on a regular basis. Utilize catch basins to collect potentially contaminated storm water. Implement spill plans to prevent contact of runoff with spills of significant materials. Clean material handling equipment and vehicles to remove accumulated dust and residue. Use a detention pond or sedimentation basin to reduce suspended solids. Use an oil/water separator to reduce the discharge of oil/grease.

4. Storm Water Pollution Prevention Plan Requirements

EPA believes that pollution prevention is the most effective approach for controlling contaminated storm water discharges from asphalt facilities and lubricant manufacturers. Pollution prevention plans allow the operator of a facility to select BMPs based on site-specific considerations such as: facility size, climate, geographic location, hydrogeology, the environmental setting of each facility, and volume and type of discharge generated. This flexibility is necessary because each facility will be unique in that the source, type and volume of contaminated surface water discharges will differ from site to site.

All facilities subject to this section must prepare and implement a storm water pollution prevention plan. The establishment of a pollution prevention plan requirement reflects EPA's decision to allow operators of asphalt facilities and lubricant manufacturers to utilize BMPs as the BAT/BCT level of control for the storm water discharges covered by this section. The requirements included in pollution prevention plans provide a flexible framework for the development and implementation of site specific controls to minimize pollutants in storm water discharges. This is consistent with the approach in EPA's storm water baseline general permits finalized on September 9, 1992 (57 FR 41236).

There are two major objectives to a pollution prevention plan: (1) To identify sources of pollution potentially affecting the quality of storm water discharges associated with industrial activity from a facility; and (2) to describe and ensure implementation of practices to minimize and control pollutants in storm water discharges associated with industrial activity from a facility. Specific requirements for a pollution prevention plan for asphalt facilities and lubricant manufacturers are described below. These requirements must be implemented in addition to the baseline pollution prevention plan provisions discussed previously.

a. Description of Potential Pollution Sources. There are no additional requirements beyond those described in Part VI.C.2. of this fact sheet.

b. Measures and Controls. There are no additional requirements beyond those described in Part VI.C.3. of this fact sheet.

c. Comprehensive Site Compliance Evaluation. The storm water pollution prevention plan must describe the scope and content of comprehensive site evaluations that qualified personnel will conduct to: (1) Confirm the accuracy of the description of potential pollution sources contained in the plan; (2) determine the effectiveness of the plan, and (3) assess compliance with the terms and conditions of today's permit.

Comprehensive site compliance evaluations shall be conducted at least once a year for asphalt facilities and lubricant manufacturers. The individual or individuals who will conduct the evaluations must be identified in the plan and should be members of the pollution prevention team. Inspection reports must be retained for at least 3 years after the date of the evaluation.

Comprehensive site compliance evaluations shall be conducted at least once a year at portable plant locations. Such evaluations shall be conducted at least once at portable plant locations that are not in operation a full year.

Based on the results of each evaluation, the description of potential pollution sources, and measures and controls, the plan must be revised as appropriate within 2 weeks after each evaluation. Changes in the measures and controls must be implemented on the site in a timely manner, but no later than 12 weeks after completion of the evaluation.

For portable plants, the plan must be revised as appropriate as soon as possible, but no later than 2 weeks after each evaluation. Two weeks is adequate time for portable plants to modify their plans due to the simpler and smaller nature of these operations in comparison to permanent facilities.

5. Numeric Effluent Limitations

In addition to the numeric effluent limitations established under Part V.B, part XI.D.4 of today's permit includes numeric effluent limitations for storm water discharges resulting from the production of asphalt paving and roofing emulsions. Discharges from areas where production of asphalt paving and roofing emulsions occurs may not exceed a TSS concentration of 23.0 mg/L of runoff for any one day, nor shall the average of daily values for 30 consecutive days exceed a TSS concentration of 15.0 mg/L of runoff. Oil and grease concentrations in storm water discharges from these areas may not exceed 15.0 mg/L of runoff for any 1 day, nor should the average daily values for 30 consecutive days exceed an oil and grease concentration of 10.0 mg/L of runoff. The pH of these discharges must be within the range of 6.0 to 9.0. Facilities with such discharges must be in compliance with these effluent limitations upon commencement of coverage and for the entire term of the permit. These effluent limitations are in accordance with 40 CFR 443.12 and 40 CFR 443.13, Effluent Guidelines and Standards, Paving and Roofing Materials Point Source Category, Asphalt Emulsion Subcategory. These limitations represent the degree of effluent reduction attainable by the application of best practicable control technology and best available technology.

6. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. Under the revised methodology for determining pollutants of concern for the various industrial sectors, only asphalt paving and roofing materials manufacturers are required to perform analytical monitoring of storm water discharges. As discussed previously, the median composite sample concentration for TSS of 145 mg/L is higher than the benchmark value for TSS of 100 mg/L for the asphalt paving and roofing materials subsector, thus triggering monitoring for TSS. The monitoring requirements are presented in Table D–5 for asphalt paving and roofing materials manufacturers.

At a minimum, storm water discharges from asphalt paving and roofing materials manufacturers must be monitored quarterly during the second year of permit coverage. Samples must be collected at least once in each of the following periods: January through March; April through June; July through September; and October through December. At the end of the second year of permit coverage, a facility must calculate the average concentration for each parameter listed in Table D–5. If the permittee collects more than four samples in this period, then they must calculate an average concentration for each pollutant of concern for all samples analyzed.

TABLE D–5.—ASPHALT PAVING AND ROOFING MATERIALS MANUFACTURERS MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Total Suspended Solids	100 mg/L.

If the average concentration for a parameter is less than or equal to the cut-off concentration, then the permittee is not required to conduct quantitative analysis for that parameter during the fourth year of the permit. If, however, the average concentration for a parameter is greater than the cut-off concentration, then the permittee is required to conduct quarterly monitoring for that parameter during the fourth year of permit coverage. Monitoring is not required during the first, third, and fifth year of the permit. The exclusion from monitoring in the fourth year of the permit is conditional on the facility maintaining industrial operations and BMPs that will ensure a quality of storm water discharges consistent with the average concentrations recorded during the second year of the permit. The schedule for monitoring is presented in Table D–6.

TABLE D–6.—SCHEDULE OF MONITORING

2nd Year of Permit Coverage	• Conduct quarterly monitoring. • Calculate the average concentration for all parameters analyzed during this period. • If average concentration is greater than the value listed in Table B–7, then quarterly sampling is required during the fourth year of the permit. • If average concentration is less than or equal to the value listed in Table B–7, then no further sampling is required for that parameter.
4th Year of Permit Coverage	• Conduct quarterly monitoring for any parameter where the average concentration in year 2 of the permit is greater than the value listed in Table B–7. • If industrial activities or the pollution prevention plan have been altered such that storm water discharges may be adversely affected, quarterly monitoring is required for all parameters of concern.

In cases where the average concentration of a parameter exceeds the cut-off concentration, EPA expects permittees to place special emphasis on methods for reducing the presence of those parameters in storm water discharges. Quarterly monitoring in the fourth year of the permit will be used to reassess the effectiveness of the adjusted pollution prevention plan.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly chemical sampling.

(1) Sample Type. All discharge data shall be reported for grab samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable.

If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

(2) Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluent. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(3) Alternative Certification. Throughout today's permit, EPA has included monitoring requirements for facilities which the Agency believes have the potential for contributing significant levels of pollutants to storm water discharges. The alternative certification described below is necessary to ensure that monitoring requirements are only imposed on those facilities that do, in fact, have storm water discharges containing pollutants at concentrations of concern. EPA has

determined that if materials and activities are not exposed to storm water at the site, then the potential for pollutants to contaminate storm water discharges does not warrant monitoring.

Therefore, a discharger is not subject to the monitoring requirements of this Part provided the discharger makes a certification for a given outfall or on a pollutant-by-pollutant basis in lieu of monitoring described under paragraph *b.* below, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, significant materials from past industrial activity, and that are located in areas of the facility that are within the drainage area of the outfall are not presently exposed to storm water and will not be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan and submitted to EPA in lieu of monitoring reports required under paragraph *b.* (below). If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent guidelines. EPA does not expect facilities to be able to exercise this certification for indicator parameters, such as TSS and BOD.

b. Reporting Requirements. Permittees are required to submit all monitoring results obtained during the second and fourth year of permit coverage within 3 months of the conclusion of each year. For each outfall, one Discharge Monitoring Report Form must be submitted per storm event sampled. For facilities conducting monitoring beyond the minimum requirements an additional Discharge Monitoring Report Form must be filed for each analysis. The permittee must include a measurement or estimate of the total precipitation, volume of runoff, and peak flow rate of runoff for each storm event sampled.

EPA also believes that between quarterly visual examinations and site compliance evaluations potential sources of contaminants can be recognized, addressed, and then controlled with BMPs. In determining the monitoring requirements, EPA considered the nature of the industrial activities and significant materials exposed at these sites, and performed a review of data provided in Part 2 group applications.

c. Quarterly Visual Examination. Quarterly visual examinations of a storm water discharge from each outfall are required at asphalt facilities and lubricant manufacturers. The examination must be of a grab sample collected from each storm water outfall. The examination of storm water grab samples shall include any observations of color, odor, turbidity, floating solids, foam, oil sheen, or other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on these samples.

The examination must be made at least once in each designated period during daylight hours unless there is insufficient rainfall or snow-melt to runoff. Where practicable, the same individual should carry out the collection and examination of discharges throughout the life of the permit to ensure the greatest degree of consistency possible. Examinations shall be conducted in each of the following periods for the purposes of inspecting storm water quality associated with storm water runoff and snow melt: January through March; April through June; July through September; October through December. Grab samples shall be collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 60 minutes) of when the runoff begins discharging. Reports of the visual examination include: the examination date and time, examination personnel, visual quality of the storm water discharge, and probable sources of any observed storm water contamination. The visual examination reports must be maintained onsite with the pollution prevention plan.

EPA believes that this quick and simple assessment will help the permittee to determine the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual inspection will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examinations. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and the effects of the management practices that are included in the plan.

When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

d. Compliance Monitoring Requirements. Today's permit requires permittees with storm water discharges associated with the production of asphalt paving or roofing emulsions to monitor for the presence of total suspended solids, oil and grease, and for pH at least annually. These monitoring requirements are necessary to evaluate compliance with the numeric effluent limitation imposed on these discharges. Monitoring shall be performed upon a minimum of one grab sample. All samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. Monitoring results shall be submitted on Discharge Monitoring Report Form(s) postmarked no later than the last day of the month following collection of the sample. For each outfall, one Discharge Monitoring Report form must be submitted per storm event sampled. Facilities which discharge through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must also submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system. Alternative Certification provisions described in Section XI.D.5 do not apply to facilities subject to compliance monitoring requirements in this section. Compliance monitoring is required at least annually for discharges subject to effluent limitations. Therefore, EPA cannot permit a facility to waive compliance monitoring.

Asphalt emulsion manufacturing facilities are not required to collect and analyze separate samples for the presence of TSS to satisfy the Compliance Monitoring requirements of Section XI.D.5.d. during a year in which the facilities have collected and analyzed samples for TSS in accordance with the Analytical Monitoring requirements of Section XI.D.5.a. The results of all TSS Analytical Monitoring analyses may also be reported as Compliance Monitoring results in accordance with Section XI.D.5.d.(3) where the monitoring methodologies are consistent.

E. Storm Water Discharges Associated With Industrial Activity From Glass, Clay, Cement, Concrete, and Gypsum Product Manufacturing Facilities

1. Discharges Covered Under This Section

On November 16, 1990 (55 FR 47990), EPA promulgated the regulatory definition of ''storm water discharges associated with industrial activity.'' This definition included point source discharges of storm water from eleven categories of facilities. Category (ii) identifies facilities classified as Standard Industrial Classification (SIC) code 32 as having storm water discharges associated with an industrial activity.

The following section describes the industrial activities and permit conditions for storm water discharges associated with industrial activity classified under Major SIC Group 32. The discussion focuses on the industries covered by today's permit. There are industries in Major SIC Group 32 beyond those discussed below; however, representatives of these industries did not choose to participate in the group application process on which this section is based. Therefore, they are not eligible for coverage under this permit.

This section only covers storm water discharges associated with industrial activities from facilities engaged in gypsum, cement, clay, glass, and concrete products manufacturing.[39] Facilities subject to the requirements of this section include the following types of manufacturing operations: flat glass, (SIC code 3211); glass containers, (SIC code 3221); pressed and blown glass, not elsewhere classified, (SIC code 3229); hydraulic cement, (SIC code 3241); brick and structural clay tile, (SIC code 3251); ceramic wall and floor tile, (SIC code 3253); clay refractories, (SIC code 3255); structural clay products not elsewhere classified (SIC code 3259); vitreous table and kitchen articles (SIC code 3262); fine earthenware table and kitchen articles (SIC code 3263); porcelain electrical supplies, (SIC code 3264); pottery products, (SIC code 3269); concrete block and brick, (SIC code 3271); concrete products, except block and brick (SIC code 3272); ready-mix concrete, (SIC code 3273); gypsum products, (SIC code 3275); minerals and earths, ground or otherwise treated, (SIC code 3295); and nonclay refractories, (SIC code 3297).

Wash waters from vehicle and equipment cleaning areas are process wastewaters. This section does not cover any storm water that combines with process wastewater, unless the process wastewater is in compliance with another NPDES permit. This section does not cover any discharge subject to an existing or expired NPDES general permit. The section may cover runoff which derives from the storage of materials used in or derived from the cement manufacturing process[40] unless storm water discharges are already subject to an existing or expired NPDES permit.

Discharges from several industrial activities in Major SIC Group 32 are not covered by this section. These activities are: lime manufacturing (SIC 3274); cut stone and stone products (SIC 3281); abrasive products (SIC 3291); asbestos products (SIC 3292); and mineral wool and mineral wool insulation products (SIC 3297).

These types of facilities are not covered by this (or any other) section of today's permit, because these types of industrial activities were not represented in the group application process nor are they believed to be sufficiently similar to industrial activities that were included in the group application process. Because these facilities were not included in the group application process there is no additional information with which to develop industry-specific permit language.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

a. Industry Profile. Part XI.E. of today's permit has been developed for storm water discharges from glass, clay, cement, concrete, and gypsum products manufacturers. As stated above, these facilities are regulated under category (ii) of the definition of storm water discharges associated with industrial activity. Part XI.E. of today's permit addresses the industry-specific permit requirements for storm water discharges from these industries.

There are a variety of industrial processes that occur at manufacturing facilities covered under this section. The following descriptions summarize basic operations occurring at each type of industry.

(1) Glass Product Manufacturing. Facilities primarily engaged in the manufacturing of glass and glassware, or manufacturing glass products from purchased glass are classified under standard industrial groups 321–323. Facilities covered by these SIC codes share several similar steps in the manufacturing process. Such processes include the storage of raw materials, weighing the materials, charging, melting and forming. Although the forming processes vary greatly, the steps with a potential exposure to storm water are somewhat homogeneous.

The first step in the glass manufacturing process is batch preparation. This involves the selection and storage of the raw materials that will be used in the process. Such materials may include silica sand, limestones, feldspars, borates, soda ash, boric acid, potash and barium carbonate. Once the desired characteristics of the final product are

[39] Please note that storm water discharges associated with industrial activity from facilities identified as SIC code 323 (glass products made of purchased glass) only occur where material handling equipment or activities, raw materials intermediate products, final products, waste materials, by-products or industrial machinery are exposed to storm water. SIC code 323 facilities are only required to submit storm water permit applications when activities or materials are exposed to storm water.

[40] These discharges are subject to effluent limitation guidelines under 40 CFR 412.11.

assessed, the composition of the batch is determined and the raw materials are mixed together. The batch is then conveyed to the furnaces.

Furnaces are used to melt the batch to produce glass. Most of the furnaces in the glass manufacturing industry are fueled by natural gas or oil. The batch is placed in the furnace and allowed to melt. Once the glass has been melted and conditioned it is channeled to a forming machine.

Forming operations consist of up to four major steps, the first of which involves a further conditioning process to prepare the glass for primary forming. Primary forming, which may include drawing, blowing, pressing, or casting, is the second step in the forming operation. This operation is usually followed by an annealing step. Annealing is the process of subjecting the glass to heat and slow cooling in order to toughen the product. The final process in the forming operation may include one or more secondary operations. Operations such as grinding and polishing, laminating, sealing and coating of glass are common secondary operations. Materials used for secondary operations vary, examples are the resins used to laminate glass to produce safety glass products, such as car windows.

(2) Cement Manufacturing. Facilities primarily engaged in manufacturing hydraulic cement (e.g., portland, natural, masonry, and pozzolana cements) are identified as SIC code 3241. The manufacturing process is generally the same for all facilities classified as SIC 3241. The three basic steps in cement manufacturing are: (1) Proportioning, grinding, and blending raw materials; (2) heating raw materials to produce a hard, stony substance known as ''clinker''; and (3) combining the clinker with other materials and grinding the mixture into a fine powdery form.

The first step in cement manufacturing is proportioning, grinding and blending raw materials. The primary raw material is lime. Lime is typically obtained from limestone, cement rock, oyster shell marl, and chalk. Other ingredients in cement manufacturing may include silica, alumina, and iron. The blending and grinding of these raw materials is achieved through either ''wet'' processing or ''dry'' processing. Wet processing operations use water when grinding and blending raw materials, and dry processing operations grind and blend raw materials in a dried state. Until they are fed into kilns for clinker production, materials ground from wet processing are stored in slurry tanks, while dry processing materials are stored in silos.

Kilns typically are coal, gas, or oil fired. In the kiln raw materials are commonly heated to a temperature of 1600 degrees Celsius (2900 degrees Fahrenheit). At these extreme temperatures, clinker is formed as raw materials begin to fuse and harden. Air is then used to cool clinker emerging from the kiln.

The final stage of the process involves adding small amounts of gypsum or stone (used to control setting times) to the clinker and grinding the mixture into a fine powdery form. The powdery product is then cooled before storage, bagging, and shipping.

There are facilities classified as SIC 3241 which only perform the final grinding step in the cement manufacturing process. These facilities do not have kilns to heat raw materials, and so obtain clinker from manufacturing plants.

(3) Clay Product Manufacturing. Facilities primarily engaged in manufacturing clay products, including brick, tile (clay or ceramic), or pottery products are classified as standard industrial groups 325 and 326. Although clay product manufacturing facilities produce a wide variety of final products, there are several similar processing steps shared by most facilities in this industry: (1) Storage and preparation of raw materials; (2) forming; (3) drying; (4) firing; and (5) cooling.

Manufacturers classified as standard industrial groups 325 and 326 typically use clay (common, silt, kaolin and/or phyllite) and shale (mud, red, blue and/or common) as their primary raw materials. However, some industries supplement these materials with slag (cinders), cement and lime. Raw materials are generally stored outside.

Raw materials are crushed and ground prior to manufacturing. Stones are removed, and particles of raw materials are screened to ensure they are the correct size. Water is then added to raw materials in mixing chambers and ''mud'' is formed. The mud is molded into the desired product during the forming stage. Depending on the final product, one of several different methods will be used when forming mud into the desired shape. The most common methods use pressure or hydraulic machines to shape products.

Following the forming process, products are left to dry. Drying is necessary to reduce the moisture content prior to firing. A common method for reducing moisture content is air drying clay products in a controlled environment (e.g., a drying chamber). When the drying process is complete, the clay is ready for firing in kilns.

There are two basic types of kilns: the periodic kiln and the tunnel kiln. With a periodic kiln, products are fired for a specified period of time and then promptly removed. With a tunnel kiln, products pass through the kiln on conveyor belts, and by the time the clay reaches the end of the kiln, the firing process is complete. The primary source of energy for most firing kilns is natural gas. Natural gas is typically supplemented with coal, sawdust, or oil. Fired products may then be glazed with salt or other materials for special applications.

(4) Concrete Products. Facilities primarily engaged in manufacturing concrete products, including ready-mixed concrete, are identified as SIC group 327. Although concrete product facilities in SIC group 327 produce a variety of final products, they all have common raw materials and activities.

Concrete products manufacturers combine cement, aggregate, and water to form concrete. Aggregate generally consists of: sand, gravel, crushed stone, cinder, shale, slag, clay, slate, pumice, vermiculite, scoria, perlite, diatomite, barite, limonite, magnetite, or ilmenite. Admixtures including fly ash, calcium chloride, triethanolamine, calcium salt, lignosulfunic acid, vinosol, saponin, keratin, sulfonated hydrocarbon, fatty acid glyceride, vinyl acetate, and styrene copolymer of vinyl acetate may be added to obtain desired characteristics, such as slower or more rapid curing times.

Typically, aggregate is received in bulk quantities by rail, truck, or barge. It is stored outside, and kept moist, until it is conveyed to distribution bins. The first stage in the manufacturing process is proportioning cement, aggregate, admixtures and water, and then transporting the product to a rotary drum, or pan mixer.

To form concrete block and brick, the mixture is then fed into an automatic block molding machine that rams, presses, or vibrates the mixture into its final form. The final product is then stacked on iron framework cars where it cures for 4 hours. Decorative blocks may be produced by adding colors to the mix, or splitting the surface into desired shapes.

Precast concrete products, may contain steel structural members for increased strength. These products include transformer pads, meter boxes, pilings, utility vaults, steps, cattle guards, and balconies. After being mixed in a central mixer, concrete is poured into forms or molded in the same manner as concrete block and brick. Forms are often coated with a release oil to aid stripping. The concrete ''sets'' or cures in the forms for a number of hours (depending upon the type of admixtures used). When the concrete has cured, the forms are removed. Forms are washed for reuse, and the concrete products are stored until they can be shipped.

In addition to the permanent concrete product facilities, there are a number of portable ready mix concrete operations which operate on a temporary basis. The portable plants are typically dedicated to providing ready mix concrete to one construction project. Portable plants have the same significant materials and industrial activities as permanent facilities. Therefore, portable concrete plants are eligible for coverage under Part XI.E. of today's permit.

(5) Gypsum Products Manufacturing. Facilities primarily engaged in manufacturing plaster, wallboard, and other products composed wholly or partially of gypsum (except plaster of paris and papier-mâché) are classified as SIC code 3275.

The gypsum product manufacturing process begins with calcining the gypsum: finely ground raw gypsum (referred to as ''land plaster'') is fed into imp mills or calcining kettles where extreme heat removes 75 percent of the gypsum's molecular moisture. The result is a dry powder called stucco, which is cooled and conveyed to storage bins.

To produce wallboard, stucco is fed into pin mixers where it is blended with water and other additives to produce a slurry. The slurry is then applied to continuous sheets of paper to form wallboard. In addition to producing wallboard, some facilities may combine stucco with additives (excluding water) to produce plaster. Plaster is then bagged or bulked and shipped off site for purchase.

EPA considers calcining the first step in gypsum product manufacturing. Many facilities with a primary SIC code of 3275 may have mining/quarry and crushing activities at their sites. Please note, however, that because these activities are not considered part of the manufacturing operations, storm water discharges from mining/quarry and crushing are not covered under Part XI.E. of the today's permit. Discharges associated with gypsum mining activities are addressed under Part XI.J. of today's permit and VIII.J. of the fact sheet.

2. Pollutants in Storm Water Discharges Associated With Glass, Clay, Cement, Concrete, and Gypsum Product Manufacturing

Impacts caused by storm water discharges from gypsum, concrete, clay, glass, and concrete manufacturing operations will vary. Several factors influence to what extent industrial activities and significant materials from these types of facilities and processing operations can affect water quality. Such factors include: geographic location; hydrogeology; the type of industrial activity occurring outside (e.g., material storage, loading and unloading, or vehicle maintenance); the type of material stored outside (e.g., aggregate, limestone, clay, concrete, etc.); the size of the operation; and type, duration, and intensity of precipitation events. These and other factors will interact to influence the quantity and quality of storm water runoff. For example, air emissions (i.e., settled dust) may be a significant source of pollutants at some facilities, while material storage is a primary source at others. In addition, sources of pollutants other than storm water, such as illicit connections,[41] spills, and other improperly dumped materials, may increase the pollutant loadings discharged into waters of the United States.

Table E–1, Potential Sources of Pollutants in Storm Water Discharges Associated with Glass, Clay, Cement, Concrete, and Gypsum Manufacturing, summarizes the industrial activities indicated in the part 1 group applications for facilities covered under this section of today's permit. Table E–1 also lists the likely sources of contamination of storm water that are associated with this activity. The third column of the table lists the pollutants or the indicator parameters for the pollutants which may be present in the storm water discharges associated with the industrial activity. The table is limited to the industrial activities which are commonly exposed to storm water. Industrial activities which predominantly occur indoors, such as glass forming, are not listed in Table E–1.

TABLE E–1.—POTENTIAL SOURCES OF POLLUTANTS IN STORM WATER DISCHARGES ASSOCIATED WITH GLASS, CLAY, CEMENT, CONCRETE, AND GYPSUM MANUFACTURING

Activity	Pollutant source	Pollutants/indicators
Material Storage at Glass Manufacturing Facilities.	Exposed or spilled: sand, soda ash, limestone, cullet, and petroleum products.	TSS, COD, oil and grease, pH, lead.
Materials Storage at Clay Products Manufacturing Facilities.	Exposed: ceramic parts, pryophyllite ore, shale, ball clay, fire clay, kaolin, tile, silica, graphite, coke, coal, brick, sawdust, waste oil, and used solvents.	TSS, pH, COD, oil and grease, aluminum, lead, zinc.
Material Handling at Clay Products Manufacturing Facilities Including: Loading/Unloading.	Exposed: ceramic parts, liquid chemicals, ammonia, waste oil, used solvents, pryophyllite ore, shale, ball clay, fire clay, kaolin, tile, alumina, silica, graphite, coke, coal, olivine, magnesite magnesium carbonate, brick, sawdust, and wooden pallets.	TSS, pH, oil and grease, TKN, COD, BOD, aluminum, lead, zinc.
Forming/Drying Clay Products	Clay, shale, slag, cement, and lime	TSS, pH.
Material Storage at Cement Manufacturing Facilities.	Exposed: kiln dust, limestone, shale, coal, clinker, gypsum, clay, slag, and sand.	TSS, pH, COD, potassium, sulfate.
Material Handling at Cement Manufacturing Facilities.	Exposed: kiln dust, limestone, shale, coal, clinker, gypsum, clay, slag, anhydrite, and sand.	TSS, pH, COD, potassium, sulfate, oil and grease.
Crushing/Grinding at Cement Manufacturing Facilities.	Settled dust and ground limestone, cement, oyster shell, chalk, and clinker.	TSS, pH.
Material Storage at Concrete Product Manufacturing Facilities.	Exposed: aggregate (sand and gravel), concrete, shale, clay, limestone, slate, slag, and pumice.	TSS, COD, pH.

[41] Illicit connections are contributions of unpermitted non-storm water discharges to storm sewers from any of a number of sources including sanitary sewers, industrial facilities, commercial establishments, or residential dwellings.

TABLE E–1.—POTENTIAL SOURCES OF POLLUTANTS IN STORM WATER DISCHARGES ASSOCIATED WITH GLASS, CLAY, CEMENT, CONCRETE, AND GYPSUM MANUFACTURING—Continued

Activity	Pollutant source	Pollutants/indicators
Material Handling at Concrete Product Manufacturing Facilities.	Exposed: aggregate, concrete, shale, clay, slate, slag, pumice, and limestone as well as spills or leaks of cement, fly ash, admixtures and baghouse settled dust.	TSS, COD, pH, lead, iron, zinc.
Mixing Concrete	Spilled: aggregate, cement, and admixture	TSS, pH, COD, lead, iron zinc.
Casting/Forming Concrete Products	Concrete, aggregate, form release agents, reinforcing steel, latex sealants, and bitumastic coatings.	TSS, pH, oil and grease, COD, BOD.
Vehicle and Equipment Washing at Concrete Product Manufacturing Facilities.	Residual: aggregate, concrete, admixture, oil and grease	TSS, pH, COD, oil and grease.
Crushing/Grinding of Gypsum Rock	Exposed or spilled: gypsum rock and dust	TSS, pH.
Material Storage at Gypsum Manufacturing Facilities.	Exposed: gypsum rock, synthetic gypsum, recycled gypsum and wallboard, stucco, perlite ore/expanded perlite, and coal.	TSS, COD, pH.
Material Handling at Gypsum Manufacturing Facilities (including bagging and packaging).	Exposed or spilled: gypsum rock, synthetic gypsum, recycled gypsum and wallboard, stucco, perlite ore/expanded perlite, and coal.	TSS, pH, COD.
Equipment/Vehicle Maintenance	Gasoline, diesel, fuel, and fuel oil	Oil and grease, BOD, COD.
	Parts cleaning	COD, BOD, oil and grease, pH.
	Waste disposal of solvents, oily rags, oil and gas filters, batteries, coolants, and degreasers.	Oil and grease, lead, iron, zinc, aluminum, COD, pH.
	Fluid replacement including lubricating fluids, hydraulic fluid, oil, transmission fluid, radiator fluids, solvents, and grease.	Oil and grease, arsenic, lead, cadmium, chromium, COD, and benzene.

The activities common to the facilities covered under Part XI.E. of today's permit are material storage and material handling operations. All facilities covered under this section handle and store nonmetallic minerals. These minerals are typically loaded and unloaded in areas of the site that are exposed to storm water. The minerals are often stored outdoors until they are utilized in the industrial processes. Handling and storing these minerals outdoors may result in the discharge of a portion of the materials in storm water runoff. The presence of the nonmetallic minerals in the storm water is measured by the total suspended solids (TSS) test. Many of the minerals processed by the facilities are calcareous, such as limestone or chalk. The presence of these materials can elevate the pH of the storm water discharged from the site.

Vehicle fueling, repair, maintenance and cleaning occurs at many facilities covered under this section. Facilities will fuel, repair and maintain vehicles used to transport significant materials to, from or around the facility. Facilities may also perform maintenance on process or material handling equipment such as mixers or conveyors. The fueling, maintenance and repair activities may result in leaks or spills of oil from the vehicles and equipment. The spilled material may be carried off of the site in the storm water discharge.

Ready mix concrete facilities will frequently wash out the mixers of the trucks after concrete has been delivered to a job site. The wash out water contains unhardened concrete. Facilities will often wash down the exterior of their vehicles. The wash off water may contain cement, sand, gravel, clay, or other materials. The wash water from the vehicles should be either treated and discharged from the site through a sanitary sewer or NPDES permitted discharge or collected in a recycle pond where the heavy solids settle out and the water is recycled back to be used in the plant. Pollutants from the wash water may settle out on the site before it is treated or recycled. These pollutants may come into contact with storm water and be discharged from the site.

Based on the wide variety of industrial activities and significant materials at the facilities included in this sector, EPA believes it is appropriate to divide the glass, clay, cement concrete and gypsum product industry into subsectors to properly analyze sampling data and determine monitoring requirements. As a result, this sector has been divided into the following subsectors: manufacturers of flat glass, glass and glassware, pressed or blown glass products made of purchased glass; hydraulic cement manufacturers; manufacturers of clay products, pottery and related products (including nonclay refractories); and concrete, gypsum and plaster product manufacturers (including ground minerals and earth). Tables E–2, E–3, E–4 and E–5 below include data for the eight pollutants that all facilities were required to monitor for under Form 2F. The tables also list those parameters that EPA has determined merit further monitoring.

TABLE E–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY FLAT GLASS, GLASS AND GLASSWARE, PRESSED OR BLOWN GLASS PRODUCTS MADE OF PURCHASED GLASS MANUFACTURING FACILITIES SUBMITTING PART II SAMPLING DATA[i] (MG/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	9	9	17	17	9.4	7.76	0.0	0.0	45.0	16.0	5.0	7.0	27.8	17.56	49.5	25.01
COD	9	9	17	17	84.6	95.81	14.0	7.0	317.0	512.0	56.0	51.0	245.3	307.6	440.7	605.3
Nitrate + Nitrite Nitrogen	9	9	17	17	0.99	0.87	0.00	0.0	7.21	4.79	0.56	0.55	2.76	3.01	5.23	6.20
Total Kjeldahl Nitrogen	9	9	17	17	2.01	1.73	0.67	0.0	4.92	4.47	1.50	1.80	4.42	4.44	6.58	6.82
Oil & Grease	9	N/A	16	N/A	2.7	N/A	0.0	N/A	29.0	N/A	0.0	N/A	15.4	N/A	49.5	N/A
pH	9	N/A	18	N/A	N/A	N/A	4.6	N/A	9.8	N/A	7.9	N/A	10.5	N/A	11.8	N/A
Total Phosphorus	9	9	17	17	0.39	0.31	0.10	0.0	1.50	0.83	0.33	0.23	0.91	0.71	1.43	1.06

TABLE E–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY FLAT GLASS, GLASS AND GLASSWARE, PRESSED OR BLOWN GLASS PRODUCTS MADE OF PURCHASED GLASS MANUFACTURING FACILITIES SUBMITTING PART II SAMPLING DATA[i] (MG/L)—Continued

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
Total Suspended Solids	9	9	17	17	60	110.6	6	0.0	230	800	40	19.0	215	450	453	1314

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE E–3.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY HYDRAULIC CEMENT MANUFACTURING FACILITIES SUBMITTING PART II SAMPLING DATA[i] (MG/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	4	4	7	7	7.8	5.3	0.0	0.0	40.2	27.0	0.0	0.0	42.5	27.99	95.2	60.6
COD	4	4	7	7	277.3	55.2	0.0	15.0	1411.0	136.0	38.8	40.0	1350.7	173.0	4198.2	323.1
Nitrate + Nitrite Nitrogen	4	4	7	7	0.78	3.40	0.23	0.10	1.77	17.5	0.66	0.67	1.82	15.44	2.75	49.7
Total Kjeldahl Nitrogen	4	4	7	7	1.85	1.16	0.00	0.0	7.15	2.81	0.56	1.03	12.77	5.20	41.07	11.15
Oil & Grease	4	N/A	7	N/A	1.5	N/A	0.0	N/A	5.0	N/A	0.0	N/A	9.6	N/A	22.8	N/A
pH	4	N/A	6	N/A	N/A	N/A	7.2	N/A	11.2	N/A	8.1	N/A	12.3	N/A	14.2	N/A
Total Phosphorus	4	4	7	7	1.00	0.18	0.00	0.01	3.88	0.53	0.16	0.05	18.43	1.14	143.86	3.72
Total Suspended Solids	4	4	7	7	2528	300.6	10	6.0	17085	1368	82	57	7499	1709	40323	6791

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE E–4.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY STRUCTURAL CLAY PRODUCTS, POTTERY, AND RELATED PRODUCTS MANUFACTURING FACILITIES SUBMITTING PART II SAMPLING DATA[i] (MG/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	18	18	23	22	10.4	10.7	0.0	0.0	47.0	42.0	9.3	9.1	30.2	32.3	50.2	54.32
COD	18	18	23	22	91.1	77.9	0.0	0.0	620.0	420.0	39.0	37.5	324.3	273.7	703.1	592.4
Nitrate + Nitrite Nitrogen	16	16	21	20	0.76	0.76	0.00	0.00	1.80	2.30	0.40	0.56	2.53	2.20	4.65	3.75
Total Kjeldahl Nitrogen	18	18	23	22	1.93	1.40	0.00	0.00	13.00	6.70	1.10	0.82	6.02	4.94	10.59	9.06
Oil & Grease	18	N/A	23	N/A	1.46	N/A	0.00	N/A	9.0	N/A	0.0	N/A	7.9	N/A	17.6	N/A
pH	18	N/A	23	N/A	N/A	N/A	5.0	N/A	9.0	N/A	7.0	N/A	9.2	N/A	10.1	N/A
Total Phosphorus	16	16	21	20	0.31	0.28	0.00	0.0	1.70	1.42	0.12	0.14	1.22	1.14	2.75	2.43
Total Suspended Solids	18	18	23	22	177	203	4	0.0	1300	1440	73	50	747	1065	2055	3745
Aluminum	8	8	8	8	3.96	6.48	0.3	0	14	42	2.7	1.1	16.51	24.18	37.73	74.09

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE E–5.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY CONCRETE, GYPSUM AND PLASTER PRODUCTS MANUFACTURING FACILITIES SUBMITTING PART II SAMPLING DATA[i] (MG/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	155	153	211	207	14.0	5.84	0.0	0.0	1300.0	74.0	4.0	3.4	33.5	19.4	71.0	35.9
COD	156	154	213	208	81.6	62.4	0.0	0.0	700.0	510.0	51.0	43.5	251.6	190.8	472.7	350.6
Nitrate + Nitrite Nitrogen	147	145	203	198	1.27	0.85	0.00	0.0	48.00	22.20	0.57	0.52	4.16	2.91	9.45	6.05
Total Kjeldahl Nitrogen	147	144	204	198	2.45	1.39	0.00	0.0	101.00	17.30	1.20	1.00	6.21	3.91	12.08	6.87
Oil & Grease	157	N/A	214	N/A	4.6	N/A	0.0	N/A	130.0	N/A	1.4	N/A	15.5	N/A	34.5	N/A
pH	146	N/A	199	N/A	N/A	N/A	2.0	N/A	12.3	N/A	8.9	N/A	12.1	N/A	13.8	N/A
Total Phosphorus	156	153	213	207	1.00	0.74	0.00	0.00	18.00	10.70	0.30	0.25	3.54	2.60	9.61	6.51
Total Suspended Solids	154	154	211	208	1322	374.5	0	0.0	61000	3340	250	170	3872	1724	12482	4636
Iron	8	8	8	8	10.4	7.1	0.2	1	29	14	5.4	6.5	72.2	23.1	224.3	41.9

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

3. Options for Controlling Pollutants

There are a number of options for eliminating or minimizing the presence of pollutants in storm water discharges from glass, clay, cement or concrete product manufacturing facilities. In evaluating the options for controlling pollutants in the storm water discharges associated with the industrial activities covered under this section, EPA must comply with the requirements of Section 402(p)(3) of the Clean Water Act which require the compliance with the Best Available Technology (BAT) and Best Conventional Technology (BCT).

EPA believes that it is infeasible to develop effluent limitations for storm water discharges associated with glass, clay, cement, or concrete manufacturing beyond those already established in the Effluent Limitation Guidelines. There are significant variations from site to site on the industrial activity and significant materials exposed to storm water. The data collected to date is inadequate to characterize these variations. Therefore, EPA believes that the requirement for a facility operator to develop a pollution prevention plan which considers the specific conditions at his or her site satisfies the BAT/BCT requirements. The pollution prevention plan will call for the implementation of best management practices that minimize contact between the storm water and pollutant sources or which remove pollutants from the storm water before it is discharged from the site. Table E–6 lists the pollution prevention measures or best management practices which are most applicable to facilities classified in major SIC Group 32. The table is organized by the specific industrial activities which may introduce pollutants to storm water. The right column lists corresponding BMPs which may be considered.

TABLE E–6.—MEASURES TO CONTROL POLLUTANTS IN STORM WATER DISCHARGES FROM GLASS, CLAY, CEMENT, CONCRETE, AND GYPSUM FACILITIES [i]

Activity	Associated BMPs
Storing dry bulk materials including: sand, gravel, clay, cement, fly ash, kiln dust, and gypsum.	Store materials in an enclosed silo or building.
	Cover material storage piles with a tarp or awning.
	Divert runon around storage areas using curbs, dikes, diversion swales or positive drainage away from the storage piles.
	Install sediment basins, silt fence, vegetated filter strips, or other sediment removal measures downstream/downslope.
	Only store washed sand and gravel outdoors.
Handling bulk materials including: sand, gravel, clay, cement, fly ash, kiln dust, and gypsum.	Use dust collection systems (e.g., bag houses) to collect airborne particles generated as a result of handling operations.
	Remove spilled material and settled dust from paved portions of the facility by shoveling and sweeping on a regular basis.
	Periodically clean material handling equipment and vehicles to remove accumulated dust and residue.
	Install sediment basins, silt fence, vegetated filter strips, or other sediment removal measures downstream/downslope.
Mixing operations	Use dust collection systems (e.g., bag houses) to collect airborne particles generated as a result of mixing operations.
	Remove spilled material and settled dust from the mixing area by shoveling and sweeping on a regular basis.
	Clean exposed mixing equipment after mixing operations are complete.
	Install sediment basins, silt fence, vegetated filter strips, or other sediment removal measures downstream/downslope.
Vehicle and equipment washing	Designate vehicle and equipment wash areas that drain to recycle ponds or process wastewater treatment systems.
	Train employees on proper procedure for washing vehicles and equipment including a discussion of the appropriate location for vehicle washing.
	Conduct vehicle washing operation indoors or in a covered area.
	Clean wash water residue from portions of the site that drain to storm water discharges.
Dust Collection	Maintain dust collection system and baghouse. Properly remove and recycle or dispose of collected dust to minimize exposure of collected dust to.
Pouring and curing pre-cast concrete products	Pour and cure precast products in a covered area.
	Clean forms before storing outdoors.

[i] From ''Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices,'' (EPA 832–R–92–006) EPA, 1992, and proposed pollution prevention plans submitted by group applicants.

In addition to the activity-specific best management practices listed in Table E–6 above, there are structural practices that may be effective in reducing the pollutants found in the storm water discharges from facilities in Major SIC Group 32. This section does not specifically require that these structural measures be installed; however, the permittee must consider measures such as these at the facility. The structural measures include: vegetative filter strips, grassed swales, detention ponds, retention ponds or recycle ponds. These structural measures remove pollutants from the storm water which is carrying them off site. The measures listed above are effective in removing the heavy suspended solids which are common in the storm water discharges from clay, cement, concrete, and gypsum facilities.

Vegetated filter strips are gently sloped areas covered with either natural or planted vegetation. Vegetated filter strips remove pollutants from storm water by a filtering action. Vegetated filter strips can be located along the down slope perimeter of the industrial activity but not in areas of concentrated flow. Grassed swales are similar to vegetated filter strips. Within Major SIC Group 32, four percent of the designated sampling facilities indicated in their part 1 group applications that they had vegetated filter strips at their facilities. Grassed swales also remove pollutants from storm water flows by a filtering action. A grassed swale consists of a broad, grass lined ditch or swale with gradual slopes or check dams to reduce the velocity of flow. Unlike vegetated filter strips, grassed swales can remove pollutants from concentrated storm water runoff. Over 13 percent of the designated samplers in Major SIC Group 32 indicated that there were grass lined swales at their facility.

Retention ponds and detention ponds are storm water management measures used to control the quantity and quality of storm water discharged from a site. A detention pond is a pond which temporarily detains the storm water discharged from an area. While detained in the pond, the heavy suspended particles in the storm water settle to the bottom of the pond. The result is a discharge from the detention pond with a TSS concentration which is lower than the influent concentration to the pond. Retention ponds retain the storm water within the pond with no discharge except for when extreme rainfall events occur. The water collected in the retention pond either evaporates, infiltrates, or is used as process water on site. Twenty seven percent of the designated samplers in Major SIC Group 32 indicated that there was a pond on their site which was used as a storm water management measure.

4. Special Conditions

a. Prohibition of Non-storm Water Discharges. The prohibited non-storm water discharges under this section are the same as those described under section V1.B.2 of this fact sheet with one exception. Part XI.E.2. of today's permit clarifies that the discharges of pavement washwaters from facilities covered under Part XI.E. of the permit are authorized under this section after the accumulated fly ash, cement, aggregate, kiln dust, clay, concrete or other dry significant materials handled at the facility have been removed from the pavement by sweeping, vacuuming, combination thereof or other equivalent measures, or the washwaters are conveyed into a BMP designed to remove solids prior to discharge, such as sediments basins, retention basins, and other equivalent measures. Where practicable pavement washwater shall be directed to process wastewater treatment or recycling systems. The clarification is made for this sector because EPA believes that a primary source of pollutants in the storm water discharges from facilities covered under this sector are spilled materials or settled dust from material handling processes. A primary focus of the pollution prevention plan requirements for these industries are good housekeeping measures, in particular, sweeping the paved portions of the site surrounding the material handling areas. Washing the paved areas without first sweeping or otherwise removing the accumulated solids may result in the discharge of these pollutants in the washwater unless the washwater is contained onsite or otherwise collected without discharge.

5. Storm Water Pollution Prevention Plan Requirements

a. Contents of the Plan.

(1) Description of Potential Pollutant Sources. All facilities covered by today's permit must prepare a description of the potential pollutant sources at the facility which complies with the common requirements described in Part VI.C.2. of this fact sheet. In addition to these requirements, facilities covered by this section must provide the following additional information in their pollution prevention plan.

Facilities covered under Part XI.E. of today's permit must identify on the site map the location of any: bag house or other air pollution control device; any sedimentation or process waste water recycling pond and the areas which drain to the pond. The location of the bag house or air pollution control equipment is required because this equipment stores the particulates or dust that are removed from the air in and around the material handling equipment. There is a potential that the collected dust or particulates could come into contact with storm water. Therefore the site map must indicate the location of this potential source. The site map for the facility must clearly indicate the portion of the facility which drains to sedimentation or recycle ponds that receive process wastewater. This information is necessary to illustrate the portion of the site where runoff is already controlled. The site map must also indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls (e.g. storm water and air conditioner condensate). In order to increase the readability of the map, the inventory of the types of discharges contained in each outfall may be kept as an attachment to the site map. The site map for these facilities must also indicate the portion of the site where regular sweeping or other equivalent good housekeeping measures will be implemented to prevent the accumulation of spilled materials or settled dust.

(2) Measures and Controls. Part VI.C.3. of today's fact sheet describes a number of measures and controls which are effective in controlling the discharge of pollutants in storm water discharged from a number of types of industrial activities including those facilities in Major SIC Group 32. The following section describes BMPs which EPA believes are particularly effective in controlling the pollutants discharged from glass, clay, cement, concrete or gypsum manufacturing facilities. Facilities covered under Part XI.E. are required to consider each of these BMPs or its equivalent in their pollution prevention plan.

(a) Good Housekeeping—Today's permit requires that the pollution prevention plans for facilities covered under this section must specifically address measures to minimize the discharge of spilled cement, sand, kiln dust, fly ash, settled dust or other significant materials in storm water from paved portions of the site that are exposed to storm water. Measures used to minimize the presence of these materials may include regular sweeping, or other equivalent measures. The plan shall indicate the frequency of sweeping or other measures. The frequency shall be determined based upon consideration of the amount of industrial activity occurring in the area and frequency of precipitation. This requirement is established in an effort to minimize the discharge of solids from these types of facilities. Sweeping to prevent the discharge of solids must be considered in the pollution prevention plan because it is a cost effective measure well suited to the dry, granular, and powder-like materials used at the facilities covered under this section.

This section also requires that facilities minimize the exposure of fine solids such as cement, fly ash, baghouse dust, and kiln dust to storm water. The pollution prevention plan shall consider storing these materials in enclosed silos, hoppers, or other containers, in buildings, or in covered areas of the facility. Fine solids are a particular concern because the small particles are readily suspended by storm water and carried off of the site.

(b) Preventative Maintenance—There are no additional preventative maintenance requirements beyond these described in Part VI.C.3 of this fact sheet.

(c) Spill Prevention and Response—There are no additional spill prevention and response requirements for facilities in the glass, clay, cement, concrete or gypsum products industries beyond those described in Part VI.C.3.c. of this fact sheet.

(d) Inspections—Facilities in the glass, clay, cement, concrete, and gypsum products industries are required to conduct self inspections at a frequency which they determine to be adequate to ensure proper implementation of their pollution prevention plan, but not less frequently than once per month. Monthly inspections are necessary for the facility to be able to assess the effectiveness of

the pollution prevention plan. Less frequent inspections may allow facilities to delay inspections until after periods of high activity when the greatest potential for exposure of materials occurs. This section requires that the inspections take place while the facility is in operation because this is the only time when potential pollutant sources (such as malfunctioning dust control equipment or non-storm water discharges from equipment washing operations) may be evident. The inspectors must observe several portions of the site which EPA believes are potential sources of pollutants in storm water including: material handling areas, above ground storage tanks, hoppers or silos, dust collection/containment systems, vehicle washing, and equipment cleaning areas.

(e) Employee Training—In addition to the requirements described in Part VI.C.3.e. of this fact sheet, the pollution prevention plan training requirements for facilities in the glass, clay, cement, concrete, and gypsum industries require that the employee training program address procedures for equipment and vehicle washing. This is because these are common activities in these industries which result in process wastewater which may be discharged into the storm water conveyance system. Training programs should focus on where and how equipment should be cleaned at the facility so that there will be no unpermitted discharge of wash water to the storm water conveyance system. EPA recommends that facilities conduct training annually at a minimum. However, more frequent training may be necessary at facilities with high turnover of employees or where employee participation is essential to the storm water pollution prevention plan.

(f) Recordkeeping and Internal Reporting Procedures—There are no additional recordkeeping and internal reporting procedure requirements for facilities in the stone, clay, glass or concrete products industries beyond than those described in Part VI.C.3.f. of this fact sheet.

(g) Non-storm Water Discharges—There are no additional non-storm water discharge certification requirements for facilities in the stone, clay, glass or concrete products industries beyond those described in Part VI.C.2.d. of this fact sheet with the exception of facilities engaged in production of concrete products. These facilities must include in the certification a description of measures which insure that process wastewater which results from washing of trucks, mixers, transport buckets, forms or other equipment are discharged in accordance with NPDES requirements or are recycled. These nonprocess wastewater discharges are common to this industry. However, these discharges are not eligible for coverage under this section and it is necessary to assess the facility for the presence of these discharges so that steps may be taken to eliminate the discharges or to cover the process discharges with a separate permit.

A number of facilities in the concrete products industry maintain wash water recycle/retention ponds which receive the process wastewater from equipment cleaning and other operations. These ponds may also receive a portion or all of the runoff from the industrial site. These facilities are required to provide an estimate of the depth of the 24-hour duration storm event that would be required to cause the recycle/retention pond to overflow and discharge to the waters of the United States. Methods to make this estimate can include, but are not limited to, the original design calculations for the recycle/retention pond or historical observation.

(h) Sediment and Erosion Control—There are no additional sediment and erosion control requirements for facilities in the stone, clay, glass, or concrete products industries beyond those described in Part VI.C.3.g. of this fact sheet.

(i) Management of Runoff—There are no additional requirements for management of runoff at facilities in the stone, clay, glass, or concrete products industries beyond than those described in Part VI.C.3.h. of this fact sheet.

(3) Comprehensive Site Compliance Evaluation. Facilities in the glass, clay, cement, concrete, and gypsum product sector must perform an annual site compliance evaluation as described in Part VI.C.4. of this fact sheet. For facilities in the concrete product manufacturing industries, the evaluation must specifically address the following portions of the site: above ground storage tanks, hoppers or silos; dust collection/containment systems; truck wash down; and equipment cleaning areas. Because these areas are the most likely sources of pollutants, these portions of the site must be thoroughly evaluated.

6. Numeric Effluent Limitations

Part XI.E.4. of today's permit establishes numeric effluent limitations for storm water discharges from storage areas for materials used or produced at cement manufacturing facilities. Discharges from these areas may not exceed a maximum TSS concentration of 50 mg/L. The pH of the discharges from these areas must be within the range of 6.0 to 9.0. Untreated discharges from the facility which are a result of a storm with a rainfall depth greater than the 10-year, 24-hour storm event are not subject to this limitation. These effluent limitations are in accordance with 40 CFR 411.32 and 40 CFR 411.37. Effluent Guidelines and Standards, Cement Manufacturing Point Source Category, Materials Storage Piles Runoff Subcategory. These limitations represent the degree of effluent reduction attainable by the application of best practicable control technology and best conventional pollutant control technology. Dischargers subject to these numeric effluent limitations must be in compliance with the limits upon commencement of and for the entire term of this permit. Discharges that are associated with industrial activities that do not contain runoff from material storage areas at cement manufacturing facilities are not subject to the effluent limitation described above.

7. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. EPA believes that glass, clay, cement, concrete, and gypsum product manufacturing may reduce the level of pollutants in storm water runoff from their sites through the development and proper implementation of the storm water pollution prevention plan requirements discussed in today's permit. In order to provide a tool for evaluating the effectiveness of the pollution prevention plan, requires two of the four subsectors within the glass, clay, cement, concrete and gypsum product manufacturing sector to perform analytical monitoring.

The clay product subsector includes brick and structural clay tile manufacturers (SIC 3251), ceramic wall and floor tile manufacturers (SIC 3253), clay refractories (SIC 3255), manufacturers of structural clay products, not elsewhere classified (SIC 3259), manufacturers of vitreous china table and kitchen articles (SIC 3232), manufacturers of fine earthenware table and kitchen articles (SIC 3263), manufacturers of porcelain electrical supplies (SIC 3264), pottery products (SIC 3269) and non-clay refractories (3297). Data submitted by group applicants within this subsector show that a significant portion of the facilities discharge aluminum concentrations higher than bench mark values. Therefore facilities with these industrial activities must monitor for the pollutant identified in Table E–7.

The concrete and gypsum subsector includes concrete block and brick manufacturers (SIC 3271), concrete products manufacturers (SIC 3272), ready mix concrete manufacturers (SIC 3273), gypsum product manufacturers (SIC 3275) and manufacturers of mineral and earth products (SIC 3295). Data submitted by group applicants within this subsector show that a significant portion of the facilities discharge total suspended solids and iron in concentrations higher than bench mark values. Therefore facilities with these industrial activities must monitor for pollutants identified in Table E–8.

The glass product subsector includes flat glass manufacturers (SIC 3211), glass container manufacturers (SIC 3221), pressed and blown glass and glassware manufacturer (SIC 3229), and manufacturers of glass products made of purchased glass (SIC 3231). Monitoring data submitted by facilities within this subsector do not indicate that these facilities are likely to discharge storm water with pollutant concentrations greater than the bench marks. Therefore, this sector is not subject to analytical monitoring requirements under this permit.

The cement manufacturing subsector includes manufacturers of hydraulic cement (SIC 3241). This subsector is not subject to the analytical monitoring requirements under Section XI.E.5.a this permit. However, because these facilities are subject to numerical effluent limitations they are subject to compliance monitoring described in section XI.E.5.d of the permit.

At a minimum, storm water discharges from clay and gypsum, and concrete product manufacturing must be monitored quarterly (January through March, April through June, July through September and October through December) during the second year of permit coverage. At the end of the second year of permit coverage, a facility must calculate the average concentration for each parameter listed in Tables E–7 and E–8. If the permittee collects more than four samples in this period, then they must calculate an average concentration for all parameters analyzed, not simply a minimum of four selected analysis.

TABLE E–7.—CLAY PRODUCT INDUSTRY MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Total Recoverable Aluminum	0.75 mg/L.

TABLE E–8.—CONCRETE AND GYPSUM PRODUCT INDUSTRY MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Total Suspended Solids (TSS)	100 mg/L.
Total Recoverable Iron	1.0 mg/L.

If the average concentration for a parameter is less than or equal to the value listed in Tables E–7 or E–8, then the permittee is not required to conduct quantitative analysis for that parameter during the fourth year of the permit. If, however, the average concentration for a parameter is greater than the cut-off concentration listed in Tables E–7 or E–8, then the permittee is required to conduct quarterly (in the same quarterly periods listed above) monitoring for that parameter during the fourth year of permit coverage. Monitoring is not required during the first, third, and fifth year of the permit. The exclusion from monitoring in the fourth year of the permit is conditional on the facility maintaining industrial operations and BMPs that will ensure a quality of storm water discharges consistent with the average concentrations recorded during the second year of the permit.

TABLE E–9.—SCHEDULE OF MONITORING

2nd Year of Permit Coverage	• Conduct quarterly monitoring. • Calculate the average concentration for all parameters analyzed during this period. • If average concentration is greater than the value listed in Table E–7 or E–8, then quarterly sampling is required during the fourth year of the permit. • If average concentration is less than or equal to the value listed in Table E–7 or E–8, then no further sampling is required for that parameter.
4th Year of Permit Coverage	• Conduct quarterly monitoring for any parameter where the average concentration in year 2 of the permit is greater than the value listed in Table E–7 or E–8. • If industrial activities or the pollution prevention plan have been altered such that storm water discharges may be adversely affected, quarterly monitoring is required for all parameters of concern.

In cases where the average concentration of a parameter exceeds the cut-off concentration, EPA expects permittees to place special emphasis on methods for reducing the presence of those parameters in storm water discharges. Quarterly monitoring in the fourth year of the permit will reassess the effectiveness of the adjusted pollution prevention plan.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly chemical sampling.

b. Alternative Certification. Throughout today's permit, there are monitoring requirements for facilities which the Agency believes have the potential for contributing significant levels of pollutants to storm water discharges. The alternative described below is necessary to ensure that monitoring requirements are only imposed on those facilities that do, in fact, have storm water discharges containing pollutants at concentrations of concern. EPA has determined that if materials and activities are not exposed to storm water at the site, then the potential for pollutants to contaminate storm water discharges does not warrant monitoring.

Therefore, a discharger is not subject to the monitoring requirements of this Part provided the discharger makes a certification for a given outfall, or on a pollutant-by-pollutant basis, in lieu of sampling required under Part XI E.5 of today's permit, that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, significant materials from past industrial activity that are located in areas of the facility that are within the drainage area of the outfall are not presently exposed to storm water and will not be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan and submitted to EPA in lieu of monitoring reports required under Part XI E.5.b. The permittee is required to complete any and all sampling until the exposure is eliminated. If the facility is reporting for a partial year, the permittee must specify the exposure was eliminated. If the permittee is certifying that a pollutant was present for part of the reporting period, nothing relieves the permittee from the responsibility to sample that parameter up until the exposure was eliminated and it was determined that no significant materials remained.

This certification is not to be confused with the low concentration sampling waiver. The test for the application of this certification is whether the pollutant is exposed, or can be expected to be present in the storm water discharge. If the facility does not and has not used a parameter, or if exposure is eliminated and no significant materials remain, then the facility can exercise this certification. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph (*b*) below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations. EPA does not expect facilities to be able to exercise this certification for indicator parameters, such as TSS and BOD.

c. Reporting Requirements. Permittees are required to submit all monitoring results obtained during the second and fourth year of permit coverage within 3 months of the conclusion of each year. For each outfall, one signed Discharge Monitoring Report Form must be submitted per storm event sampled. For facilities conducting monitoring beyond the minimum quarterly requirements an additional Discharge Monitoring Report Form must be filed for each analysis.

d. Sample Type. All discharge data shall be reported for grab samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable.

If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

e. Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluent. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area (e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)) shall be provided in the plan.

f. Quarterly Visual Examination of Storm Water Quality. Quarterly visual examinations of storm water discharges from each outfall are required. Note that this requirement applies to all facilities and not just those subject to the analytical monitoring requirements under Part VI.E.7. of this fact sheet. The examination must be of a grab sample collected from each storm water outfall. The examination of storm water grab samples shall include any observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, or other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on these samples.

The examination must be made at least once every 3 months (January through March, April through June, July through September, and October through December) during permit coverage. Examinations shall be made during daylight unless there is insufficient rainfall or snow-melt to produce runoff. Whenever practicable, the same individual should carry out the collection and examination of discharges throughout the life of the permit to ensure the greatest degree of consistency possible. Grab samples shall be collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 60 minutes) of when the runoff begins discharging. Reports of the visual examination include: the examination date and time, examination personnel, visual quality of the storm water discharge, and probable sources of any observed storm water contamination. The visual examination reports must be maintained onsite with the pollution prevention plan.

EPA believes that this quick and simple assessment will allow the permittee to approximate the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examination. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and the effects of the management practices that are included in the plan.

When a discharger is unable to collect samples over the course of the monitoring period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

g. Compliance Monitoring Requirements. Today's permit requires permittees with discharges of runoff from material storage at cement manufacturing facilities to monitor for the presence of TSS and pH. These monitoring requirements are necessary to evaluate compliance with the numeric effluent limitation established for these discharges. Monitoring shall be performed upon a minimum of one grab sample. All samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. Monitoring results shall be submitted on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the month following collection of the sample. Facilities which discharge through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must also submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system. Alternative Certification provisions described in Section VI.E.5 do not apply to facilities subject to compliance monitoring requirements in this section. Compliance monitoring is required at least annually for discharges subject to effluent limitations. Therefore, EPA cannot permit a facility to waive compliance monitoring.

F. Storm Water Discharges Associated With Industrial Activity From Primary Metals Facilities

1. Discharges Covered Under This Section

On November 16, 1990 (55 FR 47990), the U.S. Environmental Protection Agency (EPA) promulgated the regulatory definition of "storm water discharges associated with industrial activity." This definition included point source discharges of storm water from 11 categories of industrial facilities. This section of today's permit includes storm water discharges associated with industrial activity from primary metals facilities. These facilities are commonly identified by Standard Industrial Classification (SIC) code 33. The SIC codes eligible for coverage under this section of today's permit include the following:

a. Steel works, blast furnaces, and rolling and finishing mills, including: steel wiredrawing and steel nails and spikes; cold-rolled steel sheet, strip, and bars; and steel pipes and tubes (SIC 331).

b. Iron and steel foundries, including: gray and ductile iron, malleable iron, steel investment, and steel foundries, not elsewhere classified (SIC 332).

c. Primary smelting and refining of nonferrous metals, including: primary smelting and refining of copper and primary production of aluminum (SIC 333).

d. Secondary smelting and refining of nonferrous metals (SIC 334).

e. Rolling, drawing, and extruding of nonferrous metals, including: rolling, drawing, and extruding of copper; aluminum extruded products; rolling, drawing, and extruding of nonferrous metals, except copper and aluminum; and drawing and insulating of nonferrous wire (SIC 335).

f. Nonferrous foundries (castings), including: aluminum die-castings, nonferrous die-castings, except aluminum, aluminum foundries, copper foundries, and nonferrous foundries, except copper and aluminum (SIC 336).

g. Miscellaneous primary metal products, not elsewhere classified, including metal heat treating (SIC 339).

Group applications were received from facilities representing each of the categories of industry eligible for coverage under this section. A large number of group applications also included facilities identified by other SIC codes. These facilities may be covered in whole, or in part, by other sections of today's permit. In other cases, SIC codes may have been assigned improperly. The special conditions reflected in this section of today's permit relate to specific operations taking place at a facility. These operations should be used as the basis for determining permit requirements appropriate for that particular facility.

Although there are many activities common to some or all of the facilities covered by this section, some of the operations discussed are unique to a particular industry group. Due to the broad range of activities conducted by facilities in this category, it would be impossible to identify all activities occurring at facilities covered by this section. This fact sheet attempts to describe the major activities representative of many of the facilities addressed by this section and provides examples of concerns associated with storm water discharges from primary metals facilities. All materials present and industrial activities taking place at a facility that have a potential impact on storm water discharges must be addressed by the facility's pollution prevention plan, whether or not the material or activity is specifically addressed by this section.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Industry Profile

Facilities in the primary metals industry conduct a wide range of activities. The SIC manual lists seven industry groups (three-digit SIC codes), and 27 industry numbers (four-digit SIC codes) within the sector. Of these, facilities representing 21 four-digit SIC codes submitted group applications.

Due to the large number of alternate processes available for many activities conducted within the primary metals industry it is very difficult to characterize "typical" facilities. Facilities within the same industry can employ quite dissimilar processes to arrive at a similar product. Differences can be found in the types of raw materials, furnaces or ovens, casting processes, the degree of mechanization, and any finishing operations which may be employed by a particular facility. Considerable differences can also be seen between facilities based on their customers needs. Some facilities may operate as a job shop, providing finished parts to other companies. Other facilities could conduct more limited operations and pass the product on to other facilities that provide finishing operations exclusively.

These differences in specific processes, as well as in the general scale and scope of individual operations can make facilities with the same or similar SIC codes quite different. Due to the difficulty in subdividing the industry into distinct facility types, the following discussion briefly describes the full range of activities potentially employed by members of this industry. Despite the substantial diversity within the industry group, there are a number of general operations which characterize the majority of industrial processes.

Facilities in the primary metals industry are typically involved in one or more of the following general operations: raw material storage and handling; furnace and oven related processes; preparation of molds, casts, or dies; metal cleaning, treating and finishing; and waste handling and disposal.

a. Raw Material Storage and Handling Activities. Due to the nature of the primary metals industry, large quantities of raw materials are required for many operations. The extent to which these materials are stored outside exposed to precipitation will depend on the specific operations taking place at a facility, the size of the operation, as well as the storage space available that is covered. Some of the most common materials used are metals, fuels, fluxes, refractories, sand, and an assortment of solvents, acids, and other chemicals.

The primary raw material for all facilities in the industry is the source of metal to be used or processed. For steel works, smelters, and blast furnaces, the raw material could be metallic ores, scrap, dross, or foundry returns. Foundries may use scrap materials, borings, turnings, metal ingots, pigs or a mixture of these and other materials. Rolling mills, heat treaters, and metal finishing operations will generally use billets, slabs, blooms, bars, pigs or other cast metal pieces as their primary raw material. These may be produced at another part of the same facility, or purchased from another source. Some of these materials may arrive with protective or incidental coatings of oil, oxides, or other impurities. Due to the large size and volume of some of these materials they may be stored outside.

Energy sources for facilities within the industry are also quite varied. While steel mills with coking operations may use coal as the fuel for firing coke ovens, coal would also be the raw material that would be converted to coke. Some iron and steel foundries or mini-mills may use coke as a fuel only, or may use electric arc furnaces for melting. Smaller foundries (ferrous or nonferrous) may use gas-fired or electric induction furnaces.

A variety of fluxes are often added to the molten metal to allow impurities to be removed as slag or dross. In the iron and steel industry, limestone is probably the most common flux used. Others include dolomite, soda ash, fluorspar, and calcium carbide. Nonferrous operations may use other fluxing agents or none at all.

During the melting process, refractories are used to line and protect the furnaces. These refractories have limited lives and must be replaced periodically. The life of the refractory will depend on the type of furnace as well as the material being melted. Some large furnaces require almost constant patching of the refractory materials and thus large quantities may be stored for future use.

Another common material used in casting operations is sand. Many foundries will use sands of different types to produce the molds and cores for the production of castings. Although some facilities are able to recycle their sand, others must dispose of some or all of the used sand and thus require large amounts of fresh sand as a raw material. There are also a large number of sand additives and binders which may be used to control the properties of the mold produced. ‘‘Wet’’ sand may contain clay, seacoal, bentonite, wood flour, phenol, iron oxide, and numerous other acids and chemicals, some of which may be toxic.

Other processes related to finishing operations can require a wide variety of solvents, chemicals, and acids. Many facilities involved in cleaning, treating, painting, or other finishing operations may store these products in tanks or drums which may be exposed to precipitation.

b. Furnace, Rolling, and Finishing Operations. The majority of processes within the primary metals industry are conducted inside. These activities include all types of furnace operations, rolling operations, as well as all kinds of metal finishing activities. Many of these operations, however, generate significant quantities of particulate matter which, if not properly controlled, can result in exposure to precipitation.

There are many different types of furnaces. Each has advantages and limitations and are used for different types of metals. Facilities may use coal, coke, or gas fired furnaces as well as electric arc or induction furnaces.

Coke ovens, or batteries, generally use coal fired furnaces to heat coal in the absence of oxygen to drive off volatiles. The resultant product is coke which is subsequently used in other furnace operations. Blast furnaces are usually operated on a continuous basis with coke, iron ore, and fluxes charged at the top of a vertical shaft while molten pig iron and slag are tapped at different levels below.

Sintering plants burn coke breeze (particles too small to use for charging in cupola or blast furnaces) mixed with iron ore, flue dust, or other products to fuse them into materials that can then be charged with regular coke in a furnace. Cupola furnaces are used by ferrous foundries and operate in essentially the same manner as blast furnaces, allowing a range of scrap steel and iron to be charged with coke and fluxes at the top of the furnace.

Basic oxygen process furnaces use a mixture of molten iron and scrap as the charge. High-purity oxygen is injected into the furnace where it combines with impurities in the charge materials and provides heat to melt the charge of scrap.

There are two types of electric furnaces in use. Electric arc furnaces operate in a batch fashion and are often used by steel mini-mills. Scrap metal is placed in the furnace along with three electrodes which provide the energy to melt the charge. Electric induction furnaces are generally smaller than other types described above and require that cleaner metals be used.

Gas-fired furnaces are often used by nonferrous foundries. They are generally small and require relatively clean metals for melting.

One trait that all types of furnaces share is the generation of significant emissions, including particulate emissions. Blast furnaces, sintering plants, and cupola furnaces, all fired by coke, have particularly high particulate emissions. These furnaces are capable of handling a relatively ‘‘dirty’’ charge, with significant impurities which can lead to a variety of emissions problems. For these reasons, these types of furnaces will have emissions controls such as baghouses, wet scrubbers, or electrostatic precipitators. Electric arc furnaces are also able to melt fairly ‘‘dirty’’ scrap and can also have significant levels of particulate emissions.

At the other end of the spectrum are smaller electric induction and gas fired furnaces which generally require a very clean charge. Although this reduces the volume of emissions concerns significantly, they are also less likely to have as extensive pollution control and thus fugitive emissions of particulates may be significant.

The effectiveness of emissions control equipment in controlling particulate generation will depend on the furnace operation, the raw materials used, the type of control equipment in place, and the degree to which it is operating properly. Fugitive emissions, faulty or improperly maintained equipment, and ‘‘dirty’’ raw materials can all contribute to particulate emissions that may not be captured by pollution control equipment, and may be exposed to precipitation.

Another category of operations are rolling, drawing, and extruding operations. Facilities involved in these operations will often use furnaces similar to those described above. The metal will often be heated, and then passed through a series of rollers which alter its' dimensions, making it longer, flatter, etc. This process generally involves large amounts of contact cooling water which can contain high levels of suspended solids and oil and grease.

c. Preparation of Molds, Pouring, Cooling, and Shakeout. Foundry operations and die-casters will generally prepare the molds, casts, or dies that will determine the ultimate shape of the product to be produced. There are a number of possible operations with significant differences between them. These include sand casting, investment casing, and die casting.

Sand casting operations involve a number of possible steps and a range of materials. Casts are shaped in two sections which form the outside of the part to be produced. Cores can also be used to form inner surfaces of the parts. A variety of sands may be used and can be combined with clay and a number of other additives to give the mold the desired properties. Once the casting has cooled, it is placed on a vibrating screen which shakes loose the majority of the sand. The casting is then ready for cleaning and finishing operations. At some facilities the used sand may be recycled or some or all of the sand may need to be disposed of and replaced.

Investment casting involves the formation of a wax replica of the part to be produced, usually in a metal die. A series of wax parts may be attached to a ''tree.'' Once a tree is completed, it is coated with a ceramic cast in a series of dipping operations. The wax may then be removed from the cast in a furnace or the metal can be poured in directly. As in sand casting, the casting is allowed to cool before the cast is removed. A separate wax form and ceramic shell must be made for each part to be produced.

Die-castings employ a more direct route from molten metal to finished part. A metal die is produced and molten metal in injected under pressure into it. Once it has cooled, the casting is removed and is ready for finishing operations. Unlike sand casting or investment casting, the die can be used over and over to produce more parts.

Like most foundry operations, molds are generally prepared indoors. There are, however, particulate emissions associated with the pouring and cooling of molten metal.

d. Metal Cleaning, Treating, and Finishing. Almost all operations in the primary metals industry result in metal products which require some degree of finishing. The type of finishing activities undertaken depend on the material being treated, as well as the properties desired in the final part and can include both mechanical and chemical operations.

Castings generally come out of their molds with metal sprues and other imperfections which must be removed. This can be done through grinding, cutting, or blasting with sand, shot, or grit. Other possible operations include drilling, threading, or dimensioning. A combination of these operations is often necessary.

Some facilities such as rolling mills will use a descaling process to remove oxides and other residues which can form on the surfaces of metallic products. Typical operations include blasting with water or sand. This produces large quantities of scale and other particulate matter which may contain other residual products such as oil.

Heat treating is another operation which can involve furnaces for controlled heating and cooling of large quantities of metal. A variety of media may be used to cool metals at different rates. Oil, water, and liquid salt baths may all be used depending on the properties desired in the finished product. Acid pickling may be used to remove unwanted material from the surface of metal. Other cleaning and finishing operations may involve a wide range of solvents, acids, or other chemicals. All of these processes can generate toxic wastes in the form of sludges, particulates, or spent baths. In addition, residuals from these operations left on the metal surface may become exposed to storm water if materials are transported or stored outside.

e. Waste Handling and Disposal. Wastes are generated from numerous sources within the primary metals industry. Some types of waste are found at a majority of facilities while others may be specific to a particular activity. Some of the common waste products include used sand, cores, butts, refractory rubble, machining and finishing wastes, slag, dross, and collected particulates such as baghouse dust.

Sand casting operations which are not able to fully recycle their sand may generate large volumes of waste or ''burnt'' sand. ''Wet'' sands may contain any one of a number of additives, depending on the specific type of casting being produced. Other related wastes include the cores and butts used in the sand casing process.

Most casting operations will produce a product which requires some degree of machining and finishing. The wastes produced will depend mainly on the material being finished and whether a mechanical or chemical process is used. Machining waste can include fines, turnings, or cuttings as well as shot, grit, and scale from blasting operations. Chemical finishing can result in waste solvents, acids, and pickling sludges and baths which contain metal wastes.

The metal melting process results in the production of slag from ferrous, or dross from nonferrous materials. The content and volume of these wastes produced will vary depending on the charge material, and any fluxing agents or additives that may be used. In general, slag is produced in greater quantities and will be more likely to be stored outside, however there is the possibility of exposure of both types of waste to precipitation.

Particulate matter generated in furnaces and during machining is another source of waste with significant potential for storm water contamination. These waste streams may be segregated at larger facilities or combined, but the concerns are essentially the same. The dusts are collected in baghouses, electrostatic precipitators, wet scrubbers, or in cyclones and disposed of. If the pollution control equipment is inadequate, or not operating effectively, there is potential for storm water contamination from these types of waste.

3. Pollutants Found in Storm Water Discharges

Impacts caused by storm water discharges from primary metals facilities will vary. A number of factors will influence to what extent the activities at a particular facility will affect water quality. These include: geographic location, hydrogeology, the amounts and types of materials stored outside, the types of processes taking place outside, the size of the operation, as well as the characteristics of a particular storm event. These and other factors will interact to affect the quantity and quality of storm water runoff. For example, particulate emissions from furnaces or ovens may be a significant source of pollutants at some facilities, while outdoor material storage such as scrap piles may be a primary source at others. In addition, sources of pollution other than storm water, such as illicit connections,[42] spills, and other improperly dumped materials, may contribute significant levels of pollutants into waters of the United States.

A summary of industrial activities conducted by primary metals facilities in the group application process is listed in Table F–1. The table also lists the sources of pollutants related to the activity and what the specific pollutants of concern are. The table is limited to those activities which are generally conducted outside, or that have potential to contribute pollutants to storm water discharges. Many processes in the primary metals industry are conducted inside and are therefore not represented in Table F–1.

TABLE F–1.—POLLUTANTS OF CONCERN FOR MAJOR ACTIVITIES WITHIN THE PRIMARY METALS INDUSTRY

Activity	Source	Pollutants
Raw material storage and handling .	Metal product stored outside such as foundry returns, scrap metal, turnings, fines, ingots, bars, pigs, wire.	Residual or protective Oil and Grease, Metals, TSS, COD, TSS.
	Outdoor storage or handling of fluxes	pH (limestone).
	Storage piles, bins, or material handling of coke or coal	TSS, pH, metals.
	Storage or handling of casting sand or refractory	TSS.
Vehicle Maintenance	Vehicle fueling and maintenance or outdoor storage tanks and drums of gas, diesel, kerosene, lubricants, solvents.	Oil and grease.
Waste materials—handling, storage, and disposal.	Slag or dross stored or disposed of outside in piles or drums	Metals, pH.
	Fly ash, particulate emissions, dust collector sludges and solids, baghouse waste.	TSS.
	Storage and disposal of waste sand or refractory rubble in piles outside.	TSS, metals, misc. “wet” sand additives.
	Machining waste—fines, turnings, oil, borings, gates, sprues, scale ..	TSS, metals, oil and grease.
	Obsolete equipment stored outside	Oil and grease.
	Landfilling or open pit disposal of wastes onsite	See Part VIII.L.
Furnace operations and pollution control equipment.	Losses during charging of coke ovens or sintering plants and from particulate emissions.	TSS, particulates, metals, volatiles, pH.
	Particulate emissions from blast furnaces, electric arc furnaces, induction furnaces.	TSS, metals.
	Fugitive emissions from poorly maintained or malfunctioning baghouses, scrubbers, electrostatic precipitators, cyclones.	TSS, metals.
	Wastewater treatment operations exposed to precipitation	See Part VIII.T.
Rolling, casting, and finishing operations.	Exposure of wastewater used for cooling or descaling related to rolling.	Oil and grease, pH, TSS, metals, COD.
	Storage of products outside after painting, pickling, or cleaning operations.	pH, solvents, metals.
	Casting cooling or shakeout exposed to precipitation or wind	TSS, metals.
	Losses of particulate matter from machining operations (grinding, drilling, boring, cutting) through deposition or storage of products outside.	Metals, TSS.
Plant yards	Areas of the facility with unstabilized soils subject to erosion	TSS.
Illicit discharges	Improper connection of floor, sink, or process wastewater drains	Dependent on source.

Although operations at primary metals facilities may vary considerably, the elements with potential impact on storm water discharges are fairly uniform and consistent. Facilities may include considerable areas of raw and waste material storage such as coal, coke, metal, ores, sand, scale, scrap, and slag. Processes generally involve furnaces for heating and melting metals or for producing coke, any of which may result in significant particulate emissions. Due to the nature of their operations some facilities will have large areas of exposed soil and heavy vehicle traffic which can lead to erosion.

a. Raw Material Storage and Handling Activities. Raw materials with potential effects on storm water discharges fall into a number of distinct categories.

Sands used for the production of molds or cores can contribute to TSS loadings. Piles of materials may be washed away directly, or spills and windblown losses may occur during handling and process related activities.

Metal raw materials can come in numerous forms including billet, slab, pig, bar. These materials have the potential to corrode which can result in the loss of metal to a solution, i.e., water. The following metals are referred to as the galvanic (or electromotive) series and have a tendency to corrode and become soluble in water; magnesium, aluminum, cadmium, zinc, steel or iron, cast iron, chromium, tin, lead, nickel, soft and silver solder, copper, stainless steel, silver, gold, platinum, brass and bronze. For some metals, the extent and rate of corrosion is dependent on whether it occurs in an oxygen-starved or oxygen-abundant atmosphere. If materials are coated in oil to prevent corrosion, or residual chemicals used to clean or treat the metal are present, these can also be a source of pollution easily picked up by storm water runoff.

Scrap metals come in a variety of forms including machining waste such as turnings, shavings, filings, borings or as post consumer waste in a variety of forms. These materials can contribute metals, oil and grease, suspended solids, and other pollutants to storm water

[42] Illicit connections are contributions of unpermitted non-storm water discharges into storm sewers from any number of sources including sanitary sewers, industrial facilities, commercial establishments, or residential dwellings.

runoff depending on their makeup and origin.

Runoff related to storage and handling of coal and coke can contribute suspended solids, metals, as well as oil and grease to runoff. These can be released from piles, hoppers, or bins through handling or wind-blown losses. Significant losses can also occur during handling with conveyors, trucks, or while preparing charges for the furnace or sintering operations.

Fluxes such as limestone may be stored in piles, bins, or hoppers outside or become exposed to precipitation during unloading and handling activities. Limestone can increase the pH of storm water. Fluxes can also contribute to loadings of suspended solids (TSS) or have other effects depending on their makeup.

A variety of acids and solvents may be stored in drums or tanks for use in metal treating and cleaning operations. Leaks and spills from tanks and drums or during handling can result in discharges with storm water. These materials can affect pH of storm water and may be toxic.

b. Process Activities. Many processes can contribute pollutants to storm water discharges. These can include all types of furnaces, metal finishing activities, as well as material handling equipment.

Furnaces of all types can generate particulate emissions. The quantity and character of these emissions can vary greatly depending on the type of furnace, the material being melted, the fuel used, and any pollution control equipment that may be in place. In general, large coke-fired and electric arc furnaces capable of handling fairly dirty charge products will have higher emissions, but are also more likely to have sophisticated pollution control such as wet scrubbers, baghouses, and electrostatic precipitators. Smaller gas fired or electric induction furnaces generally require a fairly clean charge and have less emissions, but might also have less sophisticated controls. Settling of these emissions on roofs and plant yards are very likely to be washed away in storm water runoff. These particulates can contain a wide range of constituents which can contribute metals and suspended solids to discharges.

Material handling equipment such as conveyors, trucks, and forklifts can all contribute drippings of oil and grease as well as hydraulic fluids. This equipment may also generate or release particulate matter related to the materials being handled. Pallets, hoppers, drums, and storage bins may all contain residual materials which may become exposed to storm water.

Metal finishing operations can be divided in two general types. Mechanical operations such as grinding, blasting, boring, chipping, cutting, and descaling can all produce metal fines, chips, and turnings which may contribute metals and suspended solids to discharges. Residuals of oil or other materials on the finished goods or waste products can also contribute pollutants. Other finishing operations include acid pickling, solvent cleaning, and all types of heat treating activities. Materials that have been treated or finished may have residual chemicals on them such as pickling baths, oil or liquid salt quench media, or solvents. Exposure of these materials could contribute to pH, metals, or oil and grease in storm water discharges.

Stationary process equipment may also produce a substantial amount of residual particulate material that tends to accumulate on and around the equipment. Many materials used for primary metals production are conducive to this type of buildup. This will typically occur around rotating machinery, moving parts, bearings, conveyors and at the output of the equipment, e.g., storage containers. Particulate material that accumulates can become a source of contamination if it comes in contact with either precipitation or storm water runoff.

c. Waste Material Storage, Handling, and Disposal. Waste materials are generated in large volume from many of the facilities in this industry. These wastes can include used sand, cores and butts, refractories, slag and dross, baghouse or cyclone dusts, scrubber dusts and sludges, machining wastes, and obsolete equipment. There is potential for pollution from many of these sources if not properly stored, handled, and disposed of.

Used sands, cores, butts, and refractory rubble are all potential sources of TSS. Due to the large volumes potentially generated and their generally benign nature, these materials are often stored outside. The exposure of these materials to molten metal also presents the possibility of contamination with metals which may also get washed away with storm water.

Wastes related to pollution control equipment are particularly susceptible to being discharged with storm water if not properly controlled. These wastes could originate from baghouses, cyclones, electrostatic precipitators or scrubbers. These may be in place to control emissions from a large variety of ovens and furnaces, as well as mechanical or chemical metal finishing operations. These dusts and sludges typically contain an assortment of metals, metal oxides, and other particulate matter. The size of particulates that are able to be captured will vary from one type of equipment to the next and will depend on proper operation and maintenance.

Machining and finishing waste which is not collected as described above may also be generated in significant quantities. This material is typically metallic fines and particulate matter but may contain cutting oil or other materials as well. If stored outside in piles, drums, hoppers, or other containers these materials can contribute metals, TSS, or oil to precipitation and storm water runoff.

d. Erosion and Sediment Loss. Erosion from plant yards is another potential source of storm water contamination from primary metals facilities. Areas of vehicle traffic related to material handling, loading, unloading, material storage areas etc. may all have exposed soils with the potential for erosion. These soils can contribute to TSS loadings in storm water discharges. Exposed surfaces also limit the potential for housekeeping measures such as sweeping, making spills of other materials (particulate or liquid) harder to clean up and more likely to be washed away with storm water. The large size of many primary metals facilities makes this a concern. For example: one group application consists of 5 facilities with a total land area of 623 acres. Of this, approximately 105 acres (16.9 percent) were impervious surfaces (buildings, paved areas), leaving 83 percent of the total area potentially susceptible to erosion. Vehicle traffic, material handling, and storage activities taking place in unstabilized areas can all lead to erosion.

e. Group Application Monitoring Data. Based on the wide variety of industrial activities and significant materials at the facilities included in this sector, EPA believes it is appropriate to divide the primary metals industry into subsectors to properly analyze sampling data and determine monitoring requirements. As a result, this sector has been divided into the following subsectors: steel works, blast furnaces, and mills (SIC 331); iron and steel foundries (SIC 332); primary smelting and refining of nonferrous metals (SIC 333); secondary smelting and refining of nonferrous metals (SIC 334); nonferrous rolling and drawing (SIC 335); nonferrous foundries (SIC 336); and miscellaneous primary metals products (SIC 339). Tables F–2, F–3, F–4, and F–5 below include data for the eight pollutants that all facilities were required to monitor for under Form 2F.

The tables also list those parameters that EPA has determined may merit further monitoring. Tables are not included for primary smelting and refining of nonferrous metals manufacturing facilities; secondary smelting and refining of nonferrous metals manufacturing facilities; and miscellaneous primary metal products facilities subsectors because less than three facilities submitted data for each of these subsectors.

TABLE F–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY STEEL WORKS, BLAST FURNACES, AND ROLLING AND FINISHING MILLS SUBMITTING PART II SAMPLING DATA [i] (mg/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp [ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	9	8	17	15	17.2	16.3	1.0	1.0	60.0	60.0	10.0	9.30	59.3	59.3	119.4	128.2
COD	9	8	17	15	100.2	74.7	19.0	9.0	340.0	235.0	62.0	55.0	287.9	215.4	514.6	380.6
Nitrate + Nitrite Nitrogen	9	8	16	14	2.01	1.41	0.08	0.09	15.30	9.5	0.51	0.40	7.03	4.62	18.5	11.6
Total Kjeldahl Nitrogen	9	8	17	15	1.81	1.32	0.00	0.64	4.30	2.7	1.60	1.10	4.17	2.29	6.15	2.96
Oil & Grease	9	N/A	17	N/A	3.1	N/A	0.0	N/A	16.4	N/A	2.0	N/A	9.9	N/A	18.4	N/A
pH	9	N/A	17	N/A	N/A	N/A	5.4	N/A	9.4	N/A	7.5	N/A	9.5	N/A	10.5	N/A
Total Phosphorus	9	8	17	15	0.51	0.28	0.01	0.02	2.26	0.80	0.42	0.20	2.89	1.08	8.55	2.29
Total Suspended Solids	9	8	17	15	173	82	0	0	866	717	66	39	1123	346	4141	1030
Aluminum	3	3	5	5	3.24	1.9	0.3	0.3	7.9	6	2.8	1.1	15.51	7.1	35.7	15.24
Zinc	7	6	14	11	1.556	1.208	0	0	16	9.3	0.29	0.37	5.471	5.73	16.48	19.445

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE F–3.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY IRON AND STEEL FOUNDRIES SUBMITTING PART II SAMPLING DATA [i] (mg/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp [ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	31	30	64	56	35.8	57.6	0.0	0.0	1200.0	2500.0	11.0	10.0	79.8	64.0	176.7	133.2
COD	32	31	64	57	287.9	118.3	0.0	0.0	3600.0	640.0	108.5	76.0	1046.0	339.1	2731.7	605.9
Nitrate + Nitrite Nitrogen	31	30	64	56	0.77	0.86	0.00	0.02	5.90	4.50	0.58	0.62	2.17	3.02	3.84	6.03
Total Kjeldahl Nitrogen	31	30	64	57	3.50	3.18	0.00	0.0	30.00	24.0	2.00	1.81	11.05	9.84	21.84	18.7
Oil & Grease	31	N/A	64	N/A	6.5	N/A	0.0	N/A	140.0	N/A	0.0	N/A	24.1	N/A	69.3	N/A
pH	31	N/A	65	N/A	N/A	N/A	2.6	N/A	10.3	N/A	7.6	N/A	10.1	N/A	11.4	N/A
Total Phosphorus	31	30	65	57	1.79	0.40	0.00	0.00	76.00	4.00	0.28	0.22	3.67	1.65	10.33	3.73
Total Suspended Solids	31	30	65	57	594	228	0	1.0	6300	1200	138	123	2644	1000	8264	2417
Aluminum	4	4	11	11	5.99	5.38	0	0	20	21.4	4.49	3.3	47.24	17.51	141.97	33.1
Copper	27	26	57	50	7.919	5.155	0	0	210	140	0.08	0.04	6.629	3.362	31.253	15.875
Iron	4	3	8	7	9.2	10.1	0.2	0.4	26.3	30.4	8.6	8.1	62	54.5	170.5	134.8
Pyrene	3	3	4	4	.08	0.02	0	0	0.29	0.07	0.01	0	0.58	....	2.37	....
Zinc	29	28	62	54	18.35	14.395	0.01	0.047	430	330	0.57	0.46	23.162	14.843	96.353	52.671

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE F–4.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY ROLLING, DRAWING, AND EXTRUDING OF NONFERROUS METALS MANUFACTURING FACILITIES SUBMITTING PART II SAMPLING DATA [i] (mg/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp [ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	8	6	20	10	38.4	32.0	5.5	2.2	150.0	110.0	22.0	18.5	126.4	126.6	252.5	282.8
COD	8	8	20	20	138.9	80.6	0.0	0.0	495.0	230.0	93.5	50.8	480.5	269.3	950.7	503.5
Nitrate + Nitrite Nitrogen	7	7	19	19	1.75	3.71	0.10	0.30	5.61	19.1	1.60	1.80	7.58	11.8	16.76	24.52
Total Kjeldahl Nitrogen	8	8	20	20	4.71	6.45	0.34	0.0	30.00	42.0	2.95	1.65	15.68	19.77	32.73	48.67
Oil & Grease	8	N/A	20	N/A	2.5	N/A	0.0	N/A	20.0	N/A	1.1	N/A	8.2	N/A	15.9	N/A
pH	8	N/A	20	N/A	N/A	N/A	4.1	N/A	8.0	N/A	6.2	N/A	8.6	N/A	9.9	N/A
Total Phosphorus	8	8	20	20	0.12	0.10	0.00	0.0	0.50	0.30	0.09	0.06	0.38	0.31	0.68	0.56
Total Suspended Solids	8	8	20	20	45	58	0	0	429	310	7	8	182	310	531	1043
Copper	8	8	20	20	0.931	0.822	0	0	8.8	3.4	0.13	0.14	5.106	6.501	20.38	29.326
Zinc	8	8	20	20	0.525	0.417	0.021	0.04	2.3	1.9	0.3	0.3	1.806	1.189	3.637	2.085

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE F–5.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY NONFERROUS FOUNDRIES (CASTINGS) SUBMITTING PART II SAMPLING DATA [i] (mg/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp [ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	14	14	30	27	14.7	12.8	0.0	3.0	51.0	47.0	10.5	8.0	38.6	29.6	63.1	46.3
COD	14	14	30	27	125.1	82.8	0.0	7.0	1400.0	510.0	50.5	32.0	390.9	260.1	907.0	535.7
Nitrate + Nitrite Nitrogen	13	13	28	25	0.99	0.85	0.00	0.00	3.60	2.08	0.74	0.77	2.80	2.12	4.64	3.32
Total Kjeldahl Nitrogen	13	13	28	25	2.29	2.17	0.15	0.58	22.00	9.70	1.30	1.40	6.34	5.08	12.06	8.19
Oil & Grease	14	N/A	30	N/A	4.2	N/A	0.0	N/A	47.0	N/A	0.5	N/A	16.7	N/A	35.5	N/A
pH	14	N/A	29	N/A	N/A	N/A	2.8	N/A	8.0	N/A	6.5	N/A	8.8	N/A	10.1	N/A
Total Phosphorus	14	14	30	26	0.26	0.13	0.00	0.0	1.50	0.96	0.07	0.05	1.17	0.52	3.26	1.26
Total Suspended Solids	14	14	29	26	145	111	0	0	2100	1100	20	37	536	563	1521	1761
Copper	14	14	30	27	0.494	0.672	0	0	4.2	7	0.26	0.2	1.861	2.532	4.122	6.122
Zinc	13	13	28	25	1.435	1.494	0	0	9.36	10.1	0.36	0.5	6.429	5.424	18.489	13.307

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

Although there are a wide range of pollutants which may be of concern for primary metals facilities, monitoring requirements for these facilities have been determined based on industry subgroups which exceed benchmarks for certain pollutants. As Tables F–2 through F–5 illustrate, there are a variety of pollutants which must be addressed at primary metals facilities.

4. Options for Controlling Pollutants

There are five main areas of concern related to primary metals facilities. These are raw material storage and handling; waste material storage, handling, and disposal; furnace, oven, and related pollution control activities; rolling, extruding, casting, and finishing operations; plant yards; and illicit connections.

Table F–6 summarizes the primary sources of pollution in each of these categories and potential Best Management Practices (BMPs) associated with each.

TABLE F–6.—POTENTIAL BEST MANAGEMENT PRACTICES FOR SOURCES WITHIN THE PRIMARY METALS INDUSTRY

Source	Potential best management practices
Metal product stored outside such as foundry returns, scrap metal, turnings, fines, ingots, bars, pigs, wire.	Store all wastes indoors or in sealed drums, covered dumpsters, etc.
	Minimize raw material storage through effective inventory control.
	Minimize runon from adjacent properties and stabilized areas to areas with exposed soil with diversion dikes, berms, curbing, concrete pads, etc.
Outdoor storage or handling of fluxes	Store fluxes in covered hoppers, silos, or indoors and protect from wind-blown losses.
	Stabilize areas surrounding storage and material handling areas and establish schedule for sweeping.
Storage piles, bins, or material handling of coke or coal.	Where possible store coke and coal under cover or indoors and protect from wind-blown losses.
	Prevent or divert runon from adjacent areas with swales, dikes, or curbs.
	Minimize quantities of coke or coal stored onsite through implementation of effective inventory control.
	Trap particulates originating in coke or coal storage or handling areas with filter fabric fences, gravel outlet protection, sediment traps, vegetated swales, buffer strips of vegetation, catch-basin filters, retention/detention basins or equivalent.
Storage or handling of casting sand	Store raw sand in silos, covered hoppers, or indoor whenever possible.
	Prevent or divert runon from adjacent areas with swales, dikes, or curbs.
	Minimize quantities of sand stored onsite through implementation of effective inventory control.
	Tarp or otherwise cover piles.
	Trap particulates originating in coke or coal storage or handling areas with filter fabric fences, gravel outlet protection, sediment traps, vegetated swales, buffer strips of vegetation, catch-basin filters, retention/detention basins or equivalent.
Vehicle fueling and maintenance	See Part VIII.P.
Outdoor storage tanks or drums of gas, diesel, kerosene, lubricants, solvents.	Store tanks and drums inside when possible.
	Establish regular inspection of all tanks and drums for leaks, spills, corrosion, damage, etc.
	Utilize effective inventory control to reduce the volume of chemicals stored onsite.
	Prevent runon to and runoff from tank and drum storage areas, provide adequate containment to hold spills and leaks.
	Prepare and train employees in dealing with spills and leaks properly, use dry clean-up methods when possible.
Slag or dross stored or disposed of outside in piles or drums.	Collect waste waters used for granulation of slag—these are not allowed under this section.
	Store slag and dross indoors, under cover, or in sealed containers.
	Establish regular disposal of slag or dross to minimize quantities stored and handled onsite.
	Minimize runon to slag storage areas with diversion dikes, berms, curbing, vegetated swales.
	Trap particulates originating in slag storage areas with filter fabric fences, gravel outlet protection, sediment traps, vegetated swales, buffer strips of vegetation, catch-basin filters, retention/detention basins or equivalent.
Fly ash, particulate emissions, dust collector sludges and solids, baghouse dust.	Store all dusts and sludges indoors to prevent contact with storm water or losses due to wind.
	Establish regular disposal schedule to minimize quantities of pollutants stored and handled onsite.
Storage and disposal of waste sand or refractory rubble in piles outside.	Move piles under cover or tarps whenever possible.
	Establish regular disposal schedule to minimize quantities stored onsite.
	Stabilize areas of waste product storage and perform regular sweeping of area.
Scrap processing activities (shredding etc.)	See Part VIII.N.
Machining waste stored outside or exposed to storm water—fines, turnings, oil, borings, gates, sprues, scale.	Store all wastes indoors or in sealed drums, covered dumpsters, etc.
	Stabilize areas of waste product storage and perform regular sweeping and cleaning of any residues.

TABLE F–6.—POTENTIAL BEST MANAGEMENT PRACTICES FOR SOURCES WITHIN THE PRIMARY METALS INDUSTRY—Continued

Source	Potential best management practices
	Consider using booms, oil/water separators, sand filters, etc. for outfalls draining areas where oil is potentially present.
	Minimize runon from adjacent properties and stabilized areas to areas with exposed soil with diversion dikes, berms, curbing, concrete pads, etc.
Obsolete equipment stored outside	Where possible, dispose of unused equipment properly, or move indoors.
	Cover obsolete equipment with a tarp or roof.
	Consider using booms, oil/water separators, sand filters, etc. for outfalls draining areas where oil is potentially present.
	Minimize runoff coming into contact with old equipment through berms, curbs, or placement on a concrete pad.
Material losses from handling equipment such as conveyors, trucks, pallets, hoppers, etc.	Schedule frequent inspections of equipment for spills or leakage of fluids, oil, or fuel.
	Inspect for collection of particulate matter on and around equipment and clean. Where possible cover these areas to prevent losses to wind and precipitation.
	Store pallets, hoppers, etc. which have residual materials on them under cover, with tarps, or inside.
Losses during charging of coke ovens or sintering plants.	Cover any exposed areas related to furnace charging/material handling activities.
	Stabilize areas around all material handling areas and establish regular sweeping.
	Route runoff from particulate generating operations to sediment traps, vegetated swales, buffer strips of vegetation, catch-basin filters, retention/detention basins or equivalent.
Particulate emissions from blast furnaces, electric arc furnaces, induction furnaces and fugitive emissions from poorly maintained or malfunctioning baghouses, scrubbers, electrostatic precipitators, cyclones.	Establish schedule for inspection and maintenance of all pollution control equipment—check for any particulate deposition from leaks, spills, or improper operation of equipment and remedy.
	Route runoff from particulate generating operations to sediment traps, vegetated swales, buffer strips of vegetation, catch-basin filters, retention/detention basins or equivalent.
Storage of products outside after painting, pickling, or cleaning operations.	Store all materials inside or under cover whenever possible.
	Prevent runon to product storage areas through curbs, berms, dikes, etc.
	Consider using booms, oil/water separators, sand filters, etc. for outfalls draining areas where oil is potentially present.
	Remove residual chemicals from intermediate or finished products before storage or transport outside.
Casting cooling or shakeout operations exposed to precipitation or wind.	Perform all pouring, cooling, and shakeout operations indoors in areas with roof vents to trap fugitive particulate emissions.
	Recycle into process as much casting sand as possible.
Landfilling or open pit disposal of wastes onsite	See Part VIII.L.
Losses of particulate matter from machining operations (grinding, drilling, boring, cutting) through deposition or storage of products outside.	Store all intermediate and finished products inside or under cover.
	Consider using booms, oil/water separators, sand filters, etc. for outfalls draining areas where oil is potentially present.
	Clean products of residual materials before storage outside.
	Stabilize storage areas and establish sweeping schedule.
Areas of the facility with unstabilized soils subject to erosion.	Minimize runon from adjacent properties and stabilized areas to areas with exposed soil with diversion dikes, berms, vegetated swales, etc.
	Stabilize all high traffic areas including all vehicle entrances, exits, loading, unloading, and vehicle storage areas.
	Conduct periodic sweeping of all traffic areas.
	Trap sediment originating in unstabilized areas. Filter fabric fences, gravel outlet protection, sediment traps, vegetated swales, buffer strips of vegetation, catch-basin filters, retention/detention basins or equivalent.
	Inspect and maintain all BMPs on a regular basis.
	Provide employee training on proper installation and maintenance of sediment and erosion controls.
Improper connection of floor, sink, or process wastewater drains.	Inspect and test all floor, sink, and process wastewater drains for proper connection to sanitary sewer and remove any improper connections to storm sewer or waters of the United States.

5. Special Conditions

The following section identifies special conditions that are applicable to permittees applying for coverage under Part XI.F. of today's permit.

a. Prohibition of Non-storm Water Discharges. This section requires primary metals facilities to certify that certain non-storm water discharges are not occurring at their facilities. A list of common non-storm water discharges that are not authorized by this section has been identified. These discharges are prohibited due to the likelihood these discharges will contain substantial pollutant concentrations. This list is included in the permit only to add more specificity to the general non-storm water prohibition included in Part III.A. of the permit. The following non-storm water discharges are not authorized by this section: waste discharges to floor drains or sinks connected to the facilities storm sewer or storm drainage system; water originating from vehicle and equipment washing; steam cleaning wastewater; process wastewater; washwater originating from cleaning plant floor areas or material receiving areas; wastewater from wet scrubbers; boiler blowdown; contact or noncontact cooling water; discharges originating from dust control spray water;

discharges originating from the cleaning out of oil/water separators or sumps; discharges from bermed areas with a visible oily sheen or other visible signs of contamination; discharges resulting from casting cleaning or casting quench operations; discharges from slag quench or slag rinsing operations; and discharges from wet sand reclamation operations.

This final list of non-storm water discharges does not include discharges from oil/water separators and sumps, as was proposed. EPA intended to include only discharges originating from the cleaning or maintenance of these devices in this list.

The operators of non-storm water discharges must seek coverage under a separate NPDES permit if discharging to either a municipal separate storm sewer system or to waters of the United States.

6. Storm Water Pollution Prevention Plan Requirements

a. Contents of the Plan. All facilities covered by this section must identify a pollution prevention team, prepare a description of all potential pollutant sources at the facility, and identify measures and controls appropriate for the facility. These items must comply with the common requirements described in Part VI.C. of this fact sheet. In addition to these requirements, facilities covered by Part XI.F. of today's permit must provide the following additional information in their pollution prevention plan.

(1) Description of Potential Pollutant Sources. Facilities must identify on the site map the location of any and all pollution control equipment such as baghouses, wet scrubbers, electrostatic precipitators, etc. as well as any uncontrolled stack emissions which may be located onsite. The site map must also indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls (e.g. storm water and air conditioner condensate). In order to increase the readability of the map, the inventory of the types of discharges contained in each outfall may be kept as an attachment to the site map. Due to the hazardous nature of pollutants generated in this industry, and the potential for deposition of particulate matter from emissions, these emissions can be a significant contributor to pollutants at a facility and should be identified.

(2) Measures and Controls. There are typically five types of activity and materials present at facilities in the primary metals industry with potential impacts on storm water discharges. These have been discussed in today's fact sheet and include: raw materials storage and handling; process activities related to furnace operations, casting, rolling, and extruding; waste material storage, handling, and disposal; erosion from unstabilized plant areas; and illicit discharges, spills, and leaks. Each of these areas that is applicable to a facility must be identified in the pollution prevention plan and evaluated with regard to the BMPs discussed.

(a) Good Housekeeping—This section requires that facilities implement measures to limit the amount of spilled, settled, and leaked materials which are washed away by storm water. These materials include coal dust or coke breeze, metal fines from finishing operations, particulate emissions from furnaces and ovens, as well as dust and dirt from plant yards. In paved or other impervious areas sweeping is an easy and effective way to reduce these pollutants. Sweeping frequency should be determined based on the rates of accumulation of a particular material and its potential impact on storm water discharges. Where significant particulates are generated in unstabilized areas of the plant, other measures may be necessary.

The large number of particulate generating processes and the makeup of these pollutants makes this an especially important aspect of pollution prevention at many facilities. Permittees must consider the storage of all such products under roof, in silos or covered hoppers, or under tarps to minimize exposure of particulates to precipitation and wind-blown losses.

Unstabilized areas at a site which may be related to material handling and storage or vehicle and equipment traffic should be considered for paving. These areas can build up significant levels of particulates from materials and material handling as well as soil and dust particles. Paving these areas allow good housekeeping measures to be practiced and make spills easier to clean up.

(b) Source Controls—Permittees must consider preventative measures to minimize the exposure of significant materials to storm water. Due to the large volumes of materials used in the primary metals industry, they are a significant potential source of pollutants in storm water discharges. Storage of a wide range of materials outside is common among many facilities and measures should be taken to reduce the potential for contamination of storm water.

Measures include moving materials inside, under roof or cover, removing waste materials from the premises, and establishing scheduled removal of wastes to minimize storage onsite. Other measures to prevent runoff from contacting materials include swales, berms, dikes, or curbs to divert runoff away from significant materials or processes.

Source controls offer the most effective way to reduce pollutants in storm water discharges and are generally easier to implement than treatment measures.

(c) Preventive Maintenance—Facilities must incorporate into their plan the inspection and maintenance of all equipment which could lead to releases of pollutants. This includes all particulate emissions control equipment, storage tanks and piping systems, and any other material handling equipment which could fail and release pollutants.

All particulate pollution control equipment must be maintained to operate properly and effectively to control settling of particulate matter. The inspection of emissions control is particularly important as failures may not be immediately obvious and could lead to significant releases of particulate matter. Leaks or blockage in ducts, overflows of dust collection systems, or mechanical breakdown of scrubbers could all lead to heavy particulate emission which can be easily washed away by storm water discharges. Other potential losses include leaking tanks or valves which could contain a variety of acids, solvents, or other chemicals.

(d) Spill Prevention and Response Procedures—There are no additional requirements beyond those described in Part VI.C. of this fact sheet.

(e) Inspections—Primary metals facilities are required to conduct self inspections of all storage, process, and plant yard areas at least quarterly. These inspections will allow the effectiveness of the pollution prevention plan to be monitored. The potential for problems which could affect storm water are extremely varied and can have significant impacts over a short time period. These inspections are necessary to ensure that problems are identified and remedied as quickly as possible. Points of particular importance include pollution control equipment, material handling areas, and waste collection and disposal areas. Tanks, drums, silos, bins, and hoppers are other areas of potential concern.

(f) Employee Training—There are no additional requirements beyond those described in Part VI.C. of this fact sheet. EPA recommends that facilities conduct training annually at a minimum. However, more frequent training may be necessary at facilities with high turnover of employees or where employee participation is essential to

the storm water pollution prevention plan.

(g) Recordkeeping and Internal Reporting Procedures—There are no additional requirements beyond those described in Part VI.C. of this fact sheet.

(h) Non-storm Water Discharges—There are no additional requirements beyond those described in Part VI.C. of this fact sheet.

(i) Sediment and Erosion Control—There are no additional requirements beyond those described in Part VI.C. of this fact sheet.

(j) Management of Runoff—Facilities shall consider implementation of a range of management practices to control or treat storm water runoff. These include vegetative buffer strips or swales, filter fences and other types of filters, oil/water separators, and all types of settling basins and ponds. These practices allow the capture of pollutants from storm water before it leaves the site.

Due to the large size of many primary metals facilities, source controls may not be practical. In some cases, it may not be feasible to cover or otherwise protect large areas of material storage or exposed plant yards. Deposition of particulates from furnace or other process emissions may be relatively diffuse over a large area of the facility, and very difficult to control. In these cases management practices such as settling basins, retention or detention ponds, or recycle ponds can provide effective treatment of runoff. For smaller areas, filter fabric, booms, or other types of filters may be appropriate. In areas where oil and grease is a concern, oil/water separators may be appropriate and should be considered.

b. Comprehensive Site Compliance Evaluation. The storm water pollution prevention plan must describe the scope and content of comprehensive site evaluations that qualified personnel will conduct to 1) confirm the accuracy of the description of potential pollution sources contained in the plan, 2) determine the effectiveness of the plan, and 3) assess compliance with the terms and conditions of the permit. Comprehensive site compliance evaluations should be conducted on an annual basis. The individual or individuals that will conduct the evaluations must be identified in the plan and should be members of the pollution prevention team. Evaluation reports must be retained for at least 3 years after the date of the compliance evaluation that the permit expires.

Based on the results of each evaluation, the description of potential pollution sources, and measures and controls, the plan must be revised as appropriate within 2 weeks after each evaluation. Changes in the measures and controls must be implemented on the site in a timely manner, and never more than 12 weeks after completion of the evaluation.

7. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. EPA believes that primary metals facilities may reduce the level of pollutants in storm water runoff from their sites through the development and proper implementation of the storm water pollution prevention plan requirements discussed in today's permit. In order to provide a tool for evaluating the effectiveness of the pollution prevention plan and to characterize the discharge for potential environmental impacts, the permit requires some primary metals facilities to collect and analyze samples of their storm water discharges for the pollutants listed in Table F–7. Data submitted to EPA has been analyzed at the 3-digit SIC code level. Industry subgroups that had pollutant levels above benchmark levels are required to monitor for those pollutants. Because these pollutants have been reported at benchmark levels from primary metals facilities, EPA is requiring monitoring after the pollution prevention plan has been implemented to assess the effectiveness of the pollution prevention plan and to help ensure that a reduction of pollutants is realized.

Under the Storm Water Regulations at 40 CFR 122.26(b)(14), EPA defined "storm water discharge associated with industrial activity". The focus of today's permit is to address the presence of pollutants that are associated with the industrial activities identified in this definition and that might be found in storm water discharges. Under the methodology for determining analytical monitoring requirements, described in section VI.E.1 of this fact sheet, nitrate plus nitrite nitrogen is above the bench mark concentrations for the non-ferrous rolling and drawing and the non-ferrous foundries subsectors and pyrene is above the bench mark concentrations for the iron and steel foundries subsector. After a review of the nature of industrial activities and the significant materials exposed to storm water described by facilities in these subsectors, EPA has determined that the higher concentrations of nitrate plus nitrite nitrogen and pyrene are not likely to be caused by the industrial activity, but may be primarily due to non-industrial activities on-site. Today's permit does not require non-ferrous rolling and drawing, the non-ferrous foundries or iron and steel foundries facilities to conduct analytical monitoring for these parameters.

At a minimum, storm water discharges from selected primary metals facilities must be monitored quarterly during the second year of permit coverage. At the end of the second year of permit coverage, a facility must calculate the average concentration for each parameter that they were required to monitor as listed in Tables F–7 through F–10, after taking into account possible waivers based on the alternative certification. If the permittee collects more than four samples in this period, then they must calculate an average concentration for each pollutant of concern for all samples analyzed.

TABLE F–7.—STEEL WORKS, BLAST FURNACES, AND ROLLING AND FINISHING MILLS (SIC 331) MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Total Recoverable Aluminum	0.75 mg/L
Total Recoverable Zinc	0.065 mg/L

TABLE F–8.—IRON AND STEEL FOUNDRIES (SIC 332) MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Total Recoverable Aluminum	0.75 mg/L
Total Suspended Solids (TSS)	100 mg/L
Total Recoverable Copper	0.0636 mg/L
Total Recoverable Iron	1 mg/L
Total Recoverable Zinc	0.065 mg/L

TABLE F–9.—ROLLING, DRAWING, AND EXTRUDING OF NON-FERROUS METALS (SIC 335) MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Total Recoverable Copper	0.0636 mg/L
Total Recoverable Zinc	0.065 mg/L

TABLE F–10.—NON-FERROUS FOUNDRIES (SIC 336) MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Total Recoverable Copper	0.0636 mg/L
Total Recoverable Zinc	0.065 mg/L

If the average concentration for a parameter is less than or equal to the value listed in Tables F–7 through F–10, then the permittee is not required to conduct quantitative analysis for that parameter during the fourth year of the permit. If, however, the average concentration for a parameter is greater than the cut-off concentration listed in Tables F–7 through F–10, then the permittee is required to conduct quarterly monitoring for that parameter during the fourth year of permit coverage. Monitoring is not required during the first, third, and fifth year of the permit. The exclusion from monitoring in the fourth year of the permit is conditional on the facility maintaining industrial operations and BMPs that will ensure a quality of storm water discharges consistent with the average concentrations recorded during the second year of the permit. The schedule for monitoring is presented in Table F–11.

TABLE F–11.—SCHEDULE OF MONITORING

2nd Year of Permit Coverage	• Conduct quarterly monitoring. • Calculate the average concentration for all parameters analyzed during this period. • If average concentration is greater than the value listed in Tables F–7 through F–10, then quarterly sampling is required during the fourth year of the permit. • If average concentration is less than or equal to the value listed in Tables F–7 through F–10, then no further sampling is required for that parameter.
4th Year of Permit Coverage	• Conduct quarterly monitoring for any parameter where the average concentration in year 2 of the permit is greater than the value listed in Tables F–7 through F–10. • If industrial activities or the pollution prevention plan have been altered such that storm water discharges may be adversely affected, quarterly monitoring is required for all parameters of concern.

In cases where the average concentration of a parameter exceeds the cut-off concentration, EPA expects permittees to place special emphasis on methods for reducing the presence of those parameters in storm water discharges. Quarterly monitoring in the fourth year of the permit will reassess the effectiveness of the adjusted pollution prevention plan.

The monitoring cut off concentrations listed in Tables F–7 through F–10 are not numerical effluent limitations. These values represent a level of pollutant discharge which facilities may achieve through the implementation of pollution prevention plans. At least half of the facilities which submitted Part 2 data, reported concentrations greater than or equal to the values listed in Tables F–7 through F–10. Facilities that achieve average discharge concentrations which are less than or equal to the values in Tables F–7 through F–10 are not relieved from the pollution prevention plan requirements or any other requirements of the permit.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly chemical sampling.

(1) Sample Type. All discharge data shall be reported for grab samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hours storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

(2) Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluent. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area (e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)) shall be provided in the plan.

(3) Alternative Certification. Throughout today's permit, EPA has required monitoring requirements for facilities which the Agency believes have the potential for contributing significant levels of pollutants to storm water discharges. The alternative described below is necessary to ensure that monitoring requirements are only imposed on those facilities that do, in fact, have storm water discharges containing pollutants at concentrations of concern. EPA has determined that if materials and activities are not exposed to storm water at the site, then the potential for pollutants to contaminate storm water discharges does not warrant monitoring.

Therefore, a discharger is not subject to the monitoring requirements of this Part provided the discharger makes a certification for a given outfall, or on a pollutant-by-pollutant basis in lieu of monitoring described in Tables F–10 through F–13, under penalty of law, signed in accordance with Part VII.G. of the pursuit (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, significant materials from past industrial activity that are located in areas of the facility that are within the drainage area of the outfall are not presently exposed to storm water and will not be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan and submitted to EPA along with the monitoring reports required under paragraph *b.* below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations. EPA does not expect facilities to be able to exercise this certification for indicator parameters, such as TSS and BOD.

b. Reporting Requirements. Permittees are required to submit all monitoring results obtained during the second and fourth year of permit coverage within 3 months of the conclusion of each year. For each outfall, one Discharge Monitoring Report must be submitted per storm event sampled. For facilities conducting monitoring beyond the minimum quarterly requirements an additional Discharge Monitoring Report Form must be filed for each analysis.

c. Quarterly Visual Examination of Storm Water Quality. Quarterly visual inspections of a storm water discharge from each outfall are required at primary metals facilities. The examination must be of a grab sample collected from each storm water outfall. The examination of storm water grab samples shall include any observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, or other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on these samples.

The examination must be made at least once per quarter during the term of the permit during daylight unless there is insufficient rainfall or snow-melt to runoff. Whenever practicable, the same individual should carry out the collection and examination of discharges throughout the life of the permit to ensure the greatest degree of consistency possible. Grab samples shall be collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff begins discharging. Reports of the visual examination include: the examination date and time, examination personnel, visual quality of the storm water discharge, and probable sources of any observed storm water contamination. The visual examination reports must be maintained onsite with the pollution prevention plan.

When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (e.g., drought, extended frozen conditions, etc.).

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

EPA believes that this quick and simple assessment will allow the permittee to approximate the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examinations. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and the effects of the management practices that are included in the plan.

G. Storm Water Discharges Associated With Industrial Activity From Metal Mining (Ore Mining and Dressing) [43] *Facilities*

1. Industrial Profile

On November 16, 1990 (55 FR 47990), the U.S. Environmental Protection Agency (EPA) promulgated the regulatory definition of ''storm water discharges associated with industrial activity.'' This definition included point source discharges of storm water from eleven major categories of facilities, including: ''(i) facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR subchapter N * * * .'' and ''* * * (iii) facilities classified as Standard Industrial Classifications 10 through 14 (metal mining industry) including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under 40 CFR 434.11(l) because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or except for areas of noncoal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment operations, or that has come into contact with, any overburden, raw material, intermediate products, finished products, by-products or waste products located on the site of such operations.''

This section of today's general permit only applies to the portions of categories (i) and (iii) identified by 40 CFR Part 440 and the metal mining industry (Standard Industrial Classification (SIC) code 10). SIC code 10 includes establishments primarily engaged in mining, developing mines, or exploring for metallic minerals (ores). This group also includes all ore dressing and beneficiating operations, whether performed at mills operated in conjunction with the mines served or at mills, such as custom mills, operated separately. Common activities at these mills include: crushing, grinding, and separation by gravity concentration, magnetic separation, electrostatic separation, flotation, or leaching[44]. The following is a listing of the types of mining/milling facilities that are covered under SIC code 10: Iron Ores (SIC Code 1011); Copper Ores (SIC Code 1021); Lead and Zinc Ores (SIC Code 1031); Gold Ores (SIC Code 1041); Silver Ores (SIC Code 1044); Ferroalloy Ores, Except Vanadium (SIC Code 1061); Uranium-Radium-Vanadium Ores (SIC Code 1094); and Miscellaneous Metal Ores, Not Elsewhere Classified (SIC Code 1099).

This section does not cover any discharge subject to effluent limitation guidelines, including storm water that combines with process wastewater and mine drainage. Storm water that does not come into contact with any overburden, raw material, intermediate product, finished product, by-product, or waste product located on the site of

[43] For the purposes of this part of the fact sheet, the term ''metal mining'' includes all ore mining and/or dressing and beneficiating operations, whether performed at mills operated in conjunction with the mines served or at mills, such as custom mills, operated separately.

[44] For more information on metal mines/mills see EPA, Effluent Guidelines Division. November 1982. ''Development Document for Effluent Limitations Guidelines and Standards for the Ore Mining and Dressing Point Source Category.'' EPA 440/1–82/061.

the operation is not subject to permitting under this section according to Section 402(l)(2) of the Clean Water Act. Storm water discharges associated with industrial activity from inactive mining operations occurring on Federal lands where an operator cannot be identified cannot be covered by this permit.

Storm water discharges from mining claims where no mining activities have been undertaken (including no historic activities) except minimal activities undertaken for the purpose of maintaining a mining claim do not need to be covered by a permit. (This applies to Federal and private lands.)

This section is applicable to all phases of mining operations, whether active or inactive, as long as there is exposure to significant materials. This includes land disturbance activities such as the expansion of current extraction sites, active and inactive mining stages, and reclamation activities.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

There are typically three phases to a mining operation: the exploration and construction phase; the active phase; and the reclamation phase. The exploration and construction phase entails exploration and a certain amount of land disturbance to determine the financial viability of a site. Construction includes building of site access roads, and removal of overburden and waste rock to expose minable ore. These land-disturbing activities are significant potential sources of storm water contaminants. The active phase includes each step from extraction through production of a saleable product. The active phase may include periods of inactivity due to the seasonal nature of these metal mining activities. The final phase of reclamation is intended to return the land to its pre-mining state.

Because of the land-disturbing nature of the ore mining and dressing industry, contaminants of concern generated by industrial activities in this industry include total suspended solids (TSS), total dissolved solids (TDS), turbidity, pH, and heavy metals. Table G–1 lists potential pollutant source activities, and related pollutants associated with ore mining and dressing facilities.

TABLE G–1.—ACTIVITIES, POLLUTANT SOURCES, AND POLLUTANTS

Activity	Pollutant source	Pollutant
Site Preparation	Road Construction	Dust, TSS, TDS, turbidity.
	Removal of Overburden	Dust, TSS, TDS, turbidity.
	Removal of waste rock to expose the metal	Dust, TSS, TDS, turbidity.
Mineral Extraction	Blasting activities	Dust, TSS, nitrate/nitrite.
Beneficiation Activities	Milling	Dust, TSS, TDS, pH, turbidity, fines, heavy metals.
	Flotation	Dust, TSS, TDS, pH, turbidity, fines, chemical reagents, acids, heavy metals.
	Gravity Concentration	TSS, TDS, pH, turbidity, heavy metals.
	Amalgamation	Dust, TSS, TDS, pH, turbidity, heavy metals, mercury.
	Waste Rock Storage	Dust, TSS, TDS, turbidity, pH, heavy metals.
	Raw Material Loading	Dust, TSS, TDS, turbidity, heavy metals.
	Processing materials unloading	Diesel fuel, oil, gasoline, chemical reagents.
	Raw or Waste Material Transportation	Dust, TSS, TDS, turbidity, heavy metals.
Leaching	Heap leach piles	Dust, TSS, TDS, turbidity, pH, heavy metals, cyanide.
Other Activities.	Sedimentation pond upsets	TSS, TDS, turbidity, pH, heavy metals.
	Sedimentation pond sludge removal and disposal	Dust, TSS, TDS, turbidity, pH, heavy metals.
	Air emission control device cleaning	Dust, TSS, TDS, turbidity.
Equipment/Vehicle Maintenance	Fueling activities	Diesel fuel, gasoline, oil.
	Parts cleaning	Solvents, oil, heavy metals, acid/alkaline wastes.
	Waste disposal of oily rags, oil and gas filters, batteries, coolants, degreasers.	Oil, heavy metals, solvents, acids
	Fluid replacement including hydraulic fluid, oil, transmission fluid, radiator fluids, and grease.	Oil, arsenic, lead, cadmium, chromium, benzene, TCA, TCE, PAHs, solvents.
Reclamation Activities	Site preparation for stabilization	Dust, TSS, TDS, turbidity, heavy metals.

Sources: Storm Water Group Applications, Parts 1 and 2 and EPA. ''Development Document for Effluent Limitations Guidelines and Standards for the Ore Mining and Dressing Point Source Category.'' (EPA 440/1–82/061) November 1982.

Industrial activities, significant materials, and material management practices associated with ore mining and dressing methods are typically similar, varying only in the type of rock being mined. Examples of mineral commodities obtained from ore mining and dressing facilities include: iron; copper; lead; zinc; gold; silver; ferroalloy ores such as molybdenum, manganese, chromium, cobalt, nickel, and tungsten; uranium; radium; vanadium; aluminum; antimony; bauxite; platinum; tin; and titanium. Industrial activities include, ''. . . but [are] not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process wastewaters (as defined at 40 CFR Part 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials and intermediate and finished materials; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water'' (40 CFR 122.26(b)(14)). The most common industrial activities at metallic mine sites include extraction of the metal, material crushing, and product separation. While all of these industrial activities can occur at metal mines, storm water discharges from some of the areas listed cannot be covered by this permit (see Part VIII.G.4. Discharges Covered Under This Section).

Significant materials include, ''. . . but [are] not limited to: raw materials, fuels, materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; . . . hazardous substances designated under Section 101(14) of CERCLA; any chemical facilities required to report pursuant to Section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharge'' (40 CFR 122.26(b)(12)). Significant materials commonly found at mining facilities include: overburden; waste rock; sub-ore piles; tailings; petroleum-based products; solvents and detergents; manufactured products; and other waste materials.

Materials management practices are defined as those practices employed to diminish contact by significant materials with precipitation and storm water runon, or practices utilized to reduce the offsite discharge of contaminants. To this end, sediment ponds, discharge diversion techniques, as well as methods of dispersion, are used to minimize impacts of significant materials on storm water. For mine sites requiring additional sources of water for processing operations, rainfall events as well as storm water runon will be managed for use in dust suppression, processing, and washing activities. Many mine sites are already equipped with sedimentation ponds and other established process wastewater treatment methods in order to meet effluent limitation guidelines. Additional storm water management practices used at mineral mining facilities include: discharge diversions; drainage/storm water conveyances; runoff dispersion; sediment control and collection practices; vegetation/soil stabilization; capping contaminated sources; and treatment.

Metals are recovered by three basic extraction techniques: surface mining; underground mining; and placer mining. Each type of extraction method may be followed by varying methods of beneficiation and processing. Presented below are brief descriptions of the industrial activities, significant materials, and materials management practices associated with these four extraction processes and associated beneficiation activities. Due to similarities in mining operations for many of the minerals within this sector, industrial activities, significant materials, and materials management practices are fairly uniform across this sector. Unique practices are noted.

a. Surface Mining. Many mining facilities access metal deposits using surface extraction techniques such as strip mining, open-pit, open-cut, and open-cast. Surface mining is more economical than underground especially when the ore body is large and near the surface.

(1) Industrial Activities. Extraction activities include removal of overburden and waste rock to access metal deposits. These land-disturbing activities generate piles of topsoil and other overburden as well as waste rock, which are typically stored beside, or within, the pit or quarry. In addition, land disturbance, drilling, blasting, stripping, and materials handling activities create large amounts of dust that are either dispersed by local wind patterns or collected in air pollution control mechanisms. At closure, overburden and waste rock may or may not be used to reclaim the pit or quarry depending on Federal, State, and local requirements. In addition, access roads and rail spurs, and associated loading and unloading areas, are found onsite.

Following extraction, the mined materials may be transferred to a nearby beneficiation/processing facility. At an ore beneficiation facility, the valuable metals are separated from the less valuable rock to yield a product which is higher in metal content. To accomplish this, the ore must be crushed and ground small enough so that each particle contains mostly the mineral to be recovered or mostly the less valuable, or gangue, material. Valuable minerals are separated from the gangue by gravity concentration, magnetic separation, electrostatic separation, flotation, and leaching.

(2) Significant Materials. Significant materials generated by most extraction activities at surface mines include overburden piles, waste rock piles, ore and subore piles, and materials spilled from loading and unloading activities. Other exposed materials that can be generated at these types of operations (as well as other metal mines), include: tailings from flotation and other separation stages; soils impacted by fugitive dust emissions; settling ponds that receive process wastewaters; dredged sediment disposal areas; as well as raw material and product storage. Dust and particulate matter collected in air pollution control mechanisms may also be disposed of in onsite waste piles.

(3) Materials Management Practices. Materials management practices at surface mines are typically designed to control dust emissions and soil erosion from extraction activities, and offsite transport of significant materials. Settling ponds and impoundments are commonly used to reduce total suspended solids (TSS), total dissolved solids (TDS), and other contaminants in process generated wastewaters. These controls may also be used to manage storm water runoff and runon with potentially few alterations to onsite drainage systems. Few sampling facilities indicated the presence of traditional BMPs. Only 29 percent of the sampling facilities have ponds or impoundments as a storm water control.

Tailings impoundments are used to manage tailings generated at facilities engaged in flotation or heavy media separation operations. These impoundments are used to manage beneficiation/processing wastewaters generated at the facility and may also be used to manage storm water runoff.

b. Underground Mining. Underground mining techniques are used to access metals located too far underground to access economically from the surface. Though typically a more expensive form of extraction, advantages to underground mining operations include year-round operation, less noise (applicable to facilities located near residential areas), and less surface land disturbance. The two main underground mining methods are stoping and caving. Both of these methods can be used in several variations depending on the characteristics of the ore body. Common stoping methods include cut-and-fill, square cut (timbered), shrinkage, and open. Caving methods include undercut, block, and sub-level. Underground mining is usually independent of surface mining, but sometimes underground mining precedes or follows surface mining.

(1) Industrial Activities/Significant Materials. Industrial activities that may be associated with storm water discharges include: loading/unloading activities; haul roads; products and materials storage; waste piles; and processing activities. Exposed materials

associated with surface beneficiation and processing facilities at underground mines are similar to those associated with surface mining facilities.

(2) Materials Management Practices. Materials management practices for significant materials at the surface of underground mining facilities are similar to those materials management practices used at surface mining operations. However, waste rock or mill tailings are in some cases being returned to the mine as fill for the mined-out areas or may be directed to a disposal basin.

c. Placer Mining. Placer mining is used to mine alluvial sands and gravels containing valuable metallic minerals. Placer deposits are usually mined exclusively for gold material but smaller amounts of platinum, tin, and tungsten may also be recovered. There are three main placer mining techniques including dredge, hydraulic, and open cut methods.

(1) Industrial Activities. The industrial activities at dredging placer mines excavate underwater gold deposits by bucketline, dragline, or by suction. The excavation devices dig, wash, and screen gold values which are then recovered using gravity concentration methods. Hydraulic placer mines characteristically use high pressure water jets to excavate value-laden gravel banks. The most commonly used placer mining extraction method is the open cut. It involves stripping away topsoil and overburden to expose the auriferous gravels. The gold bearing gravels are excavated in sections and pushed to a placer wash plant for processing. Gravitational concentration is the common beneficiating technique at placer mines.

(2) Significant Materials. Significant materials generated at placer operations include overburden, mine development rock, ore, sub-ore piles, mine waste dumps, tailings ponds and piles. Potential natural constituents include mercury, arsenic, bismuth, antimony, thallium, pyrite, and pyrrhotite. After settling, the liquid portion of the slurry is returned to the mill as process water and the remaining slurried waste is pumped to tailings. In placer operations, however, tailings are disposed of in streams or on land.

(3) Materials Management Practices. Settling ponds are used to manage process wastewaters and are in some cases being used to manage contaminated storm water runoff. Few materials management practices were indicated in the part 1 group applications.

d. Inactive Mine Sites. Inactive ore mining and dressing operations are those where industrial activities are no longer occurring. When active, mineral extraction could have occurred from surface mines, solution mines, placer operations, or underground mines. These sites are included in this section because significant materials may remain onsite. These materials, if exposed, are potential sources of storm water contamination. Until an inactive metals mine and/or beneficiation operation has been reclaimed under applicable State or Federal laws after December 17, 1990, the site is considered associated with an ''industrial activity'' and is subject to the conditions of this section. Due to the seasonal nature of this industry, mine sites can become temporarily inactive for extended periods of time. Temporarily inactive sites are not viewed the same as permanently inactive sites.

2. Pollutants Found in Storm Water Discharges From Metal Mining

The volume of storm water discharges and the type and concentrations of pollutants found in storm water discharges from active and inactive metal mining facilities will vary according to several factors. Such factors include: geographic location; hydrogeology; the physical and chemical characteristics of the ores extracted; the physical and chemical characteristics of the waste rock and overburden removed; how the ore was extracted (e.g., open pit, underground, solution or dredging); the type of industrial activities occurring onsite (e.g., extraction, crushing, washing, milling, reclamation, etc.); the size of the operation; type, duration, and intensity of precipitation events; temperature ranges and variations; and the types of pollutant control measures used at the site. Each of these, and other factors will interact to influence the quantity and quality of storm water runoff. For example, air emissions (i.e., dust) may be a significant source of pollutants at some facilities, while roads constructed of waste rock may be a primary source at others. In addition, sources of pollutants other than storm water, such as illicit connections, spills, and other improperly dumped materials, may increase the pollutant loadings discharged into waters of the United States.

Based on the wide variety of industrial activities and significant materials at the facilities included in this sector, EPA believes it is appropriate to divide the metal mining (ore mining and dressing) industry into subsectors to properly analyze sampling data and determine monitoring requirements. As a result, this sector has been divided into the following subsectors: iron ore; copper ores; lead and zinc ores, gold and silver ores; ferroalloy ores, except vanadium; metal mining services; and miscellaneous metal ores (including uranium-radium-vanadium ores). Table G–2 below includes data for the eight pollutants that all facilities were required to monitor for under Form 2F. The table also lists those parameters that EPA has determined merit further monitoring.

A table has not been included for the following subsectors because less than 3 facilities submitted data in that subsector; iron ores; lead and zinc ores; gold and silver ores; ferroalloy ores, except vanadium; metal mining services; and miscellaneous metal ores (including uranium-radium-vanadium ores).

TABLE G–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY COPPER ORE MINING FACILITIES SUBMITTING PART II SAMPLING DATA [i] (mg/L)

Pollutant Sample type	No. of facilities				No. of samples		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp [ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	4	1	7	1	11.0	18.0	0.0	18.0	27.0	18.0	11.0	18.0	43.6	....	81.9	....
COD	4	2	7	4	234.7	360.0	0.0	160.0	630.0	740.0	160.0	270.0	1448.6	888.2	3835.9	1386.6
Nitrate + Nitrite Nitrogen	4	1	5	2	1.84	1.50	0.00	1.40	5.30	1.60	1.40	1.50	6.35	1.75	11.5	1.86
Total Kjeldahl Nitrogen	3	1	4	2	3.98	3.70	1.20	1.50	7.00	5.90	3.85	3.70	13.60	14.63	25.55	28.30
Oil & Grease	3	N/A	5	N/A	1.0	N/A	0.0	N/A	5.0	N/A	0.0	N/A	....	N/A	....	N/A
pH	5	N/A	13	N/A	N/A	N/A	4.5	N/A	8.2	N/A	7.8	N/A	9.7	N/A	10.7	N/A
Total Phosphorus	5	3	10	5	2.17	7.54	0.00	0.00	14.00	7.00	0.11	0.17	13.53	7.93	68.67	28.25
Total Suspended Solids	4	2	6	4	18113	580	0	330	100000	850	2135	570	350477	1159	4050366	1596

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

3. Options for Controlling Pollutants From Metal Mines

There are two options for reducing pollutants in storm water discharges; end-of-pipe treatment and implementing Best Management Practices to prevent and/or eliminate pollution. Discharges from mining operations are in some ways dissimilar to other types of industrial facilities. Mining facilities are often in remote locations and may operate only seasonally or intermittently, yet need year-round controls because significant materials remain exposed to precipitation when reclamation is not completed. These characteristics make resource intensive end-of-pipe management controls less desirable. A comprehensive storm water management program for a given plant may include controls from each of these categories. Development of comprehensive control strategies should be based on a consideration of site and facility plant characteristics.

a. End-of-Pipe Treatment. At many ore mining and dressing facilities, it may be appropriate to collect and treat the runoff from targeted areas of the facility. This approach was taken with 11 industrial subcategories within the ore mining and dressing industry, subject to national effluent limitation guidelines mill process wastewater and mine drainage. There are several areas where effluent limitation guidelines influence the permitting strategy for storm water discharges: whenever storm water and mill process wastewater and mine drainage combine, the storm water discharge is also subject to effluent limitation guidelines; to meet the numeric effluent limitation guidelines, most, if not all, facilities must collect and temporarily store onsite runoff from targeted areas of the plant; the effluent limitation guidelines do not apply to discharges whenever rainfall events, either chronic or catastrophic, cause an overflow of storage devices designed, constructed, and maintained to contain a 10-year, 24-hour storm; and most technology-based treatment standards, used for treating discharges subject to effluent limitation guidelines, are based on relatively simple technologies such as settling of solids, neutralization, and drum filtration.

For storm water discharges that are not covered by the effluent limitations guidelines, BMPs may be an appropriate means for limiting pollutant contributions. However, in cases of poor quality storm water discharges (e.g., low pH, high metals, etc.), treatment may be necessary to protect receiving waters.

b. Best Management Practices. Effective storm water management controls for limiting the offsite discharge of storm water pollutants from ore mining and dressing facilities are source reduction BMPs. Source reduction BMPs are methods by which discharges of contaminants are controlled with little or no required maintenance. Examples of these types of controls include source reduction diversion dikes, vegetative covers, and berms. Source reduction practices are typically (but not always) low in cost and relatively easy to implement. In some instances, more resource intensive treatment BMPs, including sedimentation ponds, may be necessary depending upon the type of discharge, types and concentrations of contaminants, and volume of flow.

The selection of the most effective BMPs will be based on site-specific considerations such as: facility size, climate, geographic location, hydrogeology and the environmental setting of each facility, and volume and type of discharge generated. Each facility will be unique in that the source, type, and volume of contaminated storm water discharges will differ. In addition, the fate and transport of pollutants in these discharges will vary. The management practices discussed herein are well suited mechanisms to prevent or control the contamination of storm water discharges associated with mining activity.

The following four categories describe best management practice options for reducing pollutants in storm water discharges from ore mining and dressing facilities: discharge diversions; sediment and erosion control; capping of contaminated sources; treatment.

Because ore mining and dressing is largely a land disturbance activity, BMPs that minimize erosion and sedimentation will be most effective if installed at the inception of operations and maintained throughout active operations and reclamation of the site. From the construction of access and haul roads, to closure and reclamation activities, implementation of BMPs is often essential to minimizing long-term environmental impacts to an area.

Part 1 group application data indicates that few storm water BMPs have been implemented at sampling facilities. The group application process did not require a description of BMP locations, and did not require applicants to describe the number of identical BMPs implemented at each site. As a result, the effectiveness of BMPs, for storm water management, at these facilities cannot be evaluated.

Many BMPs were not listed by facilities because they have been implemented to treat waters subject to effluent limitation guidelines, and are not exclusively used for storm water management. For instance, 29 percent of the sampling subgroup reported using ponds for sediment control and collection. Since some facilities classified as SIC Code 10 are subject to effluent limitation guidelines, sedimentation ponds may be implemented at greater proportions than indicated in part 1 of the group applications.

Because BMPs described in the part 1 data are limited, EPA is providing an overview of supplementary BMPs for use at ore mining and dressing facilities. However, due to the site-specific nature of facilities within this sector, BMPs cited do not preclude the use of other viable BMP options. Table G–3 summarizes BMP options as they apply to land disturbance activities at ore mining and dressing facilities. Sources of BMP information include: ‘‘Sediment and Erosion Control: An Inventory of Current Practices—Draft,’’ EPA, April 20, 1990; ‘‘Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices,’’ EPA, September, 1992, (EPA 832–R–92–006); ‘‘Best Management Practices for Mining in Idaho,’’ Idaho Department of Lands, November 1992; and ‘‘Erosion & Sediment Control Handbook,’’ Goldman et al., McGraw-Hill Book Company, 1986.

TABLE G–3.—SUMMARY OF MINE AREAS AND APPLICABLE BEST MANAGEMENT PRACTICES

Land-disturbed area	Discharge diversions	Conveyance systems	Runoff dispersion	Sediment control & collection	Vegetation	Containment	Treatment
Haul Roads and Access Roads.	Dikes, Curbs, Berms.	Channels, Gutters, Culverts, Rolling Dips, Road Sloping, Roadway Water Deflectors.	Check Dams, Rock Outlet Protection, Level Spreaders, Stream Alteration, Drop Structures.	Gabions, Riprap, Native Rock Retaining Walls, Straw Bale Barriers, Sediment Traps/Catch Basins, Vegetated Buffer Strips.	Seeding, Willow Cutting Establishment.		
Pits/Quarries or Underground Mines.	Dikes, Curbs, Berms.	Channels, Gutters.	Serrated Slopes, Benched Slopes, Contouring, Stream Alteration.	Sediment Settling Ponds, Straw Bale Barrier, Siltation Berms.	Seeding	Plugging and Grouting.	Chemical/Physical Treatment.
Overburden, Waste Rock and Raw Material Piles.	Dikes, Curbs, Berms.	Channels, Gutters.	Serrated Slopes, Benched Slopes, Contouring, Stream Alteration.	Plastic Matting, Plastic Netting, Erosion Control Blankets, Mulch-straw, Compaction, Sediment/Settling Ponds, Silt Fences, Siltation Berms.	Topsoiling, Seedbed Preparation, Seeding.	Capping	Chemical/Physical Treatment, Artificial Wetlands.
Reclamation	Dikes, Curbs, Berms.	Channels, Gutters.	Check Dams, Rock Outlet Protection, Level Spreaders, Serrated Slopes, Benched Slopes, Contouring, Drain Fields, Stream Alteration, Drop Structures.	Gabions, Riprap, and Native Rock Retaining Walls, Biotechnical Stabilization, Straw Bale Barriers, Sediment Traps/Catch Basins, Vegetative Buffer Strips, Silt Fences, Siltation Berms, Brush Sediment Barriers.	Topsoiling, Seedbed Preparation, Seeding, Willow Cutting Establishment.	Capping, Plugging and Grouting.	Chemical/Physical Treatment, Wetlands.

Haul Roads and Access Roads—Placement of haul roads or access roads should occur as far as possible from natural drainage areas, lakes, ponds, wetlands or floodplains where soil will naturally be less stable for heavy vehicle traffic. If a haul road must be constructed near water, as little vegetation as possible should be removed from between the road and the waterway, as vegetation is a useful buffer against erosion and is an efficient sediment collection mechanism. The width and grade of haul or access roads should be minimal and should be designed to match natural contours of the area. Construction of haul roads should be supplemented by BMPs that divert runoff from road surfaces, minimize erosion, and direct flow to appropriate channels for discharge to treatment areas.

Pits or Quarries—Excavation of a pit or quarry must be accompanied by BMPs to minimize impacts to area surface waters. As discussed in construction of haul roads, as little vegetation as possible should be removed from these areas during excavation activities to minimize exposed soils. In addition, stream channels and other sources of water that may discharge into a pit or quarry should be diverted around that area to prevent contamination.

BMPs can be used to control total suspended solids levels in runoff from unvegetated areas. These can include sediment/settling ponds, check dams, silt fences, and straw bale barriers.

Overburden, Waste Rock, and Raw Material Piles—Overburden, topsoil, and waste rock, as well as raw material and intermediate and final product stockpiles should be located away from surface waters and other sources of water, and from geologically unstable areas. If this is not practicable, surface water should be diverted around the piles. As many piles as possible should be revegetated, (even if only on a temporary basis.) At closure, remaining units should be reclaimed.

Reclamation Activities—When a mineral deposit is depleted and operations cease, a mine site must be reclaimed according to appropriate State or Federal standards. Closure activities typically include restabilization of any disturbed areas such as access or haul roads, pits or quarries, sedimentation ponds or work-out pits, and any remaining waste piles. Overburden and topsoil stockpiles may be used to fill in a pit or quarry (where practical.) Recontouring and revegetation should be performed to stabilize soils, and prevent erosion.

Major reclamation activities such as recontouring roads and filling in a pit or quarry can only be performed after operations have ceased. However, reclamation activities such as stabilization of banks, and reseeding and revegetation should be implemented in mined out portions, or inactive areas of a site as active mining moves to new areas.

EPA recognizes that quarries are frequently converted into reservoirs, or recreational areas, after the mineral deposit is depleted. However, this does not preclude the reclamation of disturbed areas above the quarry rim.

(1) Discharge Diversions. Discharge diversions provide the first line of defense in preventing the contamination of discharges, and subsequent contamination of receiving waters of the United States. Discharge diversions are temporary or permanent structures installed to divert flow, store flow, or limit storm water runon and runoff.

These diversion practices have several objectives. First, diversion structures can be designed to prevent otherwise uncontaminated (or less contaminated) water from crossing disturbed areas or areas containing significant amounts of contaminated materials, where contact may occur between runon and significant materials. These source reduction measures may be particularly effective for metal mining facilities to prevent runon of uncontaminated discharges from contacting exposed materials and/or reduce the flow across disturbed areas, thereby lessening the potential for erosion. Second, diversion structures can be used to collect or divert waters for later treatment, if necessary. The usefulness of these control measures are limited by such factors as the size of the area to be controlled and the type and nature of materials exposed and precipitation events.

Diversion dikes, curbs, and berms are temporary or permanent diversion structures that prevent runoff from passing beyond a certain point, and divert runoff away from its intended path. Dikes, curbs or berms may be used to surround and isolate areas of concern at metal mining sites, diverting flow around piles of overburden, waste rock, and storage areas, to minimize discharge contact with contaminated materials and to limit discharges of contaminated water from confined areas. The BMPs described below may be useful for storm water diversion at metal mining sites.

Channels or Gutters—Channels or gutters collect storm water runoff and direct its flow. Channels or gutters may act to divert runoff away from a potential source of contamination, but may also be used to channel runoff to a collection and/or treatment area including settling ponds, basins or work-out pits.

Open Top Box Culverts and Waterbars—These structures are temporary or permanent structures that divert water from a roadway surface. Open top box culverts may be used on steeply graded, unpaved roads in place of pipe culverts to divert surface runoff and flow from inside ditches onto the downhill slope of a road. These structures are typically made of wood and should periodically be monitored and repaired if necessary.

Rolling Dips and Road Sloping—Rolling dips and road sloping are permanent water diversion techniques installed using natural contours of the land during road construction. These BMPs prevent water accumulation on road surfaces and divert surface runoff toward road ditches, which then convey the storm water to ponds or other management areas.

Roadway Surface Water Deflector—A roadway surface water deflector is another technique to prevent accumulation of water on road surfaces. The structure uses a conveyor belt sandwiched between two pieces of treated wood and placed within the road to deflect water. This is a useful technique for steeply graded, unpaved roads.

Culverts—Culverts are permanent surface water diversion mechanisms used to convey water off or underneath a road. Made of corrugated metal, they must extend across the entire width of the road and beyond the fill slope. Additional erosion control mechanisms may need to be installed at the discharge end of the culvert.

Drainage systems are most effective when used in conjunction with runoff dispersion devices designed to slow the flow of water discharged from a site. These devices also aid storm water infiltration into the soil and flow attenuation. Some examples of velocity dissipation devices include check dams, rock outlet protection, level spreaders, and serrated and benched slopes.

Check Dams—Check dams are small temporary dams constructed across swales or drainage ditches to reduce the velocity of runoff flows, thereby reducing erosion and failure of the swale or ditch. This slowing reduces erosion and gullying in the channel and allows sediments to settle.

Rock Outlet Protection—Rock protection placed at the outlet end of culverts, channels, or ditches reduces the depth, velocity, and destructive energy of water such that the flow will not erode the downstream reach.

Level Spreaders—Level spreaders are outlets for dikes and diversions consisting of an excavated depression constructed at zero grade across a slope. Level spreaders diffuse storm water point sources and release it onto areas stabilized by existing vegetation.

Serrated Slopes and Benched Slopes—These runoff dispersion methods break up flow of runoff from a slope, decreasing its ability to erode. Serrated and benched slopes provide flat areas that allow water to infiltrate, and space for vegetation to grow and reinforce soils.

Contouring—Surface contouring is the establishment of a rough soil surface amenable to revegetation, through creating horizontal grooves, depressions, or steps that run with the contour of the land. Surface roughening aids in the establishment of vegetative cover by reducing runoff velocity and giving seed an opportunity to take hold and grow.

Drain Fields—Drain fields are used to prevent the accumulation of water and/or ground water at a site, by diverting infiltrating sources through gravity flow or pumping.

Stream Alteration—Altering or channelizing the path of a stream to bypass all or some disturbed areas on a site allows additional mining activities and avoids contamination of stream water by disturbed lands. This practice is complicated, however, by the need to restore the channel when mining operations end.

Drop Structures—Drop structures are large angular rocks placed in a V-shaped pattern to slow the velocity of storm water runoff. These structures are typically reinforced by logs or large rocks imbedded in the streambanks.

(2) Erosion and Sediment Controls. Erosion and sediment controls limit movement and retain sediments from being transported offsite. Several structural collection devices have been developed to remove sediment from runoff before it leaves the site. Several methods of removing sediment from site runoff involve diversion mechanisms previously discussed, supplemented by a trapping or storage device. Structural practices typically involve filtering diffuse storm water flows through temporary structures such as straw bale dikes, silt fences, brush barriers or vegetated areas.

Structural practices are typically low in cost. However, structural practices require periodic removal of sediment to remain functional. As such, they may not be appropriate for permanent use at inactive mines. However, these practices may be effectively used as temporary measures during active operation and/or prior to the final implementation of permanent measures.

(a) Structural Practices.

(i) Sediment/Settling Ponds—Sediment ponds function as sediment traps by containing runoff for long periods of time, allowing suspended solids to settle. These structures can achieve a high removal rate of sediment for both process wastewater and storm water discharges.

Discharge ponds may also be designed to act as surge ponds which are designed to contain storm surges and then completely drain in about 24 to 40 hours, and remain dry during times of no rainfall. They can provide pollutant removal efficiencies that are similar to those of detention ponds.[45]

(ii) Gabions, Riprap, and Native Rock Retaining Walls—These BMPs are all forms of slope stabilization. Gabions consist of rocks (riprap) contained by rectangular wire boxes or baskets for use as permanent erosion control structures. Riprap consists of loose rocks placed along embankments to prevent erosion.

(iii) Biotechnical Stabilization—Biotechnical stabilization uses live brush imbedded in the soils of a steep slope to prevent erosion. This method relies on the premise that the imbedded vegetation will eventually root and help stabilize the slope.

(iv) Straw Bale Barrier—Straw bales may be used as temporary berms, barriers, or diversions, capturing sediments, filtering runoff. When installed and maintained properly, these barriers remove approximately 67 percent of the sediment load.[46]

(v) Sediment Traps or Catch Basins—These temporary or permanent structures are useful for catching and storing sediment laden storm water runoff and are particularly useful during construction activities to contain runoff. The effectiveness of these BMPs is better in smaller drainage basin areas. Sediment traps are less than 50 percent effective in removing sediment from storm water runoff.[47]

(vi) Vegetated Buffer Strips—The installation of vegetated buffer strips will reduce runoff and prevent erosion at a removal efficiency rate of 75 to 99 percent depending upon the ground cover.[48]

(vii) Silt Fence/Filter Fence—A low fence made of filter fabric, wire and steel posts, should be used on small ephemeral drainage areas where storm water collects or leaves a mine site. Silt fences remove 97 percent of the sediment load and are easier to maintain and remove without creating lasting impacts to the environment.[49]

(viii) Siltation Berms—Siltation berms are typically placed on the downslope side of a disturbed area to act as an impermeable barrier for the capture and retention of sediments in surface water runoff. Plastic sheeting is typically used to cover the berm. The berm and the plastic sheeting may require periodic maintenance and repair.

(ix) Brush Sediment Barriers—Brush barriers are temporary sediment barriers composed of tree limbs, weeds, vines, root mat, soil, rock and other cleared materials placed at the toe of a slope. A brush barrier is effective only for small drainage areas, usually less than ¼ acre, where the slope is minimal.

(b) Stabilization—Stabilization practices involve establishing a sustainable ground cover by permanent seeding, mulching, sodding, and other such practices. A vegetative cover reduces the potential for erosion of a site by: absorbing the kinetic energy of raindrops which would otherwise impact soil; intercepting water so it can infiltrate into the ground instead of running off and carrying contaminated discharges; and by slowing the velocity of runoff to promote onsite deposition of sediment. Stabilization controls are often the most important measures taken to prevent offsite sediment movement, and can provide a six-fold reduction in the discharge of suspended sediment levels.[50] Permanent seeding has been found to be 99 percent effective in controlling erosion for disturbed land areas.[51] Many states require that topsoil be segregated from other overburden for use during reclamation. While stored, topsoil stockpiles should be vegetated. This temporary form of vegetation can often be used for other piles of stored materials and for intermittent/seasonal operations.

Typically, the costs of stabilization controls are low relative to other discharge mitigation practices. Given the limited capacity to accept large volumes of runoff, and potential erosion problems associated with large concentrated flows, stabilization controls should typically be used in combination with other management practices. These measures have been documented as particularly appropriate for mining sites.

(i) Topsoiling, Seedbed Preparation—The addition of a layer of topsoil or plant growth material provides an improved soil medium for plant growth. Seedbed preparation may include the addition of topsoil ingredients to be mixed in with soils used for seedbed preparation.

(ii) Broadcast Seeding and Drill Seeding—Seeding and vegetative planting are methods used to revegetate an area. Broadcast seeding spreads seeds uniformly, by hand or machine, to steep sloped or rocky areas, flat surfaces, and areas with limited access.

(iii) Willow Cutting Establishment—Willow cutting establishment describes a method of soil stabilization useful for stream banks and other areas located adjacent to water. Similar to biotechnical stabilization, willow cuttings are used to promote growth in an area needing stabilization. Willow cuttings are typically used to reinforce a streambank or other moist area.

(iv) Plastic Matting, Plastic Netting, and Erosion Control Blankets—These BMPs are used to protect bare soils to control dust and erosion. Mats and blankets help to promote vegetative growth by maintaining moisture and heat within the soil.

[45] ''Urban Targeting and BMP Selection,'' EPA, Region V, November 1990.

[46] ''Sediment and Erosion Control: An Inventory of Current Practices—Draft,'' EPA, April 20, 1990, page IV–14.

[47] ''Sediment and Erosion Control: An Inventory of Current Practices—Draft,'' EPA, April 20, 1990, page IV–26.

[48] ''Sediment and Erosion Control: An Inventory of Current Practices—Draft,'' EPA, April 20, 1990, page IV–7.

[49] ''Sediment and Erosion Control: An Inventory of Current Practices—Draft,'' EPA, April 20, 1990, page IV–15.

[50] ''Performance of Current Sediment Control Measures at Maryland Construction Sites,'' January 1990, Metropolitan Washington Council of Governments, page X.

[51] ''Sediment and Erosion Control: An Inventory of Current Practices—Draft,'' EPA, April 20, 1990, page IV–4.

(v) Mulch-straw or Wood Chips—Mulches and wood chips are useful temporary covers for bare or seeded soils, with an erosion control effectiveness rating of 75 to 98 percent.[52] Like matting, mulch-straw or wood chips help soils retain moisture and warmth to promote vegetative growth.

(vi) Compaction—Soil compaction using a roller or other heavy equipment increases soil ''strength'' by increasing its density. More dense soil is less prone to erosion and long-term soil settlement.

(3) Capping. In some cases, the elimination of a pollution source through capping contaminant sources may be the most cost effective control measure for discharges from inactive ore mining and dressing facilities. Depending on the type of management practices chosen the cost to eliminate the pollutant source may be very high. Once completed, however, maintenance costs will range from low to nonexistent.

Capping or sealing of waste materials is designed to prevent infiltration, as well as to limit contact between discharges and potential sources of contamination. Ultimately, capping should reduce or eliminate the contaminants in discharges. In addition, by reducing infiltration, the potential for seepage and leachate generation may also be lessened.

EPA has identified a wide variety of best management practices (BMPs) that may be used to mitigate discharges of contaminants at active and inactive metal mines. Many of the practices focus on sediment and erosion control and are similar to BMPs used in the construction industry. These controls to prevent erosion and control sedimentation are the most effective if they are installed at the inception of operations and maintained throughout active operations and reclamation of the site. For more details on the use and implementation of these practices the reader is encouraged to obtain a copy of one or more of the many good sediment and erosion control books available on the market.[53] In some cases (e.g., low pH and/or high metals concentrations), BMPs, and sediment and erosion controls may not be adequate to produce an acceptable quality of storm water discharge. Under those circumstances additional physical or chemical treatment systems may be necessary to protect the receiving waters.

(4) Treatment. Treatment practices are those methods of control which normally are thought of as being applied at the ''end of the pipe'' to reduce the concentration of pollutants in water before it is discharged. This is in contrast to many BMPs, where the emphasis is on keeping the water from becoming contaminated. Treatment practices may be required where flows are currently being affected by exposed materials and other BMPs are insufficient to meet discharge goals. These practices are usually the most resource intensive, as they often require significant construction costs, and monitoring and maintenance on a frequent and regular basis. Treatment options may range from high maintenance controls to low maintenance controls. High maintenance treatment techniques require manpower to operate and maintain the BMP. Low maintenance cost techniques have initial capital costs but operate with low long-term maintenance after being implemented. At a few sites, treatment measures other than high maintenance measures may be appropriate to address specific pollutants.

(a) Chemical/Physical Treatment—An example of a high maintenance technology that is found at many active metal mining facilities is chemical/physical treatment. The most common type of chemical/physical treatment involves the addition of lime or other such caustics to neutralize the discharges and/or precipitate metals. Metals may be removed from wastewater by raising the pH of the wastewater to precipitate them out as hydroxides.

(b) Oil/Water Separators—Another example of a high maintenance treatment technology is an oil/water separator. An American Petroleum Institute (API) oil/water separator or similar type of treatment device which acts to skim oil and settle sludge can be used to remove oil from water.

(c) Artificial Wetlands—This type of BMP system can be an effective system for improving water quality either alone or in conjunction with other treatment practices. Wetland processes are able to filter sediments, and absorb and retain chemical and heavy metal pollutants through biological degradation, transformation, and plant uptake.

Natural wetlands should not be considered as part of the treatment system because they are considered to be waters of the United States. The necessary controls, or BMPs, must be provided prior to discharging the storm water runoff to natural wetlands or other receiving waters.

In summary, a wide variety of BMPs are available for use at active and inactive metallic mining and milling facilities. These measures range from simple low cost, low maintenance source reduction practices such as diversion structures to high cost, maintenance intensive practices such as wetlands treatment. Clearly, the selection of a practice or group of practices will be site-specific depending on conditions and potential impacts as well as the resources available at each site. A specific best available technology (or technologies) cannot be determined because of the differences between sites and the quantities and characteristics of their discharges.

(4) Discharges Covered Under This Section

Coverage under this section of today's permit is limited to all storm water discharges from inactive metal mining facilities and storm water discharges from the following areas of active metal mining facilities: topsoil piles; offsite haul/access roads if off active area; onsite haul roads if not constructed of waste rock or spent ore, and mine water is not used for dust control; runoff from tailings dams/dikes when not constructed of waste rock/tailings and no process fluids are present; concentration building, if no contact with material piles; mill site, if no contact with material piles; chemical storage area; docking facility, if no excessive contact with waste product; explosive storage; reclaimed areas released from reclamation bonds prior to December 17, 1990; and partially/inadequately reclaimed areas or areas not released from reclamation bonds.

Storm water discharges, or mine drainage discharges, which are subject to existing effluent limitations guidelines addressing storm water (or a combination of storm water and non-storm water) cannot be covered by this section. The effluent limitations guidelines that apply to active metal mining operations are contained in 40 CFR Part 440, Ore Mining and Dressing Point Source Category. These effluent guidelines include specific numeric limitations for mine drainage and discharges from mills, or ''no discharge'' requirements. Table G–4 identifies the discharge and source of the discharge from active metal mining facilities, that are subject to process wastewater limitations, mine drainage limitations, and storm water reporting requirements. Storm water discharges that are eligible

[52] ''Sediment and Erosion Control: An Inventory of Current Practices—Draft,'' EPA, April 20, 1990.

[53] ''Best Management Practices for Mining in Idaho,'' Idaho Department of State Lands, November 1992; ''Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices,'' EPA, September 1992 (EPA 832–R–92–005); and ''Erosion & Sediment Control Handbook,'' Goldman et al., McGraw-Hill Book Company, 1986.

for coverage under today's permit are identified under the coverage section of the permit. At all metal mining facilities, coverage under this section does not include adit drainage or contaminated springs or seeps. Table G–4 clarifies the applicability of the Effluent Limitations Guidelines found in 40 CFR Part 440. This table does not expand or redefine these Effluent Limitations Guidelines.

TABLE G–4.—APPLICABILITY OF 40 CFR PART 440 EFFLUENT LIMITATIONS GUIDELINES TO STORM WATER RUNOFF FROM ACTIVE ORE (METAL) MINING AND DRESSING SITES

Discharge/source of discharge	Applicable ELG, if any (see key)	Note/comment
Land application area runoff	MD	PW—if Process fluids present.
Crusher area	MD	PW—if Process fluids present.
Piles (seepage and/or runoff):		
Spent ore	MD	PW—if Process fluids present.
Surge/Ore	MD	PW—if Process fluids present.
Waste rock/overburden	MD	
Topsoil	SW	
Drainage:		
Pit drainage (unpumped)	MD	
Pit drainage (removed by pumping)	MD	
Mine water from underground mines (unpumped), adit discharges.	MD	
Mine water from underground mines (pumped)	MD	
Seeps/French drains	MD	PW—if Process fluids present.
Roads constructed of waste rock or spent ore:		
Onsite haul roads	MD	
Offsite haul/access roads	SW	(if off Active Area).
Roads not constructed of waste rock or spent ore:		
Onsite haul roads	SW	MD—if dust control with MD water.
Offsite haul/access roads	SW	
Milling/concentrating:		
Tailings impoundment/pile	PW	
Runoff from tailings dams/dikes when constructed of waste rock/tailings.	MD	PW—if Process fluids present.
Runoff from tailings dams/dikes when not constructed of waste rock/tailings.	SW	PW—if Process fluids present.
Heap leach pile runoff/seepage	PW	
Pregnant pond (barren and surge ponds also)	PW	
Polishing pond	PW	
Concentration building	SW	If storm water only, and no contact with piles.
Concentrate pile (product storage)	PW	
Mill site	SW	Same as concentration bldg.
Ancillary areas:		
Office/administrative building and housing	UC	Unless mixed with SW from industrial area, then SW.
Chemical storage area	SW	
Docking facility	SW	Excessive contact with waste product could constitute MD.
Explosive storage	SW	
Fuel storage (oil tanks/coal piles)	SW	
Vehicle/equipment maintenance area/building	SW	
Parking areas	SW	UC if only employee and visitor type parking.
Power plant	SW	
Truck wash area	SW	Excessive contact with waste product could constitute MD.
Reclamation-related areas:		
Any disturbed area (unreclaimed)	MD	SW if inactive area.
Reclaimed areas released from reclamation bonds after Dec. 17 1990.	UC	
Reclaimed areas released from reclamation bonds prior to Dec. 17 1990.	SW	
Partially/inadequately reclaimed areas or areas not released from reclamation bond.	SW	

KEY: UC—Unclassified; Not Subject to Storm Water Program or 40 CFR Part 440 Effluent Limitations Guidelines (ELG); MD—Subject to 40 CFR Part 440 ELG for mine drainage; PW—Subject to 40 CFR Part 440 ELG for mill discharge or process (including zero discharge ELG); SW—Storm water runoff from these sources are subject to the Storm Water Program, but are not subject to 40 CFR 440 ELG unless mixed with discharges subject to the 440 CFR 440 ELG that are not regulated by another permit prior to mixing. Non-storm water discharges from these sources are subject to NPDES permitting and may be subject to the effluent limitation guidelines under 40 CFR 440.

Temporarily inactive (e.g., winter closure, and portions of active mines that are no longer being mined, and where reclamation has not begun) mines will be permitted as an active mine. The following definitions apply to this section and are intended to provide clarification as to what is considered active, inactive, and temporarily inactive:

The following definitions are only for this section of today's permit and are not intended to supersede the definitions of active and inactive mining facilities established by 40 CFR 122.26(b)(14)(iii):

''*Active Metal Mining Facility*'' is a place where work or other related activity to the extraction, removal, or recovery of metal ore is being conducted. With respect to surface mines, an ''active metal mining facility'' does not include any area of land on or in which grading has been completed to return the earth to a desired contour and reclamation work has begun.

''Inactive Metal Mining Facility'' means a site or portion of a site where metal mining and/or milling activities occurred in the past but is not an active metal mining facility, as defined in this permit and that portion of the facility does not have an active mining permit issued by the applicable (federal or state) government agency that authorizes mining at the site.

''Temporarily Inactive Metal Mining Facility'' means a site or portion of a site where metal mining and/or milling activities occurred in the past, but currently are not being actively undertaken, and the facility has an active mining permit issued by the applicable (federal or state) governmental agency that authorizes mining at the site.

Operators of storm water discharges from mining related industrial activities such as vehicle maintenance, or power plants should refer to the appropriate sections of today's permit for specific guidance or requirements. Clearing, grading, and excavation activity that disturbs 5 or more acres during the exploration or preparation for beginning active mining operations cannot be covered by this section. Coverage for this type of pre-mining activity can be covered by EPA's general permit for storm water discharges from construction activities or an applicable State-issued permit. Land disturbance activities associated with the active mining operations such as expansion of existing pits, can be covered by this section.

5. Storm Water Pollution Prevention Plan Requirements

All facilities subject to this section must prepare and implement a storm water pollution prevention plan. The establishment of a pollution prevention plan requirement reflects EPA's decision to allow operators of ore mining and dressing facilities to utilize BMPs as the BAT/BCT level of control for the storm water discharges covered by this section. The requirements included in pollution prevention plans provide a flexible framework for the development and implementation of site specific controls to minimize pollutants in storm water discharges. This approach is consistent with the approach used in the baseline general permits finalized on September 9, 1992 (57 FR 41236).

Pollution prevention can be an effective approach for controlling contaminated storm water discharges from metal mining facilities. Pollution prevention plans allow the operator of a facility to select BMPs based on site-specific considerations such as: facility size; climate; geographic location; hydrogeology; the environmental setting of each facility; and volume and type of discharge generated. This flexibility is necessary because each facility will be unique in that the source, type, and volume of contaminated surface water discharges will differ from site to site. In addition, EPA believes that the adoption of BMPs reduces environmental impacts by minimizing land disturbed areas susceptible to storm water runoff. Early implementation and maintenance of BMPs facilitates ongoing reclamation activities, reducing final reclamation costs associated with site closure. BMPs are also effective at temporarily or permanently inactive mine sites.

There are two major objectives to a pollution prevention plan: 1) to identify sources of pollution potentially affecting the quality of storm water discharges associated with industrial activity from a facility; and 2) to describe and ensure implementation of practices to minimize and control pollutants in storm water discharges associated with industrial activity from a facility.

Specific requirements for a pollution prevention plan for ore mining and dressing facilities are described below. These requirements must be implemented in addition to the baseline pollution prevention plan provisions discussed previously.

a. Active and Temporarily Inactive Metal Mining Facilities.

(1) Description of Mining Activities. The storm water pollution prevention plan shall provide a narrative description of the mining and associated activities taking place at the site which affect or may affect storm water runoff intended to be covered by this section. The narrative description shall report the total acreage within the mine site, an estimate of the acreage of land currently disturbed, and an estimate of the total acreage that will be disturbed throughout the life of the mine. A general description of the mining site relative to major transportation routes and communities shall also be provided.

(2) Description of Potential Pollution Sources. Each storm water pollution prevention plan must describe activities, materials, and physical features of the facility that may contribute to storm water runoff or, during periods of dry weather, result in dry weather flows and mine pumpout. This assessment of storm water pollution will support subsequent efforts to identify and set priorities for necessary changes in materials, materials management practices, or site features, as well as aid in the selection of appropriate structural and nonstructural control techniques. In addition to the baseline general requirements storm water pollution prevention plans must describe the following elements:

(a) Drainage—The plan must contain a map of the site that shows the pattern of storm water drainage, structural features that control pollutants in storm water runoff [54] and process wastewater discharges (including mine drainage), surface water bodies (including wetlands), places where significant materials [55] are exposed to rainfall and runoff, and locations of major spills and leaks that occurred in the 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. The map also must show areas where the following activities take place: fueling, vehicle and equipment maintenance and/or cleaning, loading and unloading, material storage (including tanks or other vessels used for liquid or waste storage), material processing, waste disposal, haul roads, access roads, and rail spurs. The site map must also indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls (e.g. storm water and air conditioner condensate). In order to increase the readability of the map, the inventory of the types of discharges contained in each outfall may be kept as an attachment to the site map.

(b) Inventory of Exposed Materials—Facility operators are required to carefully conduct an inspection of the site and related records to identify significant materials that are or may be exposed to storm water. The inventory

[54] Nonstructural features such as grass swales and vegetative buffer strips also should be shown.

[55] Significant materials include, ''* * * but [are] not limited to: raw materials, fuels, materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; * * * hazardous substances designated under section 101(14) of CERCLA; any chemical facilities required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharge'' (40 CFR 122.26(b)(12)). Significant materials commonly found at mining facilities include: overburden; raw materials; waste rock piles; tailings; petroleum based products; solvents and detergents; heap leach pads; tailings piles/ponds, both proposed and existing; and manufactured products, waste materials or by-products used or created by the facility.

must address materials that within 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit have been handled, stored, processed, treated, or disposed of in a manner to allow exposure to storm water. Findings of the inventory must be documented in detail in the pollution prevention plan. At a minimum, the plan must describe the method and location of onsite storage or disposal; practices used to minimize contact of materials with rainfall and runoff; existing structural and nonstructural controls that reduce pollutants in storm water runoff; existing structural controls that limit process wastewater discharges; and any treatment the runoff receives before it is discharged to surface waters or a separate storm sewer system. The description must be updated whenever there is a significant change in the types or amounts of materials, or material management practices, that may affect the exposure of materials to storm water.

In addition, any existing ore or waste rock/overburden characterization data, including results of testing for acid rock generation potential must be included in the pollution prevention plan. The intent is to get an idea of the pollutants (e.g., heavy metals) that may be present in the ore and waste rock/overburden.

(3) Measures and Controls. Following completion of the source identification and assessment phase, the permittee must evaluate, select, and describe the pollution prevention measures, best management practices (BMPs), and other controls that will be implemented at the facility. The permittee must assess the applicability of the following BMPs for their site: discharge diversions, drainage/storm water conveyance systems, runoff dispersions, sediment control and collection mechanisms, vegetation/soil stabilization, capping of contaminated sources, and treatment of storm water discharges. In addition, BMPs include processes, procedures, schedules of activities, prohibitions on practices, and other management practices that prevent or reduce the discharge of pollutants in storm water runoff.

The pollution prevention plan must discuss the reasons each selected control or practice is appropriate for the facility and how each will address the potential sources of storm water pollution. The plan also must include a schedule specifying the time or times during which each control or practice will be implemented. In addition, the plan should discuss ways in which the controls and practices relate to one another and, when taken as a whole, produce an integrated and consistent approach for preventing or controlling potential storm water contamination problems.

Under the inspection requirements of the pollution prevention plan, operators of active facilities are required to conduct monthly visual inspections of BMPs and designated equipment and mine areas. Owner/operators of temporarily inactive mining sites are required to conduct quarterly inspections. If weather conditions make the mine site inaccessible, the quarterly inspection will not be required. Active mining sites have frequent inspection periods because members of the pollution prevention team will be onsite, and the fact that they are active means there is a greater potential for pollution. The inspections shall include: (1) an assessment of the integrity of storm water discharge diversions, conveyance systems, sediment control and collection systems, and containment structures; (2) visual inspections of vegetative BMPs, serrated slopes, and benched slopes to determine if soil erosion has occurred; and (3) visual inspections of material handling and storage areas and other potential sources of pollution for evidence of actual or potential pollutant discharges of contaminated storm water.

Under the employee training requirements of the pollution prevention plan, facility operators are required to conduct employee training programs at least annually. The intent of this frequency is to provide a reminder to the employees of the requirements of the storm water pollution prevention plan.

(4) Non-storm Water Discharges. Each pollution prevention plan must include a certification, signed by an authorized individual, that discharges from the site have been tested or evaluated for the presence of non-storm water discharges, including discharges that are subject to 40 CFR Part 440. The certification must describe possible significant sources of non-storm water, the results of any test and/or evaluation conducted to detect such discharges, the test method or evaluation criteria used, the dates on which tests or evaluations were performed, and the onsite drainage points directly observed during the test or evaluation. Pollution prevention plans must identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water discharge.

Under the non-storm water discharge section of the pollution prevention plan, EPA will allow non-storm water discharges that mix with storm water under this section provided that the plan includes a certification that any non-storm water discharge which mixes with storm water is subject to a separate NPDES permit that applies applicable effluent limitations prior to the mixing of non-storm water and storm water. In such cases, the certification shall identify the non-storm water discharge(s), the applicable NPDES permit(s), the effluent limitations placed on the non-storm water discharge by the NPDES permit(s), and the point(s) at which the limitations are applied. In addition, Part III.A.2 of today's permit discusses non-storm water discharges that may be eligible for coverage under the permit.

b. Inactive Metal Mining Facilities

(1) Pollution Prevention Team. The storm water pollution prevention plan must identify specific individual(s) who are responsible for the development, implementation, maintenance, and revision of the pollution prevention plan. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the storm water pollution prevention plan at the inactive facility. Members of the pollution prevention team do not have to be permanently located at the inactive facility, such as the requirement for any active facility.

(2) Description of Mining Activities. The storm water pollution prevention plan shall provide a narrative description of the mining and associated activities that took place at the site. The narrative description shall report the approximate dates of operation, total acreage within the mine site and/or processing site, an estimate of the total acreage disturbed, and the activities (reclamation, etc.) that are currently taking place at the facility. A general description of the mining site relative to major transportation routes and communities shall also be provided.

(3) Description of Potential Pollution Sources. Each storm water pollution prevention plan must describe activities, materials, and physical features of the facility that may contribute to storm water runoff or, during periods of dry weather, result in dry weather flows. This assessment of storm water pollution will support subsequent efforts to identify and set priorities for necessary changes in materials, materials management practices, or site features, as well as aid in the selection of appropriate structural and nonstructural control techniques. In addition to the baseline general requirements storm water pollution prevention plans must describe the following elements:

(3) Drainage—The plan must contain a map of the site that shows the pattern of storm water drainage, structural features that control pollutants in storm water runoff[56] and process wastewater discharges (including mine drainage), surface water bodies (including wetlands), places where significant materials[57] are exposed to rainfall and runoff. The map also must show the location of the following: any remaining equipment storage, fueling, and maintenance areas; areas used for outdoor manufacturing, storage, or disposal of materials; the boundaries of former mining and milling sites; the location of each storm water outfall and an outline of the portions of the drainage area that are within the facility boundaries; tailings piles and ponds; mine drainage or any other process water discharge point; and an estimate of the direction of flow. In addition, the site map must also indicate the types of discharges contained in the drainage areas of the outfalls (e.g., storm water and air conditioner condensate). In order to increase the readability of the map, the inventory of the types of discharges contained in each outfall may be kept as an attachment to the site map.

(b) Inventory of Exposed Materials—The storm water pollution prevention plan shall include, for each outfall, an inventory and narrative description of any significant materials that may still be at the site. The description and locations of the significant materials should be consistent with those shown on the site map. Findings of the inventory must be documented in detail in the pollution prevention plan. At a minimum, the plan must describe the method and location of onsite storage or disposal; practices used to minimize contact of materials with rainfall and runoff; existing structural and nonstructural controls that reduce pollutants in storm water runoff; existing structural controls that limit process wastewater discharges; and any treatment the runoff receives before it is discharged to surface waters or a separate storm sewer system.

(c) Risk Identification and Summary of Potential Pollutant Sources—The description of potential pollution sources culminates in a narrative assessment of the risk potential that sources of pollution pose to storm water quality. This assessment should clearly point to activities, materials, and physical features of the facility that have a reasonable potential to contribute significant amounts of pollutants to storm water. The assessment must list any significant pollution sources at the site and identify the pollutant parameter or parameters (i.e., total suspended solids, arsenic, etc.) associated with each source.

(4) Measures and Controls. Following completion of the source identification and assessment phase, the permittee must evaluate, select, and describe the pollution prevention measures, best management practices (BMPs), and other controls that will be implemented at the facility. The permittee must assess the applicability of the following BMPs for their site: discharge diversions, drainage/storm water conveyance systems, runoff dispersions, sediment control and collection mechanisms, vegetation/soil stabilization, capping of contaminated sources, and treatment of storm water discharges. In addition, BMPs include processes, procedures, schedules of activities, prohibitions on practices, and other management practices that prevent or reduce the discharge of pollutants in storm water runoff. EPA recognizes that inactive mine sites and abandoned mine sites will most likely require different storm water controls because the sources and types of contamination may vary. EPA notes that inactive facilities are not required to conduct inspections such as those described in Part XI.G.3.a.(4)(d) of the permit for active and temporarily inactive facilities. Inactive sites must, however, conduct comprehensive site compliance evaluations as discussed in paragraph (5) below.

The pollution prevention plan must discuss the reasons each selected control or practice is appropriate for the facility and how each will address the potential sources of storm water pollution. The plan also must include a schedule specifying the time or times during which each control or practice will be implemented. In addition, the plan should discuss ways in which the controls and practices relate to one another and, when taken as a whole, produce an integrated and consistent approach for preventing or controlling potential storm water contamination problems.

(5) Comprehensive Site Compliance Evaluation. Where annual site compliance evaluations are shown in the plan to be impractical for inactive mining sites due to the remote location and inaccessibility of the site, site evaluations required under this part shall be conducted at appropriate intervals specified in the plan, but, in no case less than once in 3 years.

6. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. EPA believes that active copper ore mining facilities may reduce the level of pollutants in storm water runoff from their sites through the development and proper implementation of the storm water pollution prevention plan requirements discussed in today's permit. In order to provide a tool for evaluating the effectiveness of the pollution prevention plan and to characterize the discharge for potential environmental impacts, the permit requires active copper ore mining and dressing facilities to collect and analyze samples of their storm water discharges for the pollutants listed in Table G–5. The pollutants listed in Table G–5 were found to be above levels of concern for a significant portion of active copper ore mining and dressing facilities that submitted quantitative data in the group application process. Because these pollutants have been reported at levels of concern from active copper ore mining and dressing facilities, EPA is requiring monitoring after the pollution prevention plan has been implemented to assess the effectiveness of the pollution prevention plan and to help ensure that a reduction of pollutants is realized.

At a minimum, storm water discharges from active metal mining facilities must be monitored quarterly during the second year of permit coverage. Samples must be collected at least once in each of the following periods: January through March; April through June; July through September; and October through December. At the end of the second year of permit coverage, a facility must calculate the average concentration for each parameter listed in Table G–5. If the permittee collects more than four samples in this period, then they must calculate an average concentration for each pollutant of concern for all samples analyzed.

[56] Nonstructural features such as grass swales and vegetative buffer strips also should be shown.

[57] Significant materials include, ''* * * but [are] not limited to: raw materials, fuels, materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; * * * hazardous substances designated under section 101(14) of CERCLA; any chemical facilities required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharge'' (40 CFR 122.26(b)(12)). Significant materials commonly found at mining facilities include: overburden; raw materials; waste rock piles; tailings; petroleum based products; solvents and detergents; heap leach pads; tailings piles/ponds, both proposed and existing; and manufactured products, waste materials or by-products used or created by the facility.

TABLE G–5.—INDUSTRY MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Chemical Oxygen Demand (COD)	120 mg/L
Total Suspended Solids (TSS)	100 mg/L
Nitrate plus Nitrite Nitrogen	0.68 mg/L

If the average concentration for a parameter is less than or equal to the value listed in Table G–5, then the permittee is not required to conduct quantitative analysis for that parameter during the fourth year of the permit. If, however, the average concentration for a parameter is greater than the cut-off concentration listed in Table G–5, then the permittee is required to conduct quarterly monitoring for that parameter during the fourth year of permit coverage. Monitoring is not required during the first, third, and fifth year of the permit. The exclusion from monitoring in the fourth year of the permit is conditional on the facility maintaining industrial operations and BMPs that will ensure a quality of storm water discharges consistent with the average concentrations recorded during the second year of the permit.

TABLE G–6.—SCHEDULE OF MONITORING

2nd Year of Permit Coverage	• Conduct quarterly monitoring. • Calculate the average concentration for all parameters analyzed during this period. • If average concentration is greater than the value listed in Table G–5, then quarterly sampling is required during the fourth year of the permit. • If average concentration is less than or equal to the value listed in Table G–5, then no further sampling is required for that parameter.
4th Year of Permit Coverage.	• Conduct quarterly monitoring for any parameter where the average concentration in year 2 of the permit is greater than the value listed in Table G–5. • If industrial activities or the pollution prevention plan have been altered such that storm water discharges may be adversely affected, quarterly monitoring is required for all parameters of concern.

In cases where the average concentration of a parameter exceeds the cut-off concentration, EPA expects permittees to place special emphasis on methods for reducing the presence of those parameters in storm water discharges. Quarterly monitoring in the fourth year of the permit will reassess the effectiveness of the adjusted pollution prevention plan.

The monitoring cut off concentrations listed in Table G–5 are not numerical effluent limitations. These values represent a level of pollutant discharge which facilities may achieve through the implementation of pollution prevention plans. At least half of the facilities which submitted Part 2 data, reported concentrations greater than or equal to the values listed in Table G–5. Facilities that achieve average discharge concentrations which are less than or equal to the values in Table G–5 are not relieved from the pollution prevention plan requirements or any other requirements of the permit.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly chemical sampling.

b. Alternative Certification. Throughout today's permit, EPA has included monitoring requirements for facilities which the Agency believes have the potential for contributing significant levels of pollutants to storm water discharges. The alternative described below is necessary to ensure that monitoring requirements are only imposed on those facilities that do, in fact, have storm water discharges containing pollutants at concentrations of concern. EPA has determined that if materials and activities are not exposed to storm water at the site, then the potential for pollutants to contaminate storm water discharges does not warrant monitoring.

Therefore, a discharger is not subject to the monitoring requirements of this Part provided the discharger makes a certification for a given outfall, or on a pollutant-by-pollutant basis in lieu of the monitoring reports required under paragraph *c* below, under penalty of law, signed in accordance with Part VII.G. of the permit (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, significant materials from past industrial activity, that are located in areas of the facility that are within the drainage area of the outfall are not presently exposed to storm water and will not be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan and submitted to EPA in accordance with Part VI.C. of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph (*b*) below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations. EPA does not expect facilities to be able to exercise this certification for indicator parameters, such as TSS and BOD.

c. Reporting Requirements. Permittees are required to submit all monitoring results obtained during the second and fourth year of permit coverage within 3 months of the conclusion of each year. For each outfall, one signed Discharge Monitoring Report form must be submitted to the Director per storm event sampled. For facilities conducting monitoring beyond the minimum quarterly requirements an additional Discharge Monitoring Report Form must be filed for each analysis.

d. Sample Type. All discharge data shall be reported for grab samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable.

If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

e. Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one such outfall and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluent. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

F. Visual Examination of Storm Water Quality. Metal mining facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination of storm water quality must be conducted at least once in each of the following 3-month periods: January through March, April through June, July through September, and October through December. The examination shall be made during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(1) Examinations shall be made of grab samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.

(2) Visual examination reports must be maintained onsite in the storm water pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(3) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(4) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(5) EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

EPA believes that this quick and simple assessment will allow the permittee to approximate the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examinations. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and the effects of the management practices that are included in the plan.

7. Numeric Effluent Limitations.

There are no numeric effluent limitations beyond those described in Part VI.B. of this permit.

H. Storm Water Discharges Associated With Industrial Activity From Coal Mines and Coal Mining-Related Facilities

1. Discharges Covered Under This Section

On November 16, 1990 (55 FR 47990), EPA promulgated the regulatory definition of ''storm water associated with industrial activity.'' This definition includes point source discharges of storm water from eleven major categories of facilities, including: ''* * * (iii) facilities classified as Standard Industrial Classification (SIC) codes 10 through 14 including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under 40 CFR 434.11(l) because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or except for areas of noncoal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment operations, or storm water contaminated by contact with any overburden, raw material, intermediate products, finished products, by-products or waste products located on the site of such operations.''

This section only covers storm water discharges associated with industrial activities from inactive [58] coal mines and from access roads, haul roads, and rail lines at active coal mines. Coal mines and coal mining-related facilities subject to requirements under this section include the following types of operations: bituminous coal and lignite surface mining (SIC 1221); bituminous coal underground mining (SIC 1222); anthracite mining (SIC 1231); and coal mining services (SIC 1241).

Storm water discharges authorized by this section include storm water discharges at inactive coal mines where precipitation and storm water runon come into contact with significant materials including, but not limited to, raw materials, waste products, and by-products, overburden, and stored materials. This section also authorizes storm water discharges from haul roads, access roads, and rail lines used or traveled by carriers of raw materials, manufactured products, waste materials, or by-products created by active coal mining facilities. The following activities are covered under this section:

Haul Roads—Nonpublic roads on which coal or coal refuse is conveyed

Access Roads—Nonpublic roads providing light vehicular traffic within the facility property and to public roadways

Railroad Spurs, Sidings, and Internal Haulage Lines—Rail lines used for hauling coal within the facility property and to offsite commercial railroad lines or loading areas

Conveyor Belts, Chutes, and Aerial Tramway Haulage Areas—Areas under and around coal or refuse conveyor areas, including transfer stations

Equipment Storage and Maintenance Yards

Coal Handling Buildings and Structures

Inactive Coal Mines and Related Areas—Abandoned and other inactive mines, refuse disposal sites and other mining-related areas. This includes abandoned mine sites being reclaimed under Title IV of the Surface Mining Control and Reclamation Act. Not covered by this section are discharges from sites, or parts of sites, which are determined to cause or contribute to water quality standards violations.

This section does not cover any discharge subject to effluent limitation guidelines. Discharges from active facilities and those under reclamation are subject to NPDES permits and require treatment to meet specific effluent guideline limits as specified in 40 CFR Part 434 for pH, iron, manganese, suspended solids, and settleable solids. Storm water that does not come into contact with any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site of the operation are not subject to permitting under this section according to Section 402(l)(2) of the Clean Water Act.

This section also does not cover storm water discharges associated with industrial activity from inactive coal mines located on Federal lands, unless an operator can be identified. These discharges are not eligible because they are more appropriately covered under an NPDES permit currently being developed.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

Coal is a black, primarily organic substance formed from compressed layers of decaying organic matter millions of years ago.[59] Factors such as the fixed carbon content, volatile matter fraction, and heating value, determine whether coal is classified as lignite, sub-bituminous, bituminous, or anthracite. The coal mining and related facilities industry extracts and processes coal. There are two methods of coal mining: surface mining and underground mining. Surface mining is a method utilized when the coal is close to the earth's surface and it is economically viable to remove and store the overburden, which can later be used for reclamation. Underground mining occurs when coal is too deep to be surface mined or environmental restrictions prohibit surface mining.

Coal preparation activities increase the value of coal by removing impurities through size reduction, screening, gravity separation, dewatering, and drying. After this step, coal is ready to be shipped for further processing. The impurities, including shales, clays, low reject coal, and possibly some acidic materials, are then conveyed to refuse disposal facilities.

These mining methods and coal preparation activities occur during the active phase of mining and are not authorized by this section nor are they included in the storm water regulation. Most areas at active mine sites are covered by the Surface Mining Control and Reclamation Act (SMCRA). Discharges from these areas are considered process wastewaters and are covered under a separate NPDES permit. Today's permit only addresses storm water discharges from coal mines and related areas that are not already subject to effluent limitation guidelines under 40 CFR Part 434. Storm water discharges not subject to the effluent limitation guidelines may include discharges from the following areas:

a. Access Roads, Haul Roads, and Rail Lines. Access roads, haul roads, and rail lines are used for the transportation of coal, refuse (waste materials, old equipment, etc.), and overburden away from the mine workings. To build access and haul roads, common land disturbing activities such as vegetation clearing and soil grading are necessary. Refuse coal and overburden may be used as a road base material. Road building activities increase the potential for the offsite discharge of sediment in storm water runoff. In addition, coal, overburden, and refuse materials may be spilled during loading and unloading operations and during the transport of such materials along access roads, haul roads, and rail spurs.

b. Inactive Mine Sites. Although industrial processes have ended at inactive mine sites, the significant materials associated with those

[58] Inactive mining operations are mining sites that are not being actively mined, but which have an identifiable owner/operator.

[59] ''Development Document for Final Effluent Limitations Guideline, New Source Performance Standards, and Pretreatment Standards for the Coal Mining Point Source Category.'' EPA. 1982.

industrial processes may remain at the site and contaminate storm water discharges. The areas at inactive surface or underground coal mines which are included in the storm water regulation include former locations of: conveyor belts, chutes, and aerial tramways; equipment storage and maintenance yards; coal preparation plants; and coal handling buildings and storage areas.

Inactive mine sites are regulated because significant materials remain onsite. The significant materials include, but are not limited to: coal piles, including coal refuse piles; used and old equipment, including boneyards; overburden; waste disposal sites; and waste materials. In addition, in certain areas where machinery has been intensively used or abandoned, waste lubricating fluids, solvents, and contaminated soils may be present. These materials are typically present outdoors and are exposed to storm water discharges.

2. Pollutants Found in Storm Water Discharges

Impacts caused by storm water discharges from active haul roads, access roads and rail lines and inactive coal mine and coal mining-related facilities will vary. Several factors influence to what extent significant materials from coal mines and coal mining-related facilities may affect water quality. Such factors include: geographic location; hydrogeology; the type of coal extracted; the mineralogy of the extracted resource and the surrounding rock; how the coal was extracted; the type of industrial activities occurring onsite; the size of the operation; and type, duration, and intensity of precipitation events. Each of these, and other, factors will interact to influence the quantity and quality of storm water runoff. For example, overburden may be a significant source of pollutants at some facilities, while storage areas are a primary source at others. In addition, sources of pollutants other than storm water, such as illicit connections,[60] spills, and other improperly dumped materials, may increase the pollutant loads discharged into waters of the United States.

Storm water discharges from haul roads of active sites and inactive mine sites may include many of the pollutants common to active coal mining operations. These pollutants may include acids, suspended solids, dissolved solids, iron, manganese, and traces of other metals. Table H–1 indicates the pollutant sources and pollutants for a number of industrial activities for coal mines authorized by this section.

Another problem at coal mines is acid mine drainage. In general, the problems of acid mine drainage are confined to western Maryland, northern West Virginia, Pennsylvania, western Kentucky, and along the Illinois-Indiana border. Acid mine drainage is not a problem in the West because the coals and overburden contain little pyrite, the precursor for acid mine drainage, and because of low annual precipitation.

TABLE H–1.—ACTIVITIES, POLLUTANT SOURCES, AND POLLUTANTS

Activity	Pollutant source	Pollutant
Road and Rail Construction and Maintenance—Active Sites.	Surface grading and exposure of soils	Dust, TSS, TDS, turbidity, pH.
Raw or Waste Material Transportation.	Material spills	Dust, TSS, TDS, turbidity, pH, sulfates, iron.
Location of Mining and Processing Activities at Inactive Coal Mines.	Raw Material Storage	Dust, TSS, TDS, turbidity, pH sulfates, iron.
	Waste Rock Storage	Dust, TSS, TDS, turbidity, sulfates, iron, pH.
	Disposal Areas	Dust, TSS, TDS, turbidity, pH, oil & grease.
	Surface and Underground Mines	Dust, TSS, TDS, turbidity, pH, sulfates, iron.
	Materials Handling and Loading/Unloading	Dust, TSS, TDS, turbidity, pH, sulfates, iron.
Equipment/Vehicle Maintenance.	Fueling Activities	Diesel fuel, gasoline, oil, COD.
	Parts Cleaning	Solvents, oil, heavy metals, acid/alkaline wastes.
	Waste disposal of oily rags, oil and gas filters, batteries, coolants, degreasers.	Oil, heavy metals, solvents, acids, COD.
Reclamation Activities	Site preparation for stabilization	Dust, TSS, TDS, turbidity.

Based on the similarities of the facilities included in this sector in terms of industrial activities and significant materials, EPA believes it is appropriate to discuss the potential pollutants at coal mining facilities as a whole and not subdivide this sector. Therefore, Table H–2 lists data for selected parameters from facilities in the coal mining sector. These data include the eight pollutants that all facilities were required to monitor for under Form 2F, as well as the pollutants that EPA determined merit further monitoring.

TABLE H–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY COAL MINES AND COAL MINING-RELATED FACILITIES SUBMITTING PART II SAMPLING DATA [i] (mg/L)

Pollutant Sample type	No. of Facilities		No. of Samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp [ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	16	7	19	8	3.1	3.5	0.0	0.0	9.0	17.4	3.0	1.0	15.0	14.4	33.1	33.9
COD	21	11	25	12	22.9	18.8	0.0	0.0	275.0	115.0	0.0	4.0	102.0	86.9	237.5	184.6
Nitrate + Nitrite Nitrogen	17	10	20	10	0.38	0.68	0.00	0.00	3.12	3.12	0.00	0.17	1.85	3.55	3.45	8.60
Total Kjeldahl Nitrogen	18	11	21	12	1.55	1.78	0.00	0.00	5.20	7.40	0.66	0.39	10.33	10.25	32.01	31.31
Oil & Grease	27	N/A	31	N/A	1.7	N/A	0.0	N/A	13.9	N/A	1.0	N/A	6.5	N/A	13.6	N/A
pH	29	N/A	33	N/A	N/A	N/A	5.9	N/A	8.9	N/A	7.0	N/A	8.6	N/A	9.3	N/A
Total Phosphorus	18	9	20	9	0.36	0.08	0.00	0.00	5.90	0.58	0.00	0.00	1.40	0.61	5.00	1.37

[60] Illicit connections are contributions of unpermitted non-storm water discharges to storm sewers from any number of sources including sanitary sewers, industrial facilities, commercial establishments, or residential dwellings. The probability of illicit connections at coal mines and coal mining related facilities is low yet it still may be applicable at some operations.

TABLE H–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY COAL MINES AND COAL MINING-RELATED FACILITIES SUBMITTING PART II SAMPLING DATA [i] (mg/L)—Continued

Pollutant Sample type	No. of Facilities		No. of Samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp [ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
Total Suspended Solids	18	11	22	12	2551	462	0	2	33420	3880	7	131	3167	3011	23454	13634
Aluminum, Total	7	4	9	6	87.38	8.28	0.00	0.10	517.58	38.84	5.72	2.33	898.16	54.11	6089.45	198.54
Iron, Total	11	9	13	10	193.9	53.3	0.6	1.1	930.0	294.0	9.2	11.0	1639.1	284.0	9593.9	981.7

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

Storm water discharges from inactive and abandoned coal mines, preparation, refuse disposal sites, haul roads and other inactive mining-related areas may contain substantial amounts of pollutants without the benefits of sediment and erosion control measures. Sampling data in the EPA 1982 ''Development Document for Effluent Guidelines and Standards for Coal Mining'' reveal typical ranges for untreated mine drainage and are indicated in Table H–3. The data are based on untreated surface and underground drainage and may not be typical of inactive sites subject only to storm water runoff. For example, a high proportion of underground mines in the survey may have resulted in the relatively low median levels of suspended solids. However, it does indicate the potential array of conventional mining pollutants which could be present in abandoned mine drainage.

3. Options for Controlling Pollutants

Mining facilities are often dissimilar to other types of industrial facilities because they may be situated in remote locations, operate only seasonally or intermittently, yet need year-round storm water management controls. EPA believes that the most effective storm water management controls for limiting the offsite discharge of storm water pollutants from active and inactive coal mines are source reduction BMPs. Source reduction BMPs are methods by which discharges of contaminants are controlled with little or no required maintenance. Examples of these types of controls include diversion dikes, vegetative covers, and berms. Source reduction practices are typically (but not always) low in cost and relatively easy to implement. In some instances, more resource intensive treatment BMPs, including sedimentation ponds and infiltration trenches, may be necessary depending upon the type of discharge, types and concentrations of contaminants, and volume of flow.

The selection of the most effective BMPs will be based on site-specific considerations such as: facility size, climate, geographic location, hydrogeology and the environmental setting of each facility, and volume and type of discharge generated. Each facility will be unique in that the source, type, and volume of contaminated storm water discharges will differ. In addition, the fate and transport of pollutants in these discharges will vary. EPA believes that the management practices discussed herein are well suited mechanisms to prevent or control the contamination of storm water discharges associated with active and inactive coal mines.

BMPs that minimize erosion and sedimentation are effective for areas along haul and access roads, and for inactive mines. Many BMPs were not listed by part 1 group application participants because the major application submitted by the National Coal Association and the American Mining Congress was comprised of only active mine sites. The only portions of an active mine site to which this section of today's permit applies are haul roads, railways, and conveyor belts, chutes, and aerial tramway haulage areas. Because the scope of storm water program, as it applies to active coal mining sites, is limited, the applicants were not required to provide EPA with BMP data for process wastewater discharges. Furthermore, active surface mines are subject to 30 CFR Part 816 and active underground mines are subject to 30 CFR Part 817, both which require the implementation of BMPs.

Since many coal facilities are required to have BMPs, the data presented in part 1 of the application may underestimate the percentage of facilities with storm water BMPs.

Because BMPs described in the part I data are limited, EPA is providing an overview of supplementary BMPs for use by facility operators to determine appropriate BMPs for haul and access roads at active coal mines and for inactive coal mines. However, due to the site-specific nature of facilities within this sector, BMPs cited do not preclude the use of other viable BMP options. Table H–3 summarizes BMP options as they apply to land disturbance activities at active and inactive coal mining facilities. Sources of BMP information include: ''Sediment and Erosion Control: An Inventory of Current Practices—Draft,'' EPA, April 20, 1990; ''Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices,'' EPA, September, 1992, (EPA 832–R–92–006); ''Best Management Practices for Mining in Idaho,'' Idaho Department of Lands, November 1992; and ''Erosion & Sediment Control Handbook,'' Goldman et al., McGraw-Hill Book Company, 1986.

TABLE H–3.—SUMMARY OF MINE AREAS AND APPLICABLE BEST MANAGEMENT PRACTICES

Land-disturbed area	Discharge diversions	Conveyance systems	Runoff dispersion	Sediment control & collection	Vegetation	Containment
Haul Roads and Access Roads.	Dikes, Curbs, Berms..	Channels, Gutters, Culverts, Rolling Dips, Road Sloping, Roadway Water Deflectors.	Check Dams, Rock Outlet Protection, Level Spreaders, Stream Alteration, Drop Structures.	Gabions, Riprap, Native Rock Retaining Walls, Straw Bale Barriers, Sediment Traps/Catch Basins, Vegetated Buffer Strips.	Seeding, Willow Cutting Establishment.	

TABLE H–3.—SUMMARY OF MINE AREAS AND APPLICABLE BEST MANAGEMENT PRACTICES—Continued

Land-disturbed area	Discharge diversions	Conveyance systems	Runoff dispersion	Sediment control & collection	Vegetation	Containment
Pits/Quarries or Underground Mines.	Dikes, Curbs, Berms.	Channels, Gutters	Serrated Slopes, Benched Slopes, Contouring, Stream Alteration.	Sediment Settling Ponds, Straw Bale Barrier, Siltation Berms.	Seeding	Plugging and Grouting.
Overburden, Waste Rock and Raw Material Piles.	Dikes, Curbs, Berms.	Channels, Gutters	Serrated Slopes, Benched Slopes, Contouring, Stream Alteration.	Plastic Matting, Plastic Netting, Erosion Control Blankets, Mulch-straw, Compaction, Sediment/Settling Ponds, Silt Fences, Siltation Berms.	Topsoiling, Seedbed Preparation, Seeding.	Capping.
Reclamation	Dikes, Curbs, Berms.	Channels, Gutters	Check Dams, Rock Outlet Protection, Level Spreaders, Serrated Slopes, Benched Slopes, Contouring, Drain Fields, Stream Alteration, Drop Structures.	Gabions, Riprap, and Native Rock Retaining Walls, Biotechnical Stabilization, Straw Bale Barriers, Sediment Traps/Catch Basins, Vegetative Buffer Strips, Silt Fences, Siltation Berms, Brush Sediment Barriers.	Topsoiling, Seedbed Preparation, Seeding, Willow Cutting Establishment.	Capping, Plugging and Grouting.

Haul Roads and Access Roads—Placement of haul roads or access roads should occur as far as possible from natural drainage areas, lakes, ponds, wetlands or floodplains where soil will naturally be less stable for heavy vehicle traffic. If a haul road must be constructed near water, as little vegetation as possible should be removed from between the road and the waterway, as vegetation is a useful buffer against erosion and is an efficient sediment collection mechanism. The width and grade of haul or access roads should be minimal and should be designed to match natural contours of the area. Construction of haul roads should be supplemented by BMPs that divert runoff from road surfaces, minimize erosion, and direct flow to appropriate channels for discharge to treatment areas. Existing haul roads and nearby ditches, without BMPs, can be altered or modified to accommodate the construction of BMPs.

Surface Mines—BMPs can be used to control total suspended solids levels in runoff from unvegetated areas. These can include sediment/settling ponds, check dams, silt fences, and straw bale barriers.

Overburden, Waste Rock, and Raw Material Piles—Overburden, topsoil, and waste rock should be stabilized, recontoured if necessary, and vegetated. In addition surface waters and other sources of water should be diverted around the piles. As many piles as possible should be revegetated (even if only on a temporary basis).

Reclamation Activities—When a coal seam is depleted and operations cease, a mine site must be reclaimed according to appropriate State or Federal standards. Closure activities typically include restabilization of any disturbed areas such as access or haul roads, pits or quarries, sedimentation ponds or work-out pits, and any remaining waste piles. Overburden and topsoil stockpiles may be used to fill in a pit or quarry (where practical.) Recontouring and vegetation should be performed to stabilize soils and prevent erosion.

Major reclamation activities such as recontouring roads and filling in a pit or quarry can only be performed after operations have ceased. However, reclamation activities such as stabilization of banks, and reseeding and revegetation should be implemented in mined out portions, or inactive areas of a site as active mining moves to new areas.

The following seven categories describe best management practice options for reducing pollutants in storm water discharges from haul and access roads for active coal mines and for inactive mines: discharge diversions; drainage/storm water conveyance systems; runoff dispersion; sediment control and collection; vegetation/soil stabilization; capping of contaminated sources; and treatment.

a. Discharge Diversions. Discharge diversions provide the first line of defense in preventing the contamination of discharges, and subsequent contamination of receiving waters of the United States. Discharge diversions are temporary or permanent structures installed to divert flow, store flow, or limit storm water runon and runoff.

These diversion practices have several objectives. First, diversion structures can be designed to prevent otherwise uncontaminated (or less contaminated) water from crossing disturbed areas or areas containing significant amounts of contaminated materials, where contact may occur between runon and significant materials. These source reduction measures may be particularly effective for inactive coal mine sites because they prevent runon of uncontaminated discharges from contacting exposed materials and/or reduce the flow across disturbed areas, thereby lessening the potential for erosion. Second, diversion structures can be used to collect or divert waters for later treatment, if necessary. The usefulness of these control measures are limited by such factors as the size of the area to be controlled and the type and nature of materials exposed and precipitation events.

Diversion dikes, curbs, and berms are temporary or permanent diversion structures that prevent runoff from passing beyond a certain point, and divert runoff away from its intended path. Dikes, curbs or berms may be used to surround and isolate areas of concern, diverting flow around piles of overburden, waste rock, and storage areas, to minimize discharge contact with contaminated materials and to limit discharges of contaminated water from confined areas.

b. Drainage/Storm Water Conveyance Systems. Drainage or storm water conveyance systems can provide either a temporary or a permanent management practice which functions to channel water away from eroded or unstabilized areas, convey runoff without causing erosion, and/or carry discharges to more stabilized areas. The use of drainage systems as a permanent measure may be most appropriate in areas with extreme slopes, areas subject to high velocity runoff, and other areas where the establishment of substantial vegetation is infeasible or impractical. For instance, several BMPs described below may be useful storm water and erosion control methods applicable to haul roads and access roads.

Channels or Gutters—Channels or gutters collect storm water runoff and direct its flow. Like diversion systems, channels or gutters may act to divert runoff away from a potential source of contamination, but may also be used to channel runoff to a collection and/or treatment area including settling ponds, basins or work-out pits.

Open Top Box Culverts, and Waterbars—These structures are temporary or permanent structures that divert water from a roadway surface. Open top box culverts may be used on steeply graded, unpaved roads in place of pipe culverts to divert surface runoff and flow from inside ditches onto the downhill slope of a road. These structures are typically made of wood and should periodically be monitored and repaired if necessary.

Waterbars are berms built by a dozer, or by hand, to a one to two foot height. They serve to extend the entire width of the road, with a downslope angle between 30 and 40 percent. Waterbars are kept open at a discharge end to allow water to flow away from the road, and require little maintenance. These berms may be used as temporary or permanent structures.

Rolling Dips and Road Sloping—Rolling dips and road sloping are permanent water diversion techniques installed using natural contours of the land during road construction. These BMPs prevent water accumulation on road surfaces and divert surface runoff toward road ditches, which then convey the storm water to ponds or other management areas.

Roadway Surface Water Deflector—A roadway surface water deflector is another technique to prevent accumulation of water on road surfaces. The structure uses a conveyor belt sandwiched between two pieces of treated wood and placed within the road to deflect water. This is a useful technique for steeply graded, unpaved roads.

Culverts—Culverts are permanent surface water diversion mechanisms used to convey water off of, or underneath a road. Made of corrugated metal, they must extend across the entire width of the road, and beyond the fill slope. Additional erosion control mechanisms may need to be installed at the discharge end of the culvert.

c. Runoff Dispersion. Drainage systems are most effective when used in conjunction with runoff dispersion devices designed to slow the flow of water discharged from a site. These devices also aid storm water infiltration into the soil and flow attenuation. Some examples of velocity dissipation devices include check dams, rock outlet protection, level spreaders, and serrated and benched slopes.

Check Dams—Check dams are small temporary dams constructed across swales or drainage ditches to reduce the velocity of runoff flows, thereby reducing erosion and failure of the swale or ditch. This slowing reduces erosion and gullying in the channel and allows sediments to settle.

Check dams may be installed in small temporary or permanent channels where vegetation of the channel lining is not feasible and where there is danger of erosion. These may be areas where installation of nonerosive liners are not cost effective.

Check dams diminish the need for more stringent erosion control practices in the drainage ditch since they decrease runoff velocity. When constructing check dams, the use of overburden or waste rock should be avoided where there is the potential for contamination.

Rock Outlet Protection—Rock protection placed at the outlet end of culverts, channels, or ditches reduces the depth, velocity, and destructive energy of water such that the flow will not erode the downstream reach. The use of some materials (e.g., mine waste rock or ore) should be avoided where contamination may occur. As with check dams, rock outlet protection may also be used as a source reduction treatment mechanism by using rocks containing limestone or other alkaline materials to neutralize acidic discharges.

Level Spreaders—Level spreaders are outlets for dikes and diversions consisting of an excavated depression constructed at zero grade across a slope. Level spreaders diffuse storm water point sources and release it onto areas stabilized by existing vegetation.

Serrated Slopes and Benched Slopes—These runoff dispersion methods break up flow of runoff from a slope, decreasing its ability to erode. Serrated and benched slopes provide flat areas that allow water to infiltrate, and space for vegetation to grow and reinforce soils. Serrated slopes are equipped with small steps, from one to two feet of horizontal surface exposed on each step. Benched slopes have larger steps, with vertical cuts between two and four feet high.

Contouring—Surface contouring is the establishment of a rough soil surface amenable to revegetation, through creating horizontal grooves, depressions, or steps that run with the contour of the land. Slopes may also be left in a roughened condition to reduce discharge flow and promote infiltration. Surface roughening aids in the establishment of vegetative cover by reducing runoff velocity and giving seed an opportunity to take hold and grow. This technique is appropriate for all slopes steeper than 3:1 in order to facilitate stabilization of the slope and promote the growth of a vegetative cover. Once areas have been contoured, they should be seeded as quickly as possible.

Drain Fields—Drain fields are used to prevent the accumulation of water and/or ground water at a site, by diverting infiltrating sources through gravity flow or pumping. Typically filled with porous, permeable materials such as graded rock, or perforated pipe, and lined with geotextile fabric, these mechanisms are useful underneath significant materials, reducing the amount of water that ultimately comes into contact with significant materials.

Stream Alteration—Altering or channelizing the path of a stream to bypass all or some disturbed areas on a site, allows additional mining activities, and avoids contamination of stream water by disturbed lands. This practice is complicated, however, by the need to restore the channel when mining operations end.

Drop Structures—Drop structures are large angular rocks placed in a V-shaped pattern to slow the velocity of storm water runoff. These structures are typically reinforced by logs or large rocks imbedded in the streambanks.

d. Sediment Control and Collection. Sediment control and collection limits movement and retains sediments from being transported offsite. Several structural collection devices have been developed to remove sediment from runoff before it leaves the site. Several methods of removing sediment from site runoff involve diversion mechanisms previously discussed, supplemented by a trapping or storage device. Structural practices typically involve filtering diffuse storm water flows through temporary structures such as straw bale dikes, silt fences, brush barriers or vegetated areas.

Structural practices are typically low in cost. However, structural practices require periodic removal of sediment to remain functional. As such, they may not be appropriate for permanent use at inactive mines. However, these practices may be effectively used as temporary measures along haul roads and access roads.

Plastic Matting, Plastic Netting, and Erosion Control Blankets—These BMPs are used to protect bare soils to control dust and erosion. Mats and blankets help to promote vegetative growth by maintaining moisture and heat within the soil. Plastic matting and netting improve slope stabilization and may be used as a permanent treatment to encourage grass growth. Plastic netting is a more effective material to use while promoting growth of vegetation as it permits sunlight to penetrate through to the soils. Erosion control blankets also stabilize slopes, and control erosion. These blankets may be made of jute, or plastic netting, but are more expensive than straw.

Mulch-straw or Wood Chips—Mulches and wood chips are useful temporary covers for bare or seeded soils, with an erosion control effectiveness rating of 75 to 98 percent.[61] Like matting, mulch-straw or wood chips help soils retain moisture and warmth to promote vegetative growth. Used on slopes and/or in combination with nylon netting, these materials may prevent erosion by wind and water. Over time, however, the mulch cover will decrease in effectiveness.

Compaction—Soil compaction using a roller or other heavy equipment increases soil ''strength'' by increasing its density. More dense soil is less prone to erosion and long-term soil settlement. The surface of compacted soils should be roughed and seeded or vegetated to increase its durability.

Sediment/Settling Ponds—Sediment ponds function as sediment traps by containing runoff for long periods of time, allowing suspended solids to settle. These structures can achieve a high removal rate of sediment for both process wastewater and storm water discharges. Sediment/settling ponds are easily constructed and require minimal maintenance. Their flexibility to treat both process wastewater and storm water makes the use of ponds a desirable treatment for discharges from ore mining and dressing facilities. Of course, site characteristics must be such that some or all discharges can be practically channeled to a centralized area for treatment. Where this is not practical, the cost of constructing multiple sediment ponds may become prohibitive. In addition, periodic dredging may be required in order to maintain the capacity of these ponds.

Discharge ponds may also be designed to act as surge ponds which are designed to contain storm surges and then completely drain in about 24 to 40 hours, and remain dry during times of no rainfall. They can provide pollutant removal efficiencies that are similar to those of detention ponds.[62] Storm surge ponds are typically designed to provide both water quality and water quantity (flood control) benefits.

Gabions, Riprap, and Native Rock Retaining Walls—These BMPs are all forms of slope stabilization. Gabions consist of rocks (riprap) contained by rectangular wire boxes or baskets for use as permanent erosion control structures. Riprap consists of loose rocks placed along embankments to prevent erosion. Native rock retaining walls are another form of slope stabilization, with walls up to five feet in height, constructed from native rock to reinforce a steep slope.

Biotechnical Stabilization—Biotechnical stabilization uses live brush imbedded in the soils of a steep slope to prevent erosion. This method relies on the premise that the imbedded vegetation will eventually take root and help stabilize the slope.

Straw Bale Barrier—Straw bales may be used as temporary berms, barriers, or diversions, capturing sediments and filtering runoff. When installed and maintained properly, these barriers remove approximately 67 percent of the sediment load.[63] These barriers are applicable across small swales, in ditches, and at the toe of bare slopes where there is a temporary, large volume of sediment laden runoff.

Sediment Traps or Catch Basins—These temporary or permanent structures are useful for catching and storing sediment laden storm water runoff and are particularly useful during construction activities to contain runoff. The effectiveness of these BMPs is better in smaller drainage basin areas. Sediment traps are less than 50 percent effective in removing sediment from storm water runoff.[64]

Vegetated Buffer Strips—The installation of vegetated buffer strips will reduce runoff and prevent erosion at a removal efficiency rate of 75 to 99 percent depending upon the ground cover.[65] In addition, vegetated buffer strips catch and settle sediment contained in the storm water runoff prior to reaching receiving waters.

Silt Fence/Filter Fence—A low fence made of filter fabric, wire and steel posts, should be used on small ephemeral drainage areas where storm water collects or leaves a mine site. Silt fences remove 97 percent of the sediment load and are easier to maintain and remove without creating lasting impacts to the environment.[66] Silt and filter fences need to be inspected periodically, and may not be as effective as straw bales, since fabric may become clogged with fine particles preventing water flow.

Silt fences may have limited applicability for large areas: they are most effective for use in small drainage areas. These fences may also be used in conjunction with nonstructural practices to maintain the integrity of soil prior to the establishment of vegetation.

Siltation Berms—Siltation berms are typically placed on the downslope side of a disturbed area to act as an impermeable barrier for the capture and

[61] ''Sediment and Erosion Control: An Inventory of Current Practices—Draft,'' EPA, April 20, 1990.

[62] ''Urban Targeting and BMP Selection,'' EPA, Region V, November 1990.

[63] ''Sediment and Erosion Control: An Inventory of Current Practices—Draft,'' EPA, April 20, 1990, page IV–74.

[64] ''Sediment and Erosion Control: An Inventory of Current Practices—Draft,'' EPA, April 20, 1990, page IV–26.

[65] ''Sediment and Erosion Control: An Inventory of Current Practices—Draft,'' EPA, April 20, 1990, page IV–7.

[66] ''Sediment and Erosion Control: An Inventory of Current Practices—Draft,'' EPA, April 20, 1990, page IV–75.

retention of sediments in surface water runoff. Plastic sheeting is typically used to cover the berm. The berm and the plastic sheeting may require periodic maintenance and repair.

Brush Sediment Barriers—Brush barriers are temporary sediment barriers composed of tree limbs, weeds, vines, root mat, soil, rock and other cleared materials placed at the toe of a slope. A brush barrier is effective only for small drainage areas, usually less than ¼ acre, where the slope is minimal.

Brush barriers do not function as permanent barriers since over time the barrier itself will degrade. This BMP is most effective when located at the toe of a slope of an area in which vegetation is being grown or during temporary operations. The brush barriers remove any excessive sediment which is generated by erosion prior to the establishment of vegetation.

e. Vegetation Practices. Vegetation practices involve establishing a sustainable ground cover by permanent seeding, mulching, sodding, and other such practices. A vegetative cover reduces the potential for erosion of a site by: absorbing the kinetic energy of raindrops which would otherwise impact soil; intercepting water so it can infiltrate into the ground instead of running off and carrying contaminated discharges; and by slowing the velocity of runoff to promote onsite deposition of sediment. Vegetative controls are often the most important measures taken to prevent offsite sediment movement, and can provide a six-fold reduction in the discharge of suspended sediment levels.[67] Permanent seeding has been found to be 99 percent effective in controlling erosion for disturbed land areas.[68]

Typically, the costs of vegetative controls are low relative to other discharge mitigation practices. Given the limited capacity to accept large volumes of runoff, and potential erosion problems associated with large concentrated flows, vegetative controls should typically be used in combination with other management practices. These measures have been documented as particularly appropriate for mining sites.

Topsoiling, Seedbed Preparation—The addition of a layer of topsoil or plant growth material provides an improved soil medium for plant growth. Seedbed preparation may include the addition of topsoil ingredients to be mixed in with soils used for seedbed preparation. Ripping, dicing, and mixing soils promotes weed control and aerates the soil, encouraging seedling growth.

Broadcast Seeding and Drill Seeding—Seeding and vegetative planting are methods used to revegetate an area. Broadcast seeding spreads seeds uniformly, by hand or machine, to steep sloped or rocky areas, flat surfaces, and areas with limited access. Drill seeding is performed using a rangeland drill seeder and may not be used on rocky surfaces. Drill seeding is more suitably performed on flat, nonrocky surfaces, where the machine can insert seeds into the soil.

Willow Cutting Establishment—Willow cutting establishment describes a method of soil stabilization useful for stream banks and other areas located adjacent to water. Similar to biotechnical stabilization, willow cuttings are used to promote growth in an area needing stabilization. Willow cuttings are typically used to reinforce a streambank or other moist area. Willow cuttings require a great deal of moisture and must be planted in areas that remain moist for long periods in order to take hold and grow.

F. Capping. In some cases, the elimination of a pollution source through capping contaminant sources may be the most cost effective control measure for some discharges from inactive coal mines. Depending on the type of management practices chosen the cost to eliminate the pollutant source may be very high. Once completed, however, maintenance costs will range from low to nonexistent.

Capping or sealing of waste materials is designed to prevent infiltration, as well as to limit contact between discharges and potential sources of contamination. Ultimately, capping should reduce or eliminate the contaminants in discharges. In addition, by reducing infiltration, the potential for seepage and leachate generation may also be lessened.

The use of this practice depends on the level of control desired, the materials available, and cost considerations. Many common liners may be effective including common soil, clay, and/or synthetic liners. Generally, soil liners will provide appreciable control for the lowest cost. Synthetic or clay liners may be appropriate to cover materials known to have a significant potential to impact water quality.

EPA has identified a wide variety of best management practices (BMPs) that may be used to mitigate discharges of contaminants at coal mines. Many of the practices focus on sediment and erosion control and are similar to BMPs used in the construction industry. For more details on the use and implementation of these practices the reader is encouraged to obtain a copy of one or more of the many good sediment and erosion control books available on the market.[69] In some cases (e.g., low pH and/or high metals concentrations), BMPs, and sediment and erosion controls may not be adequate to produce an acceptable quality of storm water discharge. Under those circumstances additional physical or chemical treatment systems may be necessary to protect the receiving waters.

g. Treatment. Treatment practices are those methods of control which are normally used to reduce the concentration of pollutants in water before it is discharged. This is in contrast to many BMPs where the emphasis is on keeping the water from becoming contaminated. Treatment practices may be required where flows are currently being affected by exposed materials and where other BMPs are insufficient to meet discharge goals. These practices are usually the most resource intensive as they often entail significant construction costs and require monitoring and maintenance on a frequent and regular basis. Treatment options may range from high maintenance controls to low maintenance. High maintenance treatment techniques require periodic manpower to operate and maintain the BMP. Low maintenance cost techniques have initial capital costs but operate with little long-term maintenance after they are implemented. At a few sites, treatment measures other than high maintenance measures may be appropriate to address specific pollutants.

Chemical/Physical Treatment—An example of a high maintenance technology that is found at coal mining facilities is chemical/physical treatment. The most common type of chemical/physical treatment involves the addition of limestone to reduce the acidity of the discharge and/or precipitate metals. Metals may be removed from wastewater by raising the pH of the wastewater to precipitate them out as hydroxides. Typically, the pH of the wastewater must be raised to 9 to 12 standard units in order to achieve the

[67] ''Performance of Current Sediment Control Measures at Maryland Construction Sites,'' January 1990, Metropolitan Washington Council of Governments, page X.

[68] ''Sediment and Erosion Control: An Inventory of Current Practices—Draft,'' EPA, April 20, 1990, page IV–4.

[69] ''Best Management Practices for Mining in Idaho,'' Idaho Department of State Lands, November 1992; ''Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices,'' EPA, September 1992, (EPA 832–R–92–005); and ''Erosion & Sediment Control Handbook,'' Goldman et al., McGraw-Hill Book Company, 1986.

desired precipitation of metals. After metals precipitation, the addition of some form of acid or carbon dioxide may be required to reduce the pH to acceptable levels. Polymer addition may be required to enhance the settling characteristics of the metal hydroxide precipitate. In general, this practice requires significant operator participation to ensure proper neutralization and/or precipitation and thus may not be cost effective for most storm water discharges.

Artificial Wetlands—This type of BMP system is gaining popularity as a method of treating process wastewater from inactive coal mines. They can be an effective system for improving water quality either alone or in conjunction with other treatment practices. The complex hydrologic, biological, physical, and chemical interactions that take place within a wetland result in a natural reduction and cleansing of influent pollutants. Wetland processes are able to filter sediments, and absorb and retain chemical and heavy metal pollutants through biological degradation, transformation, and plant uptake.

Artificial wetlands are designed to maintain a permanent pool of water. Properly installed and maintained retention structures (also known as wet ponds) and artificial wetlands will be most cost-effective when used to control runoff from larger, intensively developed sites. These artificial wetlands are created to provide treatment but also provide a wildlife habitat, and enhance recreation and landscape amenities. Artificial wetlands are being intensely researched by the Bureau of Mines as a means of mitigating acid mine drainage.

EPA strongly discourages the use of natural wetlands as part of the treatment system because they are considered to be waters of the United States. The necessary controls, or BMPs, must be provided prior to discharging the storm water runoff to natural wetlands or other receiving waters.

In summary, a wide variety of BMPs are available for inactive coal mines and for use along haul roads and access roads at active coal mines. These measures range from simple low cost, low maintenance source reduction practices such as diversion structures to high cost, maintenance intensive practices such as wetlands treatment. Clearly, the selection of a practice or group of practices will be site-specific depending on conditions and potential impacts as well as the resources available at each site. A specific best available technology (or technologies) cannot be determined because of the differences between sites and the quantities and characteristics of their discharges.

4. Storm Water Pollution Prevention Plan Requirements

Specific requirements for the pollution prevention plan for coal mines and coal mining related facilities are described below. These requirements must be implemented in addition to the common pollution plan provisions described in Section VI.C. of this fact sheet.

a. Contents of the Plan. Under the description of potential pollutant sources section, all coal mining and related facilities are required to describe all potential pollutant sources and provide the locations of these sources.

(1) A site map, such as a drainage map required for SMCRA permits, must indicate drainage areas and storm water outfalls from the potential pollutant sources as indicated in item l above. The map should provide, but not be limited to, the following information:

(a) Drainage direction and discharge points from all applicable mining-related areas, including culvert and sump discharges from roads and rail beds and also from equipment and vehicle maintenance areas, lubricants and other potentially harmful liquids
(b) Location of each existing erosion and sedimentation control structure and other control measures for reducing pollutants in storm water runoff
(c) Receiving streams or other surface water bodies
(d) Locations exposed to precipitation which contain acidic or metal ladened spoil, refuse, or unreclaimed disturbed areas
(e) Locations where major spills or leaks of toxic or hazardous pollutants have occurred
(f) Locations where liquid storage tanks containing potential pollutants, such as caustics, hydraulic fluids and lubricants, are exposed to precipitation
(g) Locations where fueling stations, vehicle and equipment maintenance areas are exposed to precipitation

The site map must also indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls (e.g. storm water and air conditioner condensate). In order to increase the readability of the map, the inventory of the types of discharges contained in each outfall may be kept as an attachment to the site map.

Under the measures and controls section, operators of the inactive and active coal mines are required to describe storm water management controls for coal mining-related facilities, including the following:

(2) Compliance with SMCRA Requirements. The Surface Mining Control and Reclamation Act (SMCRA) regulations require sediment and erosion control measures and practices for haul roads and most of the other active mining-related areas covered by this section. All such SMCRA requirements are also requirements of the pollution prevention plan and other applicable conditions of this section.

(3) Good Housekeeping Practices. The purpose of good housekeeping practices is to remove or lessen the potential pollution sources before they come into contact with storm water. This includes collection and removal of waste oils collected in traps; cleaning up exposed maintenance areas of spilled lubricants and fuels, and similar measures; and preventing the offsite movement of dust by sweeping or by road watering.

(4) Preventive Maintenance. A timely maintenance program should include: inspections for preventing breakdowns, corrosion of tanks and deterioration of pressure fuel or slurry pressure lines; periodic removal and disposal of accumulated solids in sediment traps; and replacement of straw bales and other control measures subject to weathering and deterioration.

(5) Inspections. For all SMCRA regulated active mining-related sites, which include most of the active facilities under this section, SMCRA authorities are required to conduct regular quarterly inspections. Coordinated inspections by the facility representative would be expected to take place either before, during or after the complete SMCRA inspections. Therefore, inspections by the facility representative would not be placing an undue burden on the facility. In addition, sediment and erosion control measures should be evaluated at least once yearly during a storm period of at least 0.1 inch rainfall where effectiveness can be evaluated first hand. Observations should also be made at this time of resulting impact of any settled solids in the receiving stream.

Inactive coal mines should be inspected at least once yearly, except where very remote, to maintain an appraisal of sediment and erosion control measures, determine outstanding problem areas, and plan for improved measures.

(6) Employee Training. There are no employee training requirements beyond those described in Section VI.C.

(7) Prohibition of Non-storm Water Discharges. Many inactive mines and portions of inactive mines are

abandoned underground mines which have seeps or other discharges which are not in response to storm events. These type discharges from inactive mines are not covered by this section. In addition, floor drains from maintenance buildings and other similar drains in mining and preparation plant areas may contain contaminants and are prohibited from inclusion in this section.

(8) Sediment, Erosion and Flow Management Controls. The plan must describe all sediment, erosion, and flow management controls used to control storm water discharges. The plan should also address the reasonableness and appropriateness of each sediment, erosion, and flow management control, and identify when they are required by State or Federal SMCRA regulations. For the most part, these measures are best management practices expected of construction and other activities which are subject to storm runoff. However, construction activities are usually much more short term than mining activities, so greater emphasis must be placed on implementing long term measures for haul roads and other mining-related facilities.

b. Comprehensive Site Compliance Evaluation. In addition to the comprehensive site compliance evaluation described in Section VI.C.4. of this fact sheet, the plan must be implemented and, where erosion control and pollution prevention measures described in the plan are found deficient, the plan must be revised to include reasonable and appropriate control measures. Reports including observations and incidences of noncompliance must be prepared and kept on file for possible review.

5. Numeric Effluent Limitation

Based on the lack of sampling data, it is infeasible for EPA to calculate effluent limitations at this time. The main pollutant concern is excess solids runoff and discharge, but there are no widely accepted solids limits which could be expected from the recommended sediment and erosion control measures. The 0.5 ml/L settleable solids limit, as required by 40 CFR Part 434 for storm discharges from surface mine settling ponds, can be considered a goal but not a requirement for control measures, which for the most part, consist of sediment ditches, straw bales and similar structures normally used for haul roads. The permit does not cover facilities that are in violation of water quality standards and where water quality-based effluent limits apply.

6. Monitoring and Reporting Requirements

a. Monitoring Requirements. EPA believes that coal mining facilities may reduce the level of pollutants in storm water runoff from their sites through the development and proper implementation of the storm water pollution prevention plan requirements discussed in today's permit. In order to provide a tool for evaluating the effectiveness of the pollution prevention plan and to characterize the discharge for potential environmental impacts, Table H–4 lists the pollutants that coal mining facilities are required to collect and analyze in their storm water discharges. The pollutants listed in Table H–4 were found to be above levels of concern for a significant portion of coal mining facilities that submitted quantitative data in the group application process. Because these pollutants have been reported at benchmark levels from coal mining facilities, EPA is requiring monitoring after the pollution prevention plan has been implemented to assess the effectiveness of the pollution prevention plan and to help ensure that a reduction of pollutants is realized.

Permittees can exercise the alternative certification on a pollutant-by-pollutant basis as described under Section (1) below. Any pollutant(s) for which the facility is unable to certify to no exposure must, at a minimum, monitor storm water discharges from coal mining facilities on a quarterly basis during the second year of permit coverage. Monitoring must be performed during the following periods: January through March; April through June; July through September; and October through December. At the end of the second year of permit coverage, a facility must calculate the average concentration for each parameter listed in Table H–4. If the permittee collects more than four samples in this period, then they must calculate an average concentration for each pollutant of concern for all samples analyzed.

TABLE H–4.—MONITORING REQUIREMENTS COAL MINING FACILITIES MG/L

Pollutants of concern	Monitoring cut-off concentration
Total Recoverable Aluminum	0.75 mg/L
Total Recoverable Iron	1.0 mg/L
Total Suspended Solids (TSS)	100 mg/L

If the average concentration for a parameter is less than or equal to the appropriate cut-off concentration, then the permittee is not required to conduct quantitative analysis for that parameter during the fourth year of the permit. If, however, the average concentration for a parameter is greater than the cut-off concentration listed in Table H–4, then the permittee is required to conduct quarterly monitoring for that parameter during the fourth year of permit coverage. Monitoring is not required during the first, third, and fifth year of the permit. The exclusion from monitoring in the fourth year of the permit is conditional on the facility maintaining industrial operations and BMPs that will ensure a quality of storm water discharges consistent with the average concentrations recorded during the second year of the permit. The schedule for monitoring is presented in Table H–5.

TABLE H–5.—SCHEDULE OF MONITORING

2nd Year of Permit Coverage	• Conduct quarterly monitoring. • Calculate the average concentration for all parameters analyzed during this period. • If average concentration is greater than the value listed in Table H–4, then quarterly sampling is required during the fourth year of the permit. • If average concentration is less than or equal to the value listed in Table H–4, then no further sampling is required for that parameter.

TABLE H–5.—SCHEDULE OF MONITORING—Continued

4th Year of Permit Coverage	• Conduct quarterly monitoring for any parameter where the average concentration in year 2 of the permit is greater than the value listed in Table H–4. • If industrial activities or the pollution prevention plan have been altered such that storm water discharges may be adversely affected, quarterly monitoring is required for all parameters of concern.

In cases where the average concentration of a parameter exceeds the cut-off concentration, EPA expects permittees to place special emphasis on methods for reducing the presence of those parameters in storm water discharges. Quarterly monitoring in the fourth year of the permit will be used to reassess the effectiveness of the adjusted pollution prevention plan.

The monitoring cut-off concentrations listed in Table H–4 are not numerical effluent limitations. These values represent a level of pollutant discharge which facilities may achieve through the implementation of pollution prevention plans. At least half of the facilities which submitted Part 2 data reported concentrations greater than or equal to the values listed in Table H–4. Facilities that achieve average discharge concentrations which are less than or equal to the appropriate cut-off concentration values are not relieved from the pollution prevention plan requirements or any other requirements of the permit.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly chemical sampling.

(1) Alternative Certification. Throughout today's permit, EPA has included monitoring requirements for facilities which the Agency believes have the potential for contributing significant levels of pollutants to storm water discharges. The alternative certification described below is necessary to ensure that monitoring requirements are only imposed on those facilities that do, in fact, have storm water discharges containing pollutants at concentrations of concern. EPA has determined that if materials and activities are not exposed to storm water at the site, then the potential for pollutants to contaminate storm water discharges does not warrant monitoring.

Therefore, a discharger is not subject to the monitoring requirements of this Part provided the discharger makes a certification for a given outfall or on a pollutant-by-pollutant basis in lieu of monitoring described in Table H–4, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, significant materials from past industrial activity, and that are located in areas of the facility that are within the drainage area of the outfall are not presently exposed to storm water and will not be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan and submitted to EPA in accordance with Part VI.C. of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph (*2*) below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations. EPA does not expect facilities to be able to exercise this certification for indicator parameters, such as TSS and BOD.

(2) Reporting Requirements. Permittees are required to submit all monitoring results obtained during the second and fourth year of permit coverage within 3 months of the conclusion of each year. For each outfall, one signed Discharge Monitoring Report form must be submitted to the Director per storm event sampled. For facilities conducting monitoring beyond the minimum quarterly requirements, an additional Discharge Monitoring Report Form must be filed for each analysis.

(3) Sample Type. All discharge data shall be reported for grab samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable.

If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable, permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

(4) Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluent. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

b. Visual Examination of Storm Water Quality. Visual examinations of a storm water discharge from each outfall are required except at inactive areas not under SMCRA bond. Active areas under SMCRA bond that are located in areas with an average annual precipitation greater than 20 inches must perform the visual examinations quarterly. Active areas under SMCRA bond with an average annual precipitation less than or equal to 20 inches are required to perform visual examinations on a semiannual basis. The examination must be of a grab sample collected from each storm water outfall. The examination of storm water grab samples shall include any observations of color, odor, turbidity, floating solids, foam, oil sheen, or other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on these samples.

The examination must be made at least once in each designated period during daylight hours unless there is insufficient rainfall or snow-melt to runoff. Whenever practicable, the same individual should carry out the collection and examination of discharges throughout the life of the permit to ensure the greatest degree of consistency possible. Examinations shall be conducted in each of the following periods for the purposes of inspecting storm water quality associated with storm water runoff and snow melt: January through March; April through June; July through September; October through December. Grab samples shall be collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff begins discharging. Reports of the visual examination include: the examination date and time, examination personnel, visual quality of the storm water discharge, and probable sources of any observed storm water contamination. The visual examination reports must be maintained onsite with the pollution prevention plan.

When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.). For facilities that have an average annual precipitation of 20 inches or less or are designated inactive by SMCRA, EPA requires semiannual visual examinations instead of quarterly.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

EPA believes that this quick and simple assessment will help the permittee to determine the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examination. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and the effects of the management practices that are included in the plan.

I. Storm Water Discharges Associated With Industrial Activity From Oil and Gas Extraction Facilities

1. Industry Profile

On November 16, 1990 (55 FR 47990), EPA promulgated the regulatory definition of ''storm water discharges associated with an industrial activity.'' This definition includes point source discharges of storm water from eleven major categories of facilities, including: ''* * * (iii) facilities classified as Standard Industrial Classification (SIC) codes 10 through 14, including * * * oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, by-products, or waste products located on the site of such operations.''

As stated above and at 40 CFR 122.26(b)(14)(iii), only those oil and gas facilities that discharge 'contaminated' storm water are required to submit permit applications under the November 16, 1990, storm water rule. For oil and gas facilities, contamination means that there has been a release of a Reportable Quantity (RQ) of oil or hazardous substances in storm water since November 16, 1987 (hereinafter referred to as 'an RQ release'). Only those facilities that have had an RQ release are required to submit a storm water permit application.

This section of today's permit only covers storm water discharges associated with industrial activities from oil and gas exploration, production, processing, or treatment operations, or transmission facilities. Hereinafter, the facilities listed above will be referred to as ''oil and gas facilities.'' Oil and gas facilities eligible to seek coverage under this section include the following types of operations: crude petroleum and natural gas (SIC Code 1311), natural gas liquids (SIC Code 1321), drilling oil and gas wells (SIC Code 1381), oil and gas field exploration services (SIC Code 1382), oil and gas field services, not elsewhere classified (SIC Code 1389).

These industries include the extraction and production of crude oil, natural gas, oil sands and shale; the production of hydrocarbon liquids and natural gas from coal; and associated oil field service, supply and repair industries. Many of the oil field service facilities may also manufacture oil field equipment. Discharges associated with these manufacturing activities shall be covered by this section if the primary activity of the facility is grouped under Major SIC Group 13.

Pursuant to Section 311 of the Clean Water Act and Section 102 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), RQs were established for oil and hazardous substances. As defined at 40 CFR Part 110, an RQ is ''the amount of oil that violates applicable water quality standards or causes a film or sheen upon or a discoloration of the surface of the water or adjoining shorelines or causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.'' The RQs for other substances are listed in 40 CFR 117.3 and 302.4 in terms of pounds released over any 24-hour period.

Discharges covered by this section include all storm water discharges from facilities which have had an RQ release where precipitation and storm water runon come into contact with significant materials including, but not limited to, drilling and production equipment and other machinery, raw materials, waste products, by-products, finished products, stored materials, and fuels. This includes storm water discharges from access roads, and rail lines used or traveled by carriers of raw materials, manufactured products, waste materials, or by-products created by the facility.

This section does not cover storm water discharges from inactive oil and gas extraction facilities located on Federal lands, unless an operator of the activity can be identified. These discharges are more appropriately covered under a permit currently being developed by EPA.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

Oil and gas exploration and production includes all activities related to the search for, and extraction of, liquid and gas petroleum from beneath the earth's surface. Found almost exclusively in sedimentary rocks, oil and natural gas accumulate in geologic confinements called traps which, by virtue of an impermeable overlying layer, have stopped the migration of the fluid. The volume of petroleum contained in a trap can vary from negligible to billions of barrels.

Though at one time such traps may have been close enough to the surface to allow easy detection (i.e., surface seepage), modern exploration relies on sophisticated geophysical testing techniques to locate potentially producible formations. Gravitational and seismic surveys of subsurface geology provide indirect indications of the likelihood of finding promising geological formations. This process is complicated by the fact that, at least in the U.S., the average depth at which one may reasonably expect to find oil is increasing since many of the largest shallow formations are assumed to have been found already.

Drilling operations require construction of access roads, drill pads, mud pits, and possibly work camps or temporary trailers. Drill pads are areas used to stage the drilling operation and generally range from 2 to 5 acres. The pad accommodates the drilling rig and associated operations including pumps, reserve pits, and mud tanks.

Modern well drilling involves the use of a rotary drill to bore through soil and rock to the desired well depth. The drill bit is constantly washed with a circulating drilling fluid, or "mud," which serves to cool and lubricate the bit and remove the cuttings to the surface. The drilling mud also serves to prevent "blowouts" from overpressured water and gas bearing formations. If the drill reaches the desired depth and fails to locate a producible deposit of oil or gas, the well must be plugged and the site abandoned. Even if oil and/or gas is found the well may not be producible. If the formation fails to exhibit the right combination of expected volume, porosity, and permeability, the costs of extraction would be prohibitive.

After a well has been drilled, it is "completed" if well logging data indicate that the well is capable of producing commercial quantities of oil or gas. Completion includes a number of operations that may be necessary to allow the well to produce oil or gas. These include installing and cementing casing, installing the production tubing and downhole equipment, repairing damage that drilling may have caused to the formation, and possibly stimulating the well. During a well's active life, periodic "workovers" are necessary. Workovers can include a number of procedures intended to maintain or enhance production. These can include repairing or replacing downhole equipment, removing accumulated scale or paraffin from tubing or casing, and stimulating the formation to restore or enhance production. Wells are stimulated, whether by treating with acid or fracturing, during completion or workover or both: it is common for wells to be stimulated at completion and then periodically throughout their lives.

Acid stimulation involves introducing an acid solution to the formation. The acid dissolves the rock, thus creating or enlarging flow path openings. Acids are also used to repair damage to formations caused by drilling or other operations. In addition, they may be used for scale removal and other purposes. Fracturing by hydraulic pressure is achieved by pumping fluids at high pressure (i.e., at high rates) into the well, thereby causing material failure of the rock in the formation of interest (i.e., fractures). Fracturing is also done using explosive devices to fire projectiles into the formation of interest. The fractures induced in the formations serve as flow paths for hydrocarbons.

In instances where the reservoir is sufficiently large, "delineation" wells are drilled to determine the boundary of the reservoir and additional "development" wells are drilled to increase the rate of production from the "field." Because few new wells in the U.S. have sufficient energy (pressure) to force oil all the way to the surface, surface or submersible pumps are placed at the wells and production begins.

This first phase of production, primary production, may continue for several to many years, requiring only routine maintenance to the wells as they channel oil to the surface for delivery to refineries. However, as the oil is removed from the formation, the formation pressure decreases until the wells will no longer produce. Because 70 percent of the total recoverable oil may remain in the formation, additional energy may be supplied by the controlled injection of water from the surface into the formation. The injected water acts to push the oil toward the well bores. Such secondary recovery or "water flooding" projects may employ hundreds of injection wells throughout a field to extend the life of the wells. Much of the water used for injection is pumped along with oil from the producing well, separated from the oil, and then reinjected.

Produced fluid, as pumped from a well, is sent through one or more process units to separate the waste fractions (e.g., produced water, emulsions, scale, and produced sand) from the salable hydrocarbon.

As oil and gas are recovered from wells, they are collected or gathered in pipelines for transport to produced fluid treatment facilities. These facilities separate marketable gas and crude oil from water and sand.

Often, service companies are hired by the oil company to perform many of the activities described above. Typically these contractors drill the wells and perform other specific tasks such as installing casing, conducting formation tests, and managing wastes, etc. When a well or field ceases to produce oil or gas at an economically feasible rate, the field must be abandoned and reclaimed.

2. Pollutants in Storm Water Discharges Associated with Oil and Gas Facilities

Exploration and production techniques will vary depending on the type and characteristics of formations, pollutants present, and waste management controls. Therefore, impacts associated with storm water discharges from oil and gas facilities will vary. Several other factors influence to what extent significant materials from these types of facilities and processing operations can affect water quality.

Such factors include: hydrology/geology; the types of chemical additives and lubricating fluids used; the procedure for waste management; the nature and size of the RQ release; the amount of contamination remaining after the RQ release; the size of the operation; and type, duration, and intensity of precipitation events. These and other factors will interact to influence the quantity and quality of storm water runoff. In addition, sources of pollutants other than storm water, such as illicit connections,[70] spills, and other improperly dumped materials, may increase the pollutant loadings discharged into waters of the United States.

Based on information submitted with the group applications and other documents, EPA has identified some storm water pollutants and sources typically associated with oil and gas facilities in Table I–1. Due to distinct industrial activities and materials used at facilities, however, sources and associated pollutants will vary from site to site. The pollutants listed in Table I–1 are not meant to be a comprehensive listing of all potential storm water pollutants at oil and gas facilities.

TABLE I–1.—ACTIVITIES, POLLUTANT SOURCES, AND POLLUTANTS

Activity	Pollutant source	Pollutant
Construction of:		
—Access Roads	Soil/dirt, leaking equipment and vehicles	TSS, TDS, oil and grease.
—Drill Pads		
—Reserve Pits		
—Personnel Quarters		
—Surface Impoundments		
Well Drilling	Drilling fluid,[i] lubricants, mud, cuttings, produced water	TSS, TDS, oil and grease, COD, chlorides, barium, naphthalene, phenanthrene, benzene, lead, arsenic, fluoride.
Well Completion/Stimulation	Fluids (used to control pressure in well), cement, residual oil, acids, surfactants, solvents, produced water, sand.	TSS, TDS, oil and grease, COD, pH, acetone, toluene, ethanol xylenes.
Production	Produced water, oil, waste sludge, tank bottoms, acids, oily debris, emulsions.	Chlorides, TDS, oil and grease, TSS, pH, benzene, phenanthrene, barium, arsenic, lead, antimony.
Equipment Cleaning and Repairing.	Cleaning solvents, lubricants, chemical additives	TSS, TDS, oil and grease, pH.
Site Closures	Residual muds, oily debris	TSS, TDS, oil and grease.

[i] The potential contaminants to be found in drilling fluid varies from site to site, depending on the components of the fluid and any pollutants added due to use of the fluid. Storm water discharges that come into contact with used drilling fluids may include the following pollutants, among others: toluene, ethyl benzene, phenol, benzene, and phenanthrene. Used drilling fluids may also contain inorganic pollutants from additives or downhole exposure, such as arsenic, chromium, lead, aluminum, sulfur, and various sulfates.

Based on the similarities of the facilities included in this sector in terms of industrial activities and significant materials, EPA believes it is appropriate to discuss the potential pollutants at oil and gas extraction facilities as a whole and not subdivide this sector. Therefore, Table I–2 lists data for selected parameters from facilities in the oil and gas extraction sector. These data include the eight pollutants that all facilities were required to monitor under Form 2F.

TABLE I–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY OIL AND GAS EXTRACTION FACILITIES SUBMITTING PART II SAMPLING DATA[i] (MG/L)

Pollutant	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th Percentile	
Sample type	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	34	32	39	37	13.9	10.7	0.0	0.0	116.0	90.0	10.4	7.0	32.9	26.8	52.9	44.8
COD	35	32	40	35	138.3	112.2	14.0	0.0	1050.0	450.0	78.5	78.0	401.9	330.4	755.3	601.4
Nitrate + Nitrite Nitrogen	34	31	39	35	0.47	0.54	0.00	0.00	5.50	9.90	0.15	0.09	2.06	2.10	6.17	7.15
Total Kjeldahl Nitrogen	35	32	40	34	1.31	1.52	0.00	0.00	9.00	14.50	0.69	0.83	4.68	5.49	9.75	12.56
Oil & Grease	35	N/A	40	N/A	9.4	N/A	0.0	N/A	189.0	N/A	3.0	N/A	24.7	N/A	56.0	N/A
pH	34	N/A	40	N/A	N/A	N/A	5.9	N/A	11.3	N/A	7.2	N/A	9.2	N/A	10.0	N/A
Total Phosphorus	35	32	40	37	16.17	3.98	0.00	0.00	149.72	50.74	0.20	0.16	68.03	20.01	461.08	102.13
Total Suspended Solids	35	32	41	34	332	369	3	1	1657	4186	70	40	1820	1831	6110	7869

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

3. Options for Controlling Pollutants

In evaluating options for controlling pollutants in storm water discharges, EPA must achieve compliance with the technology-based standards of the Clean Water Act [Best Available Technology (BAT) and Best Conventional Technology (BCT)]. The Agency does not believe it is necessary to establish specific numeric effluent limitations or a specific design or performance standard in this section for storm water discharges associated with industrial activity from oil and gas facilities to meet the BAT/BCT standards of the Clean Water Act. Rather than setting limits, this section establishes requirements for the development and implementation of a site-specific storm water pollution prevention plan consisting of a set of BMPs that are sufficiently flexible to address different sources of pollutants at different sites.

[70] Illicit connections are contributions of unpermitted non-storm water discharges to storm sewers from any of a number of sources including sanitary sewers, industrial facilities, commercial establishments, or residential dwellings. The probability of illicit connections at mineral mining and processing facilities is low yet it still may be applicable at some operations.

The selection of the most effective BMPs will be based on site-specific considerations such as: facility size, climate, geographic location, geology/hydrology and the environmental setting of each facility, and volume and type of discharge generated. Each facility will be unique in that the source, type and volume of contaminated storm water discharges will differ. In addition, the fate and transport of pollutants in these discharges will vary. EPA believes that the management practices discussed herein are well suited mechanisms to prevent or control the contamination of storm water discharges associated with facilities in this category.

Two types of BMPs which may be implemented to prevent, reduce or eliminate pollutants in storm water discharges are those which minimize exposure (e.g., covering, curbing, or diking) and treatment type BMPs which are used to reduce or remove pollutants in storm water discharges (e.g., oil/water separators, sediment basins, or detention ponds). EPA believes exposure minimization is an effective practice for reducing pollutants in storm water discharges from oil and gas facilities. Exposure minimization practices lessen the potential for storm water to come in contact with pollutants. These methods are often uncomplicated and inexpensive. They can be easy to implement and require little or no maintenance. EPA also believes that in some instances more resource intensive treatment type BMPs are appropriate to reduce pollutants such as suspended solids and oil/grease in storm water discharges associated with oil and gas facilities. Though these BMPs are somewhat more resource intensive, they can be effective in reducing pollutant loads and may be necessary depending on the type of discharge, types and concentrations of contaminants, and volume of flow.

The types of BMPs used may depend upon the methods of waste management utilized at a facility. Waste management and disposal practices at oil and gas facilities may vary significantly. For example, techniques for disposal of produced water and associated wastes include the following: landfarming/spreading (spreading wastes on land surfaces to stimulate biological degradation); backfilling (storing wastes in a pit and then covering with dirt or other materials); evaporation (in more arid parts of the country, liquid wastes are left exposed and eventually evaporate or percolate into the ground); discharging wastes (sometimes treated) to waters of the United States (NPDES permits are required for such discharges); injection (injecting wastes back into the ground for disposal); and offsite disposal (wastes are taken offsite to a commercial facility for disposal).

The pollutants of concern and the BMPs employed at an oil and gas facility depend upon which, if any, of the disposal techniques listed above are utilized. Where wastes are used for onsite road application, for example, all pollutant constituents of that waste need to be considered a potential contributor to contaminated storm water discharges. In addition, the areas at the facility where road application occurs must also be considered when BMPs are being implemented. In contrast, if all waste is taken to an offsite disposal facility, the waste will most likely not affect the storm water discharges and the areas of concern will not be expanded.

Table I–3 lists some BMPs which may be effective in limiting the amount of pollutants in storm water discharges from oil and gas facilities. The BMPs listed are not necessarily required to be implemented. Rather, BMPs should be chosen based on the specific nature of the storm water discharges at each oil and gas facility and implemented as appropriate. Some of these BMPs involve reducing the amount of waste produced and stored onsite which can potentially contaminate storm water. Based on part 1 information, several of the BMPs suggested are already in place at many of the facilities. Part 1 submittals indicate that diking or other types of diversion occur at approximately 57 percent of the sampling facilities. Thirty percent of the sampling facilities noted that they use some form of covering as a BMP, and catch basins are in place at 12 percent of the sampling facilities. In addition, 11 percent of the facilities designated as samplers in part 1 information reported they had a Spill Prevention Control and Countermeasure Plan in place, and 16 percent had a material management plan.

TABLE I–3.—SUGGESTED BMPS FOR OIL AND GAS FACILITIES

Suggested BMPs
Utilize diking and other forms of containment and diversion around storage tanks, drums of oil, acid, production chemicals, and liquids, reserve pits, and impoundments.
Use diking and other forms of containment and diversion around material handling and processing areas.
Use porous pads under drum and tank storage areas.
Use covers and/or lining for waste reserve and sludge pits to avoid overflows and leaks.
Use drip pans, catch basins, or liners during handling of materials such as tank bottoms.
Reinject or treat produced water instead of discharging it.
Limit the amount of land disturbed during construction of access roads and facilities.
Employ spill plans for pipelines, tanks, drums, etc.
Recycle oily wastes, drilling fluids and other materials onsite, or dispose of properly.
Take wastes offsite to be disposed of instead of burying them.
Use oil water separators.

4. Special Conditions

There are no additional requirements beyond those described in Part VI.B. of this fact sheet.

5. Storm Water Pollution Prevention Plan Requirements

a. Contents of the Plan. Specific requirements for the pollution prevention plan for oil and gas extraction facilities are described below. These requirements must be implemented in addition to the common prevention plan provisions discussed in Section VI.C. of this fact sheet.

(1) Description of Potential Pollutant Sources. Facilities under this section cover a broad range of oil field activities and service industries.

Drilling sites have large disturbed areas which will contribute additional sediments and suspended solids to the storm water runoff. Well drilling includes the use of many hazardous chemicals and materials. These include drilling muds, well casing cement, fractionating gels, and well treatments. The storage, mixing, and handling of these materials are potential pollutant sources.

Oil field service industries provide a variety of services for exploration and production activities. These service industries often store and mix chemicals for drilling muds, well casing cement, fractionating gels, and well treatments at the facility. The storage and mixing areas are potential pollutant sources. Often, mixing areas and equipment are exposed to storm water. Many oil field service facilities manufacture some oil field equipment components. The exposed raw materials, intermediate products, finished products, and waste products are potential sources of pollutants in storm water.

In its description of potential pollutant sources, a facility must include information about the RQ release which triggered the permit application requirements. Such information must include: the nature of the release (e.g., spill of oil from a drum storage area); the amount of oil or hazardous substance released; amount of substance recovered; date of the release; cause of the release (e.g., poor handling techniques as well as lack of containment in area); area affected by release, including land and waters; procedure to cleanup release; and remaining potential contamination of storm water from release.

(2) Measures and Controls.

(a) RQ Releases—The permittee must describe the measures taken to clean up RQ releases or related spills of materials, as well as measures proposed to avoid future releases of RQs. Such measures may include, among others: improved handling or storage techniques; containment around handling areas of liquid materials; and use of improved spill cleanup materials and techniques.

(b) Vehicle and Equipment Storage Areas—Vehicles and equipment associated with oil field activity are often coated with oil, oil field drilling muds, and the chemicals associated with drilling. These vehicles and equipment are a significant source of pollutants. The permittee must address these areas, and institute practices to minimize pollutant runoff from this area.

(c) Vehicle and Equipment Cleaning and Maintenance Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from all areas used for vehicle and equipment cleaning. The facility may consider performing all cleaning operations indoors, covering the cleaning operation, and/or collecting the storm water runoff from the cleaning area and providing treatment or recycling. These cleaning and maintenance activities can result in the exposure of cleaning solvents, detergents, oil and grease and other chemicals to storm water runoff. The use of drip pans, maintaining an organized inventory of materials used in the shop, draining all parts of fluids prior to disposal, prohibiting the practice of hosing down the shop floor where the practice would result in the exposure of pollutants to storm water, using dry cleanup methods, and/or collecting the storm water runoff from the maintenance area and providing treatment or recycling may reduce the pollutants discharged in storm water runoff.

(d) Materials Storage Areas—Storage units of all chemicals and materials (e.g., fuels, oils, used filters, spent solvents, paint wastes, radiator fluids, transmission fluids, hydraulic fluids, detergents drilling mud components, acids, organic additives) may result in the contamination of storm water discharges. Labeling of all storage containers helps facility personnel to respond effectively to spills or leaks. Additionally, covered storage of the materials and/or installation of berming and diking at the area can be effective BMPs.

(e) Chemical Mixing Areas—Chemical mixing (e.g., the mixing of drilling muds, fractionating gels, mixing well casing cement, and well treatment acids and solvents) at both well sites and at facilities with service drilling activities have significant potential to contaminate storm water runoff. The facility should consider covering the mixing area, using spill and overflow protection, minimizing runon of storm water to the mixing area, using dry cleanup methods, and/or collecting the storm water runoff and providing treatment or recycling. The facility should consider installation of berming and diking of the area. The waste water pollutants associated with produced waters, drilling muds, drill cuttings and produced sand from any source associated with onshore oil and gas production, field exploration, drilling, well completion, or well treatment are prohibited from being discharged (40 CFR 435.32).

(f) Preventive Maintenance—The preventive maintenance program must include the inspection of all onsite and offsite mixing tanks and equipment, and inspection of all vehicles which carry supplies and chemicals to oil field activities. These mixing tanks and vehicles carry large volumes of fractionating chemicals and gels, cements, drilling muds, and well treatment chemicals and acids that potentially may contaminate waters of the United States if leaks or spills occur.

(g) Inspection Frequency—All equipment and areas addressed in the pollution prevention plan shall be inspected semiannually. Equipment and vehicles which store, mix or transport hazardous materials will be inspected quarterly. Inspections shall also include the inspection of all onsite mixing tanks and equipment, and inspection of all vehicles which carry supplies and chemicals to oil field activities. These mixing tanks and vehicles carry large volumes of fractionating chemicals and gels, cements, drilling muds, and well treatment chemicals and acids that potentially may contaminate waters of the United States if leaks or spills occur.

6. Numeric Effluent Limitation

There are no additional numerical effluent limitations beyond those listed in Part V.B. of today's permit.

7. Monitoring and Reporting Requirements

a. Monitoring Requirements. The regulatory modifications at 40 CFR 122.44 (i)(2) established on April 2, 1992, grant permit writers the flexibility to reduce monitoring requirements in storm water discharge permits. EPA has determined that the potential for storm water discharges to contain pollutants above benchmark levels, because of the industrial activities and materials exposed to precipitation, does not support sampling at oil and gas facilities. Based on a consideration of the BMPs typically used at these facilities, and generally low pollutant values from the application data, EPA believes that the pollution prevention plan with visual examinations of storm water discharges will help to ensure storm water contamination is minimized. Because permittees are not required to conduct sampling, they will be able to focus their resources on developing and implementing the pollution prevention plan.

Quarterly visual examinations of a storm water discharge from each outfall are required at oil and gas facilities. The examination must be of a grab sample collected from each storm water outfall. The examination of storm water grab samples shall include any observations of color, odor, turbidity, floating solids, foam, oil sheen, or other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on these samples.

The examination must be made at least once in each designated period during daylight hours unless there is insufficient rainfall or snow-melt to produce a runoff. Whenever practicable, the same individual should carry out the collection and examination of discharges throughout the life of the permit to ensure the greatest degree of consistency possible. Examinations shall be conducted in each of the following periods for the purposes of visually inspecting storm water quality associated with storm water runoff and snow melt: January through March; April through June; July through September; October through December. Grab samples shall be collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 60 minutes) of when the runoff begins discharging. Reports of the visual examination include: the examination date and time, examination personnel, visual quality of the storm water discharge, and probable sources of any observed storm water contamination. The visual examination reports must be maintained onsite with the pollution prevention plan.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

EPA believes that this quick and simple assessment will help the permittee to determine the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examinations. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and the effects of the management practices that are included in the plan.

When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

As discussed above, EPA does not believe that chemical monitoring is necessary for oil and gas facilities. EPA believes that between quarterly visual examinations and site compliance evaluations potential sources of contaminants can be recognized, addressed, and then controlled with BMPs. In determining the monitoring requirements, EPA considered the nature of the industrial activities and significant materials exposed at these sites, and performed a review of data provided in Part 2 group applications.

J. Storm Water Discharges Associated With Industrial Activity From Mineral Mining and Processing Facilities

1. Industry Profile

On November 16, 1990 (55 FR 47990), EPA promulgated the regulatory definition of ''storm water discharges associated with industrial activity.'' This definition included point source discharges of storm water from eleven major categories of facilities, including: ''* * * (iii) facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under 40 CFR 434.11(l) because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or except for areas of noncoal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment operations, or storm water contaminated by contact with, any overburden, raw material, intermediate products, finished products, by-products or waste products located on the site of such operations.''

This section only covers storm water discharges associated with industrial activities from active and inactive mineral mining and processing facilities. Mineral mining and processing facilities eligible to seek coverage under this section include the following types of operations: Dimension Stone (SIC Code 1411); Crushed and Broken Limestone (SIC Code 1422); Crushed and Broken Granite (SIC Code 1423); Crushed and Broken Stone (SIC Code 1429); Construction Sand and Gravel (SIC Code 1442); Industrial Sand and Gravel (SIC Code 1446); Kaolin and Ball Clay (SIC Code 1455); Clay, Ceramic, and Refractory Minerals (SIC Code 1459); Potash, Soda, and Borate Minerals (SIC Code 1474); Phosphate Rock (SIC Code 1475); Chemical and Fertilizer Mineral Mining (SIC Code 1479); and Miscellaneous Nonmetallic Minerals, Except Fuels (SIC Code 1499).

Storm water discharges covered by this section include all discharges where precipitation and storm water runon come into contact with significant materials including, but not limited to, raw materials, waste products, by-products, overburden, stored materials, and fuels. This includes storm water discharges from haul roads, access roads, and rail lines used or traveled by carriers of raw materials, manufactured products, waste materials, or by-products created by the facility.

This permit may authorize storm water discharges associated with industrial activity that are mixed with storm water discharges associated with industrial activity from construction activities, provided that the storm water discharge from the construction activity is in compliance with the terms, including applicable Notice of Intent (NOI) or application requirements, of a different NPDES general permit or individual permit authorizing such discharges.

This section does not cover any discharge subject to effluent limitation guidelines, unless otherwise specified, including storm water that combines with process wastewater. Storm water that does not come into contact with any overburden, raw material, intermediate product, finished product, by-product, or waste product located on the site of the operation are not subject to permitting under this section according to Section 402(l)(2) of the Clean Water Act. Today's permit contains additional coverage provisions applicable only to mineral mining and processing facilities located in Region VI and Region IX (the States of Louisiana, New Mexico, Oklahoma, and Texas and Arizona). Mine dewatering discharges, which are composed entirely of storm water or ground water seepage, and that are not commingled with any process waste water from construction sand and gravel, industrial sand, and crushed stone mine facilities located in Region VI and Region IX are eligible for coverage under today's permit. Such discharges, however, are subject to the numeric limitations and compliance monitoring provisions listed in the permit.

This section is applicable to all phases of mining operations, whether active or inactive, as long as there is exposure to significant materials. This includes land disturbance activities such as the expansion of current extraction sites, active and inactive mining stages, and reclamation activities.

This section does not apply to storm water discharges from inactive mining operations occurring on Federal lands, unless an operator can be identified. These discharges are more appropriately covered under a permit currently being developed by EPA.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

There are typically three phases to a mining operation: the exploration and construction phase; the active phase; and the reclamation phase. The exploration and construction phase entails exploration and a certain amount of land disturbance to determine the financial viability of a site. Construction includes building of site access roads, and removal of overburden and waste rock to expose minable ore. These land-disturbing activities are significant potential sources of storm water contaminants. The active phase includes each step from extraction through production of a saleable product. The active phase may include periods of inactivity due to the seasonal nature of these mineral mining activities. The final phase of reclamation is intended to return the land to its pre-mining state.

Because of the land-disturbing nature of the mineral mining and processing industry, contaminants of concern generated by industrial activities in this industry include total suspended solids (TSS), total dissolved solids (TDS), turbidity, and pH. Table J–1 lists potential pollutant source activities, and related pollutants associated with mineral mining and processing facilities.

Industrial activities, significant materials, and material management practices associated with mineral mining and processing methods are typically similar, varying only in the type of rock being mined. Examples of mineral commodities obtained from mineral mining and processing facilities include: crushed stone; construction sand and gravel; industrial sand; gypsum; asphaltic minerals; asbestos and wollastonite; lightweight aggregates; mica and sericite; barite; fluorspar; salines from brine lakes; borax minerals; potash; sodium sulfate; trona; rock salt; phosphate rock; frasch sulfur; mineral pigments; lithium; bentonite; magnesite; diatomite; jade; novaculite; fire clay; attapulite and montmorillonite; kyanite; shale and common clay; aplite; tripoli; kaolin; ball clay; feldspar; talc, steatite, soapstone and pyrophylite; garnet; and graphite.

Industrial activities include, ''* * * but [are] not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process wastewaters (as defined at 40 CFR Part 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials and intermediate and finished materials; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water'' (40 CFR 122.26(b)(14)). The most common industrial activities at mineral mine sites include extraction of the mineral, material sizing by crushers, material sorting, and product washing.

TABLE J–1.—ACTIVITIES, POLLUTANT SOURCES, AND POLLUTANTS

Activity	Pollutant source	Pollutant
Site Preparation	Road Construction	Dust, TSS, TDS, turbidity.
	Removal of Overburden	Dust, TSS, TDS, turbidity.
	Removal of waste rock to expose the mineral body	Dust, TSS, TDS, turbidity.
Mineral Extraction	Blasting activities	Dust, TSS.
Mineral Processing Activities	Rock Sorting	Dust, TSS, TDS, turbidity, fines.
	Rock Crushing	Dust, TSS, TDS, turbidity, fines.
	Rock Washing	TSS, TDS, turbidity, pH.
	Raw Material Storage	Dust, TSS, TDS, turbidity.
	Waste Rock Storage	Dust, TSS, TDS, turbidity, pH.
	Raw Material Loading	Dust, TSS, TDS, turbidity.
	Processing materials unloading	Diesel fuel, gasoline, oil, lime.
	Raw or Waste Material Transportation	Dust, TSS, TDS, turbidity.
Other Activities	Sedimentation pond upsets	TSS, TDS, turbidity, pH.
	Sedimentation pond sludge removal and disposal	Dust, TSS, TDS, turbidity, pH.
	Air emission control cleaning	Dust, TSS, TDS, turbidity.
Equipment/Vehicle Maintenance.	Fueling activities	Diesel fuel, gasoline, oil.
	Parts cleaning	Solvents, oil, heavy metals, acid/alkaline wastes.
	Waste disposal of oily rags, oil and gas filters, batteries, coolants, degreasers.	Oil, heavy metals, solvents, acids.
	Fluid replacement including hydraulic fluid, oil, transmission fluid, radiator fluids, and grease.	Oil, arsenic, lead, cadmium, chromium, benzene, TCA, TCE, PAHs, solvents.
Reclamation Activities	Site preparation for stabilization	Dust, TSS, TDS, turbidity.

TABLE J–1.—ACTIVITIES, POLLUTANT SOURCES, AND POLLUTANTS—Continued

Activity	Pollutant source	Pollutant
	Fertilizers	Nitrogen, phosphorus.

Sources: Storm water group applications, Part 1 and 2 and EPA. ''Development Document on the Mineral Mining and Processing Point Source Category.'' (EPA 440/1–76/059b). July 1979.

Significant materials include, ''* * * but [are] not limited to: raw materials, fuels, materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; * * * hazardous substances designated under Section 101(14) of CERCLA; any chemical facilities required to report pursuant to Section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharge'' (40 CFR 122.26(b)(12)). Significant materials commonly found at mining facilities include: overburden; waste rock; sub-ore piles; tailings; petroleum-based products; solvents and detergents; manufactured products; and other waste materials.

Materials management practices are defined as those practices employed to diminish contact by significant materials with precipitation and storm water runon, or practices utilized to reduce the offsite discharge of contaminants. To this end, sediment ponds, discharge diversion techniques, as well as methods of dispersion, are used to minimize impacts of significant materials on storm water. For mine sites requiring additional sources of water for processing operations, rainfall events as well as storm water runon will be managed for use in dust suppression, processing, and washing activities. Many mine sites are already equipped with sedimentation ponds and other established process wastewater treatment methods in order to meet effluent limitation guidelines. Additional storm water management practices used at mineral mining facilities include: discharge diversions; drainage/storm water conveyances; runoff dispersion; sediment control and collection practices; vegetation/soil stabilization; and capping contaminated sources.

Nonmetallic minerals are recovered using four basic forms of extraction techniques: open pit, open face or quarry mining; dredging; solution mining; and underground mining. Each type of extraction method may be followed by varying methods of beneficiation and processing. Presented below are brief descriptions of the industrial activities, significant materials, and materials management practices associated with these four extraction processes and associated beneficiation activities. Due to similarities in mining operations for many of the minerals within this sector, industrial activities, significant materials, and materials management practices are fairly uniform across this sector. Unique practices are noted.

a. Open Pit, Open Face, or Quarry Mining. Many mineral mining and processing industries access mineral deposits using open pit, open face or quarrying extraction techniques. For facilities producing dimension stone, crushed and broken stone, construction and industrial sand and gravel, clays, as well as other minerals (borate, phosphate, potash), surface mining is generally the most economical form of extraction.

(*1*) *Industrial Activities.* Extraction activities include removal of overburden and waste rock to access mineral deposits. These land-disturbing activities generate piles of topsoil and other overburden as well as waste rock, which are typically stored beside, or within, the pit or quarry. In addition, land disturbance, blasting, crushing, and materials handling activities create large amounts of dust that are either dispersed by local wind patterns or collected in air pollution control mechanisms. At closure, overburden and waste rock may or may not be used to reclaim the pit or quarry depending on Federal, State and local requirements. In addition, access roads and rail spurs, and associated loading and unloading areas, are found onsite.

Following extraction, the mined materials may be transferred to a nearby beneficiation/processing facility or may be beneficiated within the pit or quarry. At a beneficiation/processing facility, unfinished materials may be subjected to dry or wet processing methods. Dry forms of processing include crushing, grinding, sawing, and splitting of the mined material. Wet processing may include simple washing, flotation, or heavy media separation.

(*2*) *Significant Materials.* Significant materials generated by most extraction activities at open pit, open face, and quarry mines include overburden piles, waste rock piles, ore and subore piles, and materials spilled from loading and unloading activities. Other exposed materials that can be generated at these types of operations (as well as other mineral mines), include: tailings from flotation and other separation stages; soils impacted by fugitive dust emissions; other process wastes such as clays from phosphate mines; settling ponds that receive process wastewaters; dredged sediment disposal areas; as well as raw material and product storage. Dust and particulate matter collected in air pollution control mechanisms may also be disposed of in onsite waste piles.

(*3*) *Materials Management Practices.* Materials management practices at open pit or quarry mining facilities are typically designed to control dust emissions and soil erosion from extraction activities, and offsite transport of significant materials. At many facilities structural Best Management Practices (BMPs) may have already been implemented to manage process wastewaters subject to effluent limitation guidelines. Settling ponds and impoundments are commonly used to reduce Total Suspended Solids (TSS), Total Dissolved Solids (TDS), and other contaminants in process generated wastewaters. These controls may also be used to manage storm water runoff and runon with potentially few alterations to onsite drainage systems. Some facilities included in part 1 of the group applications reported the use of storm water diversions to divert storm water away from pits and quarries, raw material piles, overburden, and waste rock piles.

Tailings impoundments are used to manage tailings generated at facilities engaged in flotation or heavy media separation operations. These impoundments are used to manage beneficiation/processing wastewaters generated at the facility and may also be used to manage storm water runoff.

b. Dredging. Dredging is an extraction method used to access nonmetallic mineral deposits located in quarries or pits (where completely or partially below the water table); in rivers; or estuaries; or offshore, in open bays or sounds. For these types of operations, ore is recovered using scooping devices and suction dredges. Minerals commonly excavated by dredging include sand and gravel, and calcium carbonate.

(1) Industrial Activities. The industrial activities at dredging facilities include excavation of ore from underwater deposits (e.g., in stream beds of perennial or ephemeral streams) by dredges. Processing operations may occur on the dredge barges or at adjacent facilities. On-board processing activities may include: screening; crushing of oversized material; washing; sand classification with hydraulic classifying tanks; gravel sizing; heavy media separation; and product loading/unloading.

Dredges that do not perform on-board processing operations load raw material on a tow-barge for transport to a land-based processing facility. Processing at land facilities typically includes washing to remove clay and other impurities; screening; sizing; crushing; classifying; and heavy media separation.

(2) Significant Materials. Significant materials generated at dredging facilities include ore material piles, waste material piles of oversized, or otherwise unusable materials, and float waste from heavy media separation. Clays and undersized fines are dredging waste by-products that may be returned to the water but may also be stored in piles. Sand fines from gravel crushing operations that cannot be sold, are a major source of exposed waste material at land-based processing facilities. In addition, land-based facilities may also manage dredged sediments removed from onsite settling ponds. Haul roads, storage piles, on-land waste piles, processing operations, and loading/unloading operations are other potential sources of storm water pollutants at these facilities.

(3) Materials Management Practices. Hydraulic dredging operations in open pits or quarries, or land-based processing facilities, use settling ponds for the removal of clay particles, fines, and impurities from process wastewaters. These ponds may also be used to manage contaminated storm water runoff. Water from the settling ponds or basins may be returned to the wet pit to maintain water levels in the pit, or may be discharged offsite. Worked out pits may also be used to contain solid wastes such as fines and oversized materials. These pits are another potential source of storm water contamination in the event of heavy precipitation and subsequent overflow.

Dredging operations in open waters typically discharge process wastewater containing fines to the water body without treatment under the operator's Clean Water Act Section 404 permit.

c. Solution Mining. Solution mining extracts minerals from hard rock mineral or natural brine sources by underground injection of a lixiviant into the ore zone. Minerals are recovered from solution, after the solution is brought to the surface, through evaporation or flotation. Since most solution mining extraction activities occur underground using water to extract values, the potential for these mineral deposits to be exposed to storm water is minimal. However, at the surface of solution mining operations, industrial activities and significant materials, such as haul roads, chemical storage areas, and raw material piles, are common to most sites. These industrial activities and significant materials are all susceptible to storm water exposure and require appropriate storm water management controls.

Descriptions of industrial activities performed by each type of solution mining are provided below. Since the mineral deposits are not exposed to storm water for this type of mining, ''industrial activities'' describes the type of extraction method used to obtain minerals, not activities susceptible to storm water exposure. Significant materials, and materials management practices do refer to those materials exposed to storm water, and to the subsequent management practices used to control storm water.

Some of the minerals extracted using solution mining include: potash; soda; rock salt; borate minerals; chemical and fertilizer minerals such as barite, fluorspar, salines from lake brines; lithium; and mineral pigments. Many of these minerals may also be recovered using surface and/or underground extraction methods.

(1) Solution Mining—Injection.

(a) Industrial Activities—Rock salt and potash minerals may be recovered by injecting water into subsurface deposits and removing minerals in solution. Water is injected through a cased pipe drilled into a deposit. Saturated solution is then pumped to the surface for processing or storage. Processing may include evaporation, and/or flotation to separate the final product.

(b) Significant Materials—Significant materials at an injection solution mining site may include product storage piles, chemical storage areas, and haul roads. Very little extracted solution remains onsite, since it is often re-injected into the formation.

(c) Materials Management Practices—Solution mining facilities typically operate in arid regions, and are able to use solar evaporation ponds to recover minerals from solution. Due to typically low precipitation and high evaporation rates in these areas, storm water materials management practices may not be prevalent.

(2) Solution Mining—Frasch Sulfur.

(a) Industrial Activities—Sulfur is recovered from deposits using the Frasch sulfur process, which injects hot, purified, water into the subsurface to melt the mineral. Molten sulfur is pumped directly to heated tanks at the surface to maintain a saleable product in liquid form.

(b) Significant Materials—Significant materials generated from Frasch sulfur mining include elemental sulfur, scrap sulfur, tank bottoms, water treatment sludge, bleedwater produced from bleed wells used to remove excess injection water, and drilling wastes such as muds, acidizing fluids and well workover fluids. Since molten sulfur product is piped directly from underground to enclosed storage tanks on the surface, it is not exposed to storm water.

(c) Materials Management Practices—Solid wastes such as elemental and scrap sulfur, tank bottoms, and water treatment sludge may be disposed of in onsite piles. Liquid wastes such as bleedwater, drilling muds, acidizing fluids and workover fluids are typically disposed of in reserve pits and/or workover pits. At the completion of drilling, pit contents may be dried prior to being covered by a liner and buried. Accumulated solids from these pits may also be mixed with clay for use as an additive in drilling muds.

Rainfall runoff and boiler blowdown may be discharged offsite without treatment. Other waste generated at these facilities include power plant wastes and wastewaters, wastewater from sealing wells, sanitary wastes, and miscellaneous other wastewaters collected in drips and drains.

(3) Solution Mining—Evaporation.

(a) Industrial Activities—Another form of solution mining uses evaporation and crystallization of saline waters to produce minerals. Potash, soda, borate, and other minerals, are produced from naturally occurring fluids such as sea water, or from evaporite mineral deposits such as western lake brines. Brines are typically pumped from beneath the crystallized surface of a lake and processed by evaporation and crystallization. Recovered salts are washed, dried and packaged for shipment.

(b) Significant Materials/Materials Management Practices—Significant materials associated with these facilities include raw material piles, evaporation ponds, and residual brines consisting of salts and end liquors, including various added process wastewaters. Residual brines generated may be left in solar

evaporation ponds or dissolved and returned to the lake or injection wells.

d. Underground Mining. Underground mining techniques are used to access mineral deposits located too far underground to access economically from the surface. Though typically a more expensive form of extraction, advantages to underground mining operations include year-round operation, less noise (applicable to facilities located near residential areas), and less surface land disturbance. While most nonmetallic minerals are extracted from surface operations, some minerals existing in bedded or other sedimentary deposits may be accessed by underground extraction techniques. Potash, salt, soda, and borate minerals, as well as chemical and fertilizer minerals, are some of the minerals extracted using this mining method.

(1) Industrial Activities/Significant Materials. Industrial activities that may be associated with storm water discharges include: loading/unloading activities; haul roads; products and materials storage; waste piles; and processing activities. Exposed materials associated with surface beneficiation and processing facilities at underground mines are similar to those associated with open pit, open face, and quarrying facilities.

(2) Materials Management Practices. Materials management practices for significant materials at the surface of underground mining facilities are similar to those materials management practices used at open pit, open face, and quarrying operations.

e. Inactive Mine Sites. Inactive mineral mining and processing operations are those where industrial activities are no longer occurring. When active, mineral extraction could have occurred from open pits or open face mines, solution mines, dredging operations, or underground mines. These sites are included in this section because significant materials may remain onsite. These materials, if exposed, are potential sources of storm water pollutants. Until an inactive mineral mining and processing facility has been reclaimed under applicable State or Federal laws, the site is considered associated with an ''industrial activity'' and is subject to this section. Due to the seasonal nature of this industry, many mine sites can become temporarily inactive for extended periods.

2. Pollutants in Storm Water Discharges Associated With Mineral Mining and Processing Facilities

Impacts caused by storm water discharges from active and inactive mineral mining and processing operations will vary. Several factors influence to what extent significant materials from mineral mining and processing operations may affect water quality. Such factors include: geographic location; hydrogeology; the type of mineral extracted; the mineralogy of the extracted resource and the surrounding rock; how the mineral was extracted (e.g., quarrying/open face, dredging, solution, or underground mining operations); the type of industrial activities occurring onsite (e.g., extraction, crushing, washing, processing, reclamation etc.); the size of the operation; and type, duration, and intensity of precipitation events. Each of these and other factors will interact to influence the quantity and quality of storm water runoff. For example, air emissions (i.e., settled dust) may be a significant source of pollutants at some facilities while materials storage is a primary source at others. In addition, sources of pollutants other than storm water, such as illicit connections,[71] spills, and other improperly dumped materials, may increase the pollutant loadings discharged into waters of the United States.

The part 2 group application data requirements did not identify individual site characteristics which may be responsible for elevated or insignificant conventional pollutant loadings.

Based on the wide variety of industrial activities and significant materials at the facilities included in this sector, EPA believes it is appropriate to divide the mineral mining and processing industry into subsectors to properly analyze sampling data and determine monitoring requirements. As a result, this sector has been divided into the following subsectors: dimension stone, crushed stone mining and nonmetallic minerals mining (except fuels); sand and gravel mining; clay, ceramic, and refractory materials mining; chemical and fertilizer mineral mining. The tables below include data for the eight pollutants that all facilities were required to monitor for under Form 2F. The tables also list those parameters that EPA has determined merit further monitoring. A table has not been included for the following facilities because less than 3 facilities submitted data in these subsectors: clay, ceramic, and refractory materials mining; and chemical and fertilizer mineral mining facilities.

TABLE J–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY DIMENSION STONE AND CRUSHED PRODUCTS FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
Sample type	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	12	8	15	11	6.3	7.0	0.0	0.0	22.3	16.0	4.0	6.0	19.4	16.9	36.1	25.4
COD	12	8	16	10	37.9	46.4	0.0	0.0	140.0	140.0	33.0	44.0	136.1	159.8	243.3	284.8
Nitrate + Nitrite Nitrogen	6	2	10	4	0.59	0.08	0.00	0.00	3.00	0.30	0.10	0.00	2.89	.	7.96	.
Total Kjeldahl Nitrogen	12	8	15	10	1.56	1.91	0.10	0.34	5.71	6.89	0.67	1.15	6.12	6.47	13.70	13.09
Oil & Grease	11	N/A	15	N/A	1.7	N/A	0.0	N/A	10.0	N/A	0.0	N/A	9.8	N/A	27.4	N/A
pH	11	N/A	15	N/A	N/A	N/A	6.2	N/A	8.5	N/A	7.2	N/A	8.4	N/A	8.9	N/A
Total Phosphorus	12	8	15	10	0.70	0.24	0.00	0.00	7.06	0.71	0.20	0.17	3.12	1.18	10.36	2.89
Total Suspended Solids	12	8	15	10	2522	1920	0	0	27100	13300	124	636	27188	10641	217687	38624

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.

[ii] Composite samples.

[71] Illicit connections are contributions of unpermitted non-storm water discharges to storm sewers from any of a number of sources including sanitary sewers, industrial facilities, commercial establishments, or residential dwellings. The probability of illicit connections at mineral mining and processing facilities is low yet it still may be applicable at some operations.

TABLE J–3.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY SAND AND GRAVEL PRODUCTS FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
Sample type	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	8	5	9	5	6.4	8.7	0.0	0.0	35.0	17.0	3.3	7.4	27.8	23.1	67.0	34.5
COD	7	5	8	5	145.9	102.8	0.0	12.0	404.0	185.0	54.2	116.0	635.5	441.5	1366.7	916.1
Nitrate + Nitrite Nitrogen	7	5	8	5	1.56	3.31	0.00	0.54	9.00	8.80	0.41	1.63	11.56	12.50	44.19	25.92
Total Kjeldahl Nitrogen	7	5	8	5	1.79	1.60	0.48	0.80	4.90	3.10	1.42	0.96	4.42	3.84	7.00	5.90
Oil & Grease	8	N/A	9	N/A	1.3	N/A	0.0	N/A	5.9	N/A	0.0	N/A	5.1	N/A	8.0	N/A
pH	9	N/A	10	N/A	N/A	N/A	6.0	N/A	10.0	N/A	8.2	N/A	10.8	N/A	12.2	N/A
Total Phosphorus	7	5	8	5	1.39	1.07	0.04	0.11	4.69	2.61	0.53	1.10	10.02	5.50	37.75	13.65
Total Suspended Solids	7	5	8	5	503	519	0	13	2400	1400	97	232	3981	4367	19143	15278

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

3. Options for Controlling Pollutants

There are two options for reducing pollutants in storm water discharges: end-of-pipe treatment and implementing Best Management Practices to prevent and/or eliminate pollution. Discharges from mining operations are in some ways dissimilar to other types of industrial facilities. Mining facilities are often in remote locations and may operate only seasonally or intermittently, yet need year-round controls because significant materials remain exposed to precipitation when reclamation is not completed. These characteristics make resource intensive end-of-pipe management controls less desirable.

A comprehensive storm water management program for a given plant may include controls from each of these categories. Development of comprehensive control strategies should be based on a consideration of site and facility plant characteristics.

a. End-of-Pipe Treatment. At many mineral mining and processing operations, it may be appropriate to collect and treat the runoff from targeted areas of the facility. This approach was taken with 12 industrial categories within the mineral mining and processing industry, subject to national effluent limitation guidelines for process water. Table J–4 identifies the effluent limitation guidelines for process water and for the mineral mining and processing sector. There are several areas where process wastewater guidelines influence the permitting strategy for storm water discharges. Whenever storm water and process wastewater combine, the storm water is treated as process wastewater. To meet the numeric effluent limitation for process water, most, if not all, facilities must collect and temporarily store onsite runoff from targeted areas of the plant. The effluent limitation guidelines do not apply to discharges whenever rainfall events, either chronic or catastrophic, cause an overflow of storage devices designed, constructed, and maintained to contain a 10-year, 24-hour storm. Most technology-based treatment standards, used for treating process waters, are based on relatively simple technologies such as settling of solids, neutralization, and drum filtration.

TABLE J–4.—Mineral Mining and Processing: Effluent Limitation Guidelines

SIC Code	Category	Subcategory	Effluent guidelines
1411	Dimension Stone	N/A	Reserved
1422	Crushed and Broken Limestone	N/A	For Facilities that recyle process waste water: pH 6.0–9.0.
1423	Crushed and Broken Granite		Mine dewatering discharges: pH 6.0–9.0.
1429	Crushed and Broken Stone, Not Elsewhere Classified.		In no case shall a pH limitation outside the range of 5.0–9.0 be permitted.
1442	Construction Sand and Gravel	N/A	For facilities that recycle process waste water: pH 6.0–9.0.
			Mine dewatering discharges: pH 6.0–9.0.
			In no case shall a pH limitation outside the range of 5.0–9.0 be permitted.
1446	Industrial Sand	N/A	All operations except HF flotation:
			TSS: Not to exceed 45mg/L maximum for any 1 day; Average over 30 days not to exceed 25 mg/L.
			pH Within range 6.0–9.0.
			For facilities using HF flotation:
			TSS: Not to exceed 0.046 mg/L maximum for any 1 day; Average over 30 days not to exceed 0.023 mg/L.
			Total Fluoride: Maximum for 1 day: 0.006 mg/L; Average over 30 days: 0.003 mg/L.
			pH Within range 6.0–9.0.
			Mine dewatering discharges:
			TSS: Maximum for 1 day: 45 mg/L; Average over 30 days: 25 mg/L.
			pH: Within range 6.0–9.0.
1455	Kaolin and Ball Clay	Ball Clay Kaolin	Reserved.
1459	Clay, Ceramic, and Refractory Minerals, Not Elsewhere Classified.	Bentonite Magnesite	No Discharge.

TABLE J–4.—Mineral Mining and Processing: Effluent Limitation Guidelines—Continued

SIC Code	Category	Subcategory	Effluent guidelines
	....	Feldspar, Fire Clay, Attapulgite, and Montmovillonite, Kyanite, Shale and Common Clay Aplite.	Reserved.
1474	Potash, Soda, and Borate Minerals	Borax, Potash, Sodium Sulfate	No Discharge.
	....	Trona, Rock Salt	Reserved.
1475	Phosphate Rock	N/A	Existing Sources.
	....	....	TSS: Maximum for any 1 day: 60 mg/L; Average over 30 days: 30 mg/L.
	....	....	pH: Within range 6.0–9.0.
	....	....	New sources, process generated wastewater and mine dewatering discharges:
	....	....	TSS: Maximum for any 1 day: 60 mg/L; Average over 30 days: 30 mg/L.
	....	....	pH: Within range 6.0–9.0.
1479	Chemical and Fertilizer Mineral Mining, Not Elsewhere Classified.	Barite, Fluorspar, Salines from Brine Lakes, Frasch Sulfur.	No Discharge.
	....	Mineral Pigments, Lithium	Reserved.
1499	Miscellaneous Nonmetallic Minerals, Except Fuels.	Graphite	Process waste water and mine drainage subject to ELG:
	....	....	TSS: Maximum for any 1 day: 20 mg/L; Average over 30 days: 10 mg/L.
	....	....	Total Fe: Maximum for any 1 day: 2 mg/L; Average over 30 days: 1 mg/L.
	....	....	pH: Within range 6.0–9.0.
	....	Gypsum, Asphaltic Minerals, Asbestos and Wollastonite, Diatomite, Jade, Tripoli (Dry Processes Only).	No discharge.
	....	Garnet, Talc, Steatite, Soapstone, Pyrophyllite, Mica and Sericite.	Reserved.

End-of-pipe treatments are effective means to control process wastewaters because the types of pollutants and the volume of water to be treated are known. However, storm water discharges from mineral mining and processing facilities can be numerous, intermittent, and of various volumes. Channelization of all storm water that comes into contact with significant materials into a single treatment facility, or construction of numerous treatment devices for each discharge is too burdensome for the regulated community. Therefore, EPA believes that the most appropriate means of storm water management at mineral mining and processing facilities are BMPs. BMPs allow the mine site operator to choose a particular BMP that is best for the characteristics of a particular site and to control parameters of concern.

b. Best Management Practices. EPA believes that the most effective storm water management controls for limiting the offsite discharge of storm water pollutants from mineral mining and processing facilities are source reduction BMPs. Source reduction BMPs are methods by which discharges of contaminants are controlled with little or no required maintenance. Examples of these types of controls include source reduction diversion dikes, vegetative covers, and berms. Source reduction practices are typically (but not always) low in cost and relatively easy to implement. In some instances, more resource intensive treatment BMPs, including sedimentation ponds, may be necessary depending upon the type of discharge, types and concentrations of contaminants, and volume of flow.

The selection of the most effective BMPs will be based on site-specific considerations such as: facility size, climate, geographic location, hydrogeology and the environmental setting of each facility, and volume and type of discharge generated. Each facility will be unique in that the source, type, and volume of contaminated storm water discharges will differ. In addition, the fate and transport of pollutants in these discharges will vary. EPA believes that the management practices discussed herein are well suited mechanisms to prevent or control the contamination of storm water discharges associated with mining activity.

The following six categories describe best management practice options for reducing pollutants in storm water discharges from mineral mining and processing operations: discharge diversions; drainage/storm water conveyance systems; runoff dispersion; sediment control and collection; vegetation/soil stabilization; capping of contaminated sources.

Typical land disturbance activities at mineral mining and processing sites include roads, open pits and quarries, topsoil, overburden, waste rock, subore, ore and product piles; materials storage, mill tailings, ponds and piles, as well as vehicle maintenance and storage areas. Because mineral mining and processing is largely a land disturbance activity, BMPs that minimize erosion and sedimentation will be most effective if installed at the inception of operations and maintained throughout active operations and reclamation of the site. From the construction of access and haul roads to closure and reclamation activities, implementation of BMPs is often essential to minimizing long-term environmental impacts to an area.

Part 1 group application data indicate that several types of BMPs have been implemented at sampling facilities. Commonly used BMPs were sediment control and collection and discharge diversion devices. However, the group application process did not require a description of BMP locations and did not require applicants to describe the number of identical BMPs implemented at each site. As a result, the effectiveness of BMPs for storm water management, at these facilities cannot be evaluated.

In addition, many of the BMPs listed by facilities may have been implemented as process wastewater treatment mechanisms and are not exclusively used for storm water management. For instance, 43 percent of the sampling subgroup reported using ponds for sediment control and collection. Since some facilities classified as SIC Code 14 are subject to process water effluent limitation guidelines, sedimentation ponds may have been implemented to meet the limit.

Because BMPs described in the part 1 data are limited, EPA is providing an overview of supplementary BMPs for use at mineral mining and processing facilities. However, due to the site-specific nature of facilities within this sector, BMPs cited do not preclude the use of other viable BMP options. Table J–5 summarizes BMP options as they apply to land disturbance activities at mineral mining and processing facilities. Sources of BMP information include: ''Sediment and Erosion Control: An Inventory of Current Practices—Draft,'' EPA, April 20, 1990; ''Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices,'' EPA, September, 1992 (EPA 832–R–92–006); ''Best Management Practices for Mining in Idaho,'' Idaho Department of Lands, November 1992; and ''Erosion & Sediment Control Handbook,'' Goldman et al., McGraw-Hill Book Company, 1986.

TABLE J–5.—SUMMARY OF MINE AREAS AND APPLICABLE BEST MANAGEMENT PRACTICES

Land-disturbed area	Discharge diversions	Conveyance systems	Runoff dispersion	Sediment control & collection	Vegetation	Containment
Haul Roads and Access Roads.	Dikes, Curbs, Berms.	Channels, Gutters, Culverts, Rolling Dips, Road Sloping, Roadway Water Deflectors.	Check Dams, Rock Outlet Protection, Level Spreaders, Stream Alteration, Drop Structures.	Gabions, Riprap, Native Rock Retaining Walls, Straw Bale Barriers, Sediment Traps/Catch Basins, Vegetated Buffer Strips.	Seeding, Willow Cutting Establishment.	
Pits/Quarries or Underground Mines.	Dikes, Curbs, Berms.	Channels, Gutters	Serrated Slopes, Benched Slopes, Contouring, Stream Alteration.	Sediment Settling Ponds, Straw Bale Barrier, Siltation Berms.	Seeding	Plugging and Grouting
Overburden, Waste Rock and Raw Material Piles.	Dikes, Curbs, Berms.	Channels, Gutters	Serrated Slopes, Benched Slopes, Contouring, Stream Alteration.	Plastic Matting, Plastic Netting, Erosion Control Blankets, Mulch-straw, Compaction, Sediment/Settling Ponds, Silt Fences, Siltation Berms.	Topsoiling, Seedbed Preparation, Seeding.	Capping
Reclamation	Dikes, Curbs, Berms.	Channels, Gutters	Check Dams, Rock Outlet Protection, Level Spreaders, Serrated Slopes, Benched Slopes, Contouring, Drain Fields, Stream Alteration, Drop Structures.	Gabions, Riprap, and Native Rock Retaining Walls, Biotechnical Stabilization, Straw Bale Barriers, Sediment Traps/ Catch Basins, Vegetative Buffer Strips, Silt Fences, Siltation Berms, Brush Sediment Barriers.	Topsoiling, Seedbed Preparation, Seeding, Willow Cutting Establishment.	Capping, Plugging and Grouting

Haul Roads and Access Roads—Placement of haul roads or access roads should occur as far as possible from natural drainage areas, lakes, ponds, wetlands or floodplains where soil will naturally be less stable for heavy vehicle traffic. If a haul road must be constructed near water, as little vegetation as possible should be removed from between the road and the waterway, as vegetation is a useful buffer against erosion and is an efficient sediment collection mechanism. The width and grade of haul or access roads should be minimal and should be designed to match natural contours of the area. Construction of haul roads should be supplemented by BMPs that divert runoff from road surfaces, minimize erosion, and direct flow to appropriate channels for discharge to treatment areas.

Pits or Quarries—Excavation of a pit or quarry must be accompanied by BMPs to minimize impacts to area surface waters. As discussed in construction of haul roads, as little vegetation as possible should be removed from these areas during excavation activities to minimize exposed soils. In addition, stream channels and other sources of water that may discharge into a pit or quarry should be diverted around that area to prevent contamination.

Overburden, Waste Rock, and Raw Material Piles—Overburden, topsoil, and waste rock, as well as raw material and intermediate and final product stockpiles should be located away from surface waters and other sources of water, and from geologically unstable areas. If this is not practicable, surface water should be diverted around the piles. As many piles as possible should be revegetated (even if only on a temporary basis). At closure, remaining units should be reclaimed.

BMPs can be used to control total suspended solids levels in runoff from unvegetated areas. These can include sediment/settling ponds, check dams, silt fences, and straw bale barriers.

Reclamation Activities—When a mineral deposit is depleted and operations cease, a mine site must be reclaimed according to appropriate State or Federal standards. Closure activities typically include restabilization of any disturbed areas such as access or haul roads, pits or quarries, sedimentation ponds or work-out pits, and any remaining waste piles. Overburden and topsoil stockpiles may be used to fill in a pit or quarry (where practical). Recontouring and vegetation should be performed to stabilize soils, and prevent erosion.

Major reclamation activities such as recontouring roads and filling in a pit or quarry can only be performed after operations have ceased. However, reclamation activities such as stabilization of banks and reseeding and revegetation should be implemented in mined out portions, or inactive areas of a site as active mining moves to new areas.

EPA recognizes that quarries are frequently converted into reservoirs or recreational areas, after the mineral deposit is depleted. However, this does not preclude the reclamation of disturbed areas above the quarry rim.

(1) Discharge Diversions. Discharge diversions provide the first line of defense in preventing the contamination of discharges and the subsequent contamination of receiving waters of the United States. Discharge diversions are temporary or permanent structures installed to divert flow, store flow, or limit storm water runon and runoff.

These diversion practices have several objectives. First, diversion structures can be designed to prevent otherwise uncontaminated (or less contaminated) water from crossing disturbed areas or areas containing significant amounts of contaminated materials, where contact may occur between runon and significant materials. These source reduction measures may be particularly effective for mineral mining and processing operations to prevent runon of uncontaminated discharges from contacting exposed materials and/or reduce the flow across disturbed areas, thereby lessening the potential for erosion. Second, diversion structures can be used to collect or divert waters for later treatment if necessary. The usefulness of these control measures are limited by such factors as the size of the area to be controlled and the type and nature of materials exposed and precipitation events.

Diversion dikes, curbs, and berms are temporary or permanent diversion structures that prevent runoff from passing beyond a certain point, and divert runoff away from its intended path. Dikes, curbs or berms may be used to surround and isolate areas of concern at mineral mining and processing sites, diverting flow around piles of overburden, waste rock, and storage areas, to minimize discharge contact with contaminated materials and to limit discharges of contaminated water from confined areas.

(2) Drainage/Storm Water Conveyance Systems. Drainage or storm water conveyance systems can provide either a temporary or a permanent management practice which functions to channel water away from eroded or unstabilized areas, convey runoff without causing erosion, and/or carry discharges to more stabilized areas. The use of drainage systems as a permanent measure may be most appropriate in areas with extreme slopes, areas subject to high velocity runoff, and other areas where the establishment of substantial vegetation is infeasible or impractical. For instance, several BMPs described below may be useful storm water and erosion control methods applicable to road construction and maintenance activities.

Channels or Gutters—Channels or gutters collect storm water runoff and direct its flow. Like diversion systems, channels or gutters may act to divert runoff away from a potential source of contamination, but may also be used to channel runoff to a collection and/or treatment area including settling ponds, basins or work-out pits.

Open Top Box Culverts, and Waterbars—These structures are temporary or permanent structures that divert water from a roadway surface. Open top box culverts may be used on steeply graded, unpaved roads in place of pipe culverts to divert surface runoff and flow from inside ditches onto the downhill slope of a road. These structures are typically made of wood and should periodically be monitored and repaired if necessary.

Waterbars are berms built by a dozer or by hand to a one to two foot height. They serve to extend the entire width of the road, with a downslope angle between 30 and 40 percent. Waterbars are kept open at a discharge end to allow water to flow away from the road and require little maintenance. These berms may be used as temporary or permanent structures.

Rolling Dips and Road Sloping—Rolling dips and road sloping are permanent water diversion techniques installed using natural contours of the land during road construction. These BMPs prevent water accumulation on road surfaces and divert surface runoff toward road ditches which then convey the storm water to ponds or other management areas.

Roadway Surface Water Deflector—A roadway surface water deflector is another technique to prevent accumulation of water on road surfaces. The structure uses a conveyor belt sandwiched between two pieces of treated wood and placed within the road to deflect water. This is a useful technique for steeply graded, unpaved roads.

Culverts—Culverts are permanent surface water diversion mechanisms used to convey water off of, or underneath a road. Made of corrugated metal, they must extend across the entire width of the road and beyond the fill slope. Additional erosion control mechanisms may need to be installed at the discharge end of the culvert.

(3) Runoff Dispersion. Drainage systems are most effective when used in conjunction with runoff dispersion devices designed to slow the flow of water discharged from a site. These devices also aid storm water infiltration into the soil and flow attenuation. Some examples of velocity dissipation devices include check dams, rock outlet protection, level spreaders, and serrated and benched slopes.

Check Dams—Check dams are small temporary dams constructed across swales or drainage ditches to reduce the velocity of runoff flows thereby reducing erosion and failure of the swale or ditch. This slowing reduces erosion and gullying in the channel and allows sediments to settle.

Check dams may be installed in small temporary or permanent channels where vegetation of the channel lining is not feasible and where there is danger of erosion. These may be areas where installation of nonerosive liners are not cost effective.

Check dams diminish the need for more stringent erosion control practices in the drainage ditch since they decrease runoff velocity. When constructing check dams, the use of overburden or waste rock should be avoided where there is the potential for contamination.

Rock Outlet Protection—Rock protection placed at the outlet end of culverts, channels, or ditches reduces the depth, velocity, and destructive energy of water such that the flow will not erode the downstream reach. The use of some materials (e.g., mine waste rock or ore) should be avoided where contamination may occur. As with check dams, rock outlet protection may also be used as a source reduction treatment mechanism by using rocks containing limestone or other alkaline materials to neutralize acidic discharges.

Level Spreaders—Level spreaders are outlets for dikes and diversions consisting of an excavated depression constructed at zero grade across a slope. Level spreaders diffuse storm water point sources and release it onto areas stabilized by existing vegetation.

Serrated Slopes and Benched Slopes—These runoff dispersion methods break up flow of runoff from a slope, decreasing its ability to erode. Serrated and benched slopes provide flat areas that allow water to infiltrate, and space for vegetation to grow and reinforce soils. Serrated slopes are equipped with small steps, from one to two feet of horizontal surface exposed on each step. Benched slopes have larger steps with vertical cuts between two and four feet high.

Contouring—Surface contouring is the establishment of a rough soil surface amenable to revegetation through creating horizontal grooves, depressions, or steps that run with the contour of the land. Slopes may also be left in a roughened condition to reduce discharge flow and promote infiltration. Surface roughening aids in the establishment of vegetative cover by reducing runoff velocity and giving seed an opportunity to take hold and grow.

This technique is appropriate for all slopes steeper than 3:1 in order to facilitate stabilization of the slope and promote the growth of a vegetative cover. Once areas have been contoured, they should be seeded as quickly as possible.

Drain Fields—Drain fields are used to prevent the accumulation of water and/or ground water at a site by diverting infiltrating sources through gravity flow or pumping. Typically filled with porous, permeable materials such as graded rock, or perforated pipe, and lined with geotextile fabric, these mechanisms are useful underneath significant materials, reducing the amount of water that ultimately comes into contact with significant materials.

Stream Alteration—Altering or channelizing the path of a stream to bypass all or some disturbed areas on a site, allows additional mining activities and avoids contamination of stream water by disturbed lands. This practice is complicated, however, by the need to restore the channel when mining operations end.

Drop Structures—Drop structures are large angular rocks placed in a V-shaped pattern to slow the velocity of storm water runoff. These structures are typically reinforced by logs or large rocks imbedded in the streambanks.

(4) Sediment Control and Collection. Sediment control and collection limits movement and retains sediments from being transported offsite. Several structural collection devices have been developed to remove sediment from runoff before it leaves the site. Several methods of removing sediment from site runoff involve diversion mechanisms previously discussed, supplemented by a trapping or storage device. Structural practices typically involve filtering diffuse storm water flows through temporary structures such as straw bale dikes, silt fences, brush barriers or vegetated areas.

Structural practices are typically low in cost. However, structural practices require periodic removal of sediment to remain functional. As such, they serve as more active-type practices which may not be appropriate for permanent use at inactive mines. However, these practices may be effectively used as temporary measures during active operation and/or prior to the final implementation of permanent measures.

(a) Temporary Treatments

Plastic Matting, Plastic Netting, and Erosion Control Blankets—These BMPs are used to protect bare soils and control dust and erosion. Mats and blankets help to promote vegetative growth by maintaining moisture and heat within the soil. Plastic matting and netting improve slope stabilization and may be used as a permanent treatment to encourage grass growth. Plastic netting is a more effective material to use while promoting growth of vegetation as it permits sunlight to penetrate through to the soils. Erosion control blankets also stabilize slopes and control erosion. These blankets may be made of jute or plastic netting which are more expensive than straw.

Mulch-straw or Wood Chips—Mulches and wood chips are useful temporary covers for bare or seeded soils with an erosion control effectiveness rating of 75 to 98 percent.[72] Like matting, mulch-straw or wood chips help soils retain moisture and warmth to promote vegetative growth. Used on slopes and/or in combination with nylon netting, these materials may prevent erosion by wind and water. Over time, however, the mulch cover will decrease in effectiveness.

Compaction—Soil compaction using a roller or other heavy equipment increases soil ''strength'' by increasing its density. More dense soil is less prone to erosion and long-term soil settlement. The surface of compacted soils should be roughed and seeded or vegetated to increase its durability.

(b) Permanent Treatments

Sediment/Settling Ponds—Sediment ponds function as sediment traps by containing runoff for long periods of time, allowing suspended solids to settle. These structures can achieve a high removal rate of sediment for both process wastewater and storm water discharges. Sediment/settling ponds are easily constructed and require minimal maintenance. Their flexibility to treat both process wastewater and storm water makes the use of ponds a desirable treatment for discharges from mineral mining and processing facilities. Of course, site characteristics must be such that some or all discharges can be practically channeled to a centralized area for treatment. Where this is not practical, the cost of constructing multiple sediment ponds may become prohibitive. In addition, periodic dredging may be required in order to maintain the capacity of these ponds.

Discharge ponds may also be designed to act as surge ponds which are designed to contain storm surges and then completely drain in about 24 to 40 hours, and remain dry during times of no rainfall. They can provide pollutant removal efficiencies that are similar to those of detention ponds.[73] Storm surge ponds are typically designed to provide both water quality and water quantity (flood control) benefits.[74]

Gabions, Riprap, and Native Rock Retaining Walls—These BMPs are all forms of slope stabilization. Gabions consist of rocks (riprap) contained by rectangular wire boxes or baskets for use as permanent erosion control structures.

[72] ''Sediment and Erosion Control: An Inventory of Current Practices—Draft,'' EPA, April 20, 1990.

[73] ''Urban Targeting and BMP Selection,'' EPA, Region V, November 1990.

[74] ''Urban Surface Water Management,'' Walesh, S.G., Wiley, 1989.

Riprap consists of loose rocks placed along embankments to prevent erosion. Native rock retaining walls are another form of slope stabilization, with walls up to five feet in height, constructed from native rock to reinforce a steep slope.

Biotechnical Stabilization—Biotechnical stabilization uses live brush imbedded in the soils of a steep slope to prevent erosion. This method relies on the premise that the imbedded vegetation will eventually root and help stabilize the slope.

Straw Bale Barrier—Straw bales may be used as temporary berms, barriers, or diversions; capturing sediments, filtering runoff. When installed and maintained properly, these barriers remove approximately 67 percent of the sediment load.[75] These barriers are applicable across small swales, in ditches, and at the toe of bare slopes where there is a temporary large volume of sediment laden runoff.

Sediment Traps or Catch Basins—These temporary or permanent structures are useful for catching and storing sediment laden storm water runoff and are particularly useful during construction activities to contain runoff. The effectiveness of these BMPs is better in smaller drainage basin areas. Sediment traps are less than 50 percent effective in removing sediment from storm water runoff.[76]

Vegetated Buffer Strips—The installation of vegetated buffer strips will reduce runoff and prevent erosion at a removal efficiency rate of 75 to 99 percent depending upon the ground cover.[77] In addition, vegetated buffer strips catch and settle sediment contained in the storm water runoff prior to reaching receiving waters.

Silt Fence/Filter Fence—A low fence made of filter fabric, wire and steel posts, should be used on small ephemeral drainage areas where storm water collects or leaves a mine site. Silt fences remove 97 percent of the sediment load and are easier to maintain and remove without creating lasting impacts to the environment.[78] Silt and filter fences need to be inspected periodically and may not be as effective as straw bales, since fabric may become clogged with fine particles preventing water flow.

Silt fences may have limited applicability for large areas. They are most effective for use in a small drainage areas. These fences may also be used in conjunction with nonstructural practices to maintain the integrity of soil prior to the establishment of vegetation.

Siltation Berms—Siltation berms are typically placed on the downslope side of a disturbed area to act as an impermeable barrier for the capture and retention of sediments in surface water runoff. Plastic sheeting is typically used to cover the berm. The berm and the plastic sheeting may require periodic maintenance and repair.

Brush Sediment Barriers—Brush barriers are temporary sediment barriers composed of tree limbs, weeds, vines, root mat, soil, rock and other cleared materials placed at the toe of a slope. A brush barrier is effective only for small drainage areas, usually less than 1/4 acre, where the slope is minimal.

Brush barriers do not function as permanent barriers since over time the barrier itself will degrade. This BMP is most effective when located at the toe of a slope of an area in which vegetation is being grown or during temporary operations. The brush barriers remove any excessive sediment generated by erosion prior to the establishment of vegetation.

(5) Vegetation Practices. Vegetation practices involve establishing a sustainable ground cover by permanent seeding, mulching, sodding, and other such practices. A vegetative cover reduces the potential for erosion of a site by: absorbing the kinetic energy of raindrops which would otherwise impact soil; intercepting water so it can infiltrate into the ground instead of running off and carrying contaminated discharges; and by slowing the velocity of runoff to promote onsite deposition of sediment. Vegetative controls are often the most important measures taken to prevent offsite sediment movement and can provide a six-fold reduction in the discharge of suspended sediment levels.[79] Permanent seeding has been found to be 99 percent effective in controlling erosion for disturbed land areas.[80] Many States require that topsoil be segregated from other overburden for use during reclamation. While stored, topsoil stockpiles should be vegetated. This temporary form of vegetation can often be used for other piles of stored materials and for intermittent/seasonal operations.

Typically, the costs of vegetative controls are low relative to other discharge mitigation practices. Given the limited capacity to accept large volumes of runoff and potential erosion problems associated with large concentrated flows, vegetative controls should typically be used in combination with other management practices. These measures have been documented as particularly appropriate for mining sites.

Topsoiling, Seedbed Preparation—The addition of a layer of topsoil or plant growth material provides an improved soil medium for plant growth. Seedbed preparation may include the addition of topsoil ingredients to be mixed in with soils used for seedbed preparation. Ripping, dicing, and mixing soils promotes weed control and aerates the soil, encouraging seedling growth.

Broadcast Seeding and Drill Seeding—Seeding and vegetative planting are methods used to revegetate an area. Broadcast seeding spreads seeds uniformly, by hand or machine, to steep sloped or rocky areas, flat surfaces, and areas with limited access. Drill seeding is performed using a rangeland drill seeder and may not be used on rocky surfaces. Drill seeding is more suitably performed on flat, nonrocky surfaces, where the machine can insert seeds into the soil.

Willow Cutting Establishment—Willow cutting establishment describes a method of soil stabilization useful for stream banks and other areas located adjacent to water. Similar to biotechnical stabilization, willow cuttings are used to promote growth in an area needing stabilization. Willow cuttings are typically used to reinforce a streambank or other moist area. Willow cuttings require a great deal of moisture and must be planted in areas that remain moist for long periods in order to take hold and grow.

(6) Capping. In some cases, the elimination of a pollution source through capping contaminant sources may be the most cost effective control measure for discharges from inactive mineral mining and processing operations. Depending on the type of management practices chosen, the cost to eliminate the pollutant source may be very high. Once completed, however, maintenance costs will range from low to nonexistent.

Capping or sealing of waste materials is designed to prevent infiltration, as well as to limit contact between discharges and potential sources of

[75] ''Sediment and Erosion Control: An Inventory of Current Practices—Draft,'' EPA, April 20, 1990, page IV–14.

[76] ''Sediment and Erosion Control: An Inventory of Current Practices—Draft,'' EPA, April 20, 1990, page IV–26.

[77] ''Sediment and Erosion Control: An Inventory of Current Practices—Draft,'' EPA, April 20, 1990, page IV–7.

[78] ''Sediment and Erosion Control: An Inventory of Current Practices—Draft,'' EPA, April 20, 1990, page IV–15.

[79] ''Performance of Current Sediment Control Measures at Maryland Construction Sites,'' January 1990, Metropolitan Washington Council of Governments, page X.

[80] ''Sediment and Erosion Control: An Inventory of Current Practices—Draft,'' EPA, April 20, 1990, page IV–4.

contamination. Ultimately, capping should reduce or eliminate the contaminants in discharges. In addition, by reducing infiltration, the potential for seepage and leachate generation may also be lessened.

The use of this practice depends on the level of control desired, the materials available, and cost considerations. Many common liners may be effective including common soil, clay, and/or synthetic liners. Generally, soil liners will provide appreciable control for the lowest cost. Synthetic or clay liners may be appropriate to cover materials known to have a significant potential to impact water quality.

4. Storm Water Pollution Prevention Plan Requirements

Specific requirements for a pollution prevention plan for mineral mining and processing facilities are described below. These requirements must be implemented in addition to the common pollution prevention plan provisions discussed previously.

Under the description of potential pollution services, each storm water pollution prevention plan must describe activities, materials, and physical features of the facility that may contribute to storm water runoff or, during periods of dry weather, result in dry weather flows and mine pumpout. This assessment of storm water pollution will support subsequent efforts to identify and set priorities for necessary changes in materials, materials management practices, or site features, as well as aid in the selection of appropriate structural and nonstructural control techniques. Plans must describe the following elements:

The plan must contain a map of the site that shows the pattern of storm water drainage, structural features that control pollutants in storm water runoff [81] and process wastewater discharges, surface water bodies (including wetlands), places where significant materials [82] are exposed to rainfall and runoff, and locations of major spills and leaks that occurred in the 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. The map also must show areas where the following activities take place: fueling, vehicle and equipment maintenance and/or cleaning, loading and unloading, material storage (including tanks or other vessels used for liquid or waste storage), material processing, and waste disposal, haul roads, access roads, and rail spurs. In addition, the site map must also indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls (e.g. storm water and air conditioner condensate). In order to increase the readability of the map, the inventory of the types of discharges contained in each outfall may be kept as an attachment to the site map.

Facility operators are required to carefully conduct an inspection of the site and related records to identify significant materials that are or may be exposed to storm water. The inventory must address materials that within 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit have been handled, stored, processed, treated, or disposed of in a manner to allow exposure to storm water. Findings of the inventory must be documented in detail in the pollution prevention plan. At a minimum, the plan must describe the method and location of onsite storage or disposal; practices used to minimize contact of materials with rainfall and runoff; existing structural and nonstructural controls that reduce pollutants in storm water runoff; existing structural controls that limit process wastewater discharges; and any treatment the runoff receives before it is discharged to surface waters or a separate storm sewer system. The description must be updated whenever there is a significant change in the types or amounts of materials, or material management practices, that may affect the exposure of materials to storm water.

The description of potential pollution sources culminates in a narrative assessment of the risk potential that those sources of pollution pose to storm water quality. This assessment should clearly point to activities, materials, and physical features of the facility that have a reasonable potential to contribute significant amounts of pollutants to storm water. Any such activities, materials, or features must be addressed by the measures and controls subsequently described in the plan. In conducting the assessment, the facility operator must consider the following activities: loading and unloading operations; outdoor storage activities; outdoor processing activities; significant dust or particulate generating processes; and onsite waste disposal practices. The assessment must list any significant pollution sources at the site and identify the pollutant parameter or parameters (i.e., total suspended solids, total dissolved solids, etc.) associated with each source.

Under the measures and controls section of the pollution prevention plan, the permittee must evaluate, select, and describe the pollution prevention measures, best management practices (BMPs), and other controls that will be implemented at the facility. The permittee must assess the applicability of the following BMPs for their site: discharge diversions, drainage/storm water conveyance systems, runoff dispersions, sediment control and collection mechanisms, vegetation/soil stabilization, and capping of contaminated sources. In addition, BMPs include processes, procedures, schedules of activities, prohibitions on practices, and other management practices that prevent or reduce the discharge of pollutants in storm water runoff.

The pollution prevention plan must discuss the reasons each selected control or practice is appropriate for the facility and how each will address the potential sources of storm water pollution. The plan also must include a schedule specifying the time or times during which each control or practice will be implemented. In addition, the plan should discuss ways in which the controls and practices relate to one another and, when taken as a whole, produce an integrated and consistent approach for preventing or controlling potential storm water contamination problems.

Under the preventive maintenance requirements of the pollution prevention plan, permittees are required to develop a preventive maintenance program that includes regular inspections and maintenance of storm water BMPs. The maintenance program requires periodic removal of debris from discharge diversions and conveyance systems. These activities should be conducted in the spring, after snowmelt, and during the fall season. Permittees already controlling their storm water runoff frequently use impoundments or sedimentation ponds. Maintenance schedules for these ponds must be provided in the pollution prevention plant.

Under the inspection requirements of the pollution prevention plan, operators

[81] Nonstructural features such as grass swales and vegetative buffer strips also should be shown.

[82] Significant materials include, ''* * * but [are] not limited to: raw materials, fuels, materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; * * * hazardous substances designated under section 101(14) of CERCLA; any chemical facilities required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharge.'' (40 CFR 122.26(b)(12)) Significant materials commonly found at mining facilities include: overburden; raw materials; waste rock piles; tailings; petroleum based products; solvents and detergents; and manufactured products, waste materials or by-products used or created by the facility.

of active facilities are required to conduct quarterly visual inspections of BMPs. Temporary and permanently inactive operations are required to perform annual inspections. Active sites have more frequent inspections than inactive sites because members of the pollution prevention team will be onsite, and the fact that they are active means there is a greater potential for pollution. The inspections shall include: (1) An assessment of the integrity of storm water discharge diversions, conveyance systems, sediment control and collection systems, and containment structures; (2) visual inspections of vegetative BMPs, serrated slopes, and benched slopes to determine if soil erosion has occurred; and (3) visual inspections of material handling and storage areas and other potential sources of pollution for evidence of actual or potential pollutant discharges of contaminated storm water.

The inspection must be made at least once in each designated period during daylight hours. Inspections for active facilities shall be conducted in each of the following periods: January through March; April through June; July through September; October through December.

EPA believes that this quick and simple description will allow the permittee to assess the effectiveness of his/her plan on a regular basis at very little cost. The frequency of this visual inspection will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow up procedures must be used to ensure that appropriate actions are taken in response to the inspections. The visual inspection is intended to be performed by facility staff. This hands-on inspection will also enhance the staff's understanding of the storm water problems on that site and effects on the management practices that are included in the plan.

Under the recordkeeping and internal reporting procedures of the pollution prevention plan, the permittee must describe procedures for developing and retaining records on the status and effectiveness of plan implementation. The plan must address spills, monitoring, and BMP inspection and maintenance activities. Ineffective BMPs must be reported and the date of their corrective action noted.

Under the sediment and erosion control requirements of the pollution prevention plan, permittees must indicate the location and design for proposed BMPs to be implemented prior to land disturbance activities. For sites already disturbed but without BMPs, the permittee must indicate the location and design of BMPs that will be implemented. The permittee is required to indicate plans for grading, contouring, stabilization, and establishment of vegetative cover for all disturbed areas, including road banks. Reclamation activities must continue until final closure notice has been issued.

According to the pollution prevention runoff requirements, the permittee must evaluate the appropriateness of each storm water BMP that diverts, infiltrates, reuses, or otherwise reduces the discharge of contaminated storm water. In addition, the permittee must describe the storm water pollutant source area or activity (i.e., loading and unloading operations, raw material storage piles etc.) to be controlled by each storm water management practice.

a. Comprehensive Site Compliance Evaluation. The storm water pollution prevention plan must describe the scope and content of comprehensive site evaluations that qualified personnel will conduct to (1) confirm the accuracy of the description of potential pollution sources contained in the plan, (2) determine the effectiveness of the plan, and (3) assess compliance with the terms and conditions of this section. Comprehensive site compliance evaluations should be conducted once a year. When annual comprehensive site compliance evaluations are shown in the plan to be impractical for inactive mining sites, due to remote location and inaccessibility, site evaluations must be conducted at least once every 3 years. The individual or individuals who will conduct the evaluations must be identified in the plan and should be members of the pollution prevention team. Evaluation reports must be retained for at least 3 years after the date of the evaluation.

Based on the results of each evaluation, the description of potential pollution sources, and measures and controls, the plan must be revised as appropriate within 2 weeks after each evaluation. Changes in the measures and controls must be implemented on the site in a timely manner, and never more than 12 weeks after completion of the evaluation.

5. Numeric Effluent Limitation

Except as discussed below, there are no additional numeric effluent limitations under this section beyond those stated in section V.B of today's permit. Part XI.J.4. of today's permit establishes numeric effluent limitations for mine dewatering discharges that are composed entirely of storm water or ground water seepage from construction sand and gravel, industrial sand and crushed stone mines that are located in Region VI (the States of Louisiana, New Mexico, Oklahoma, and Texas). Discharges from these areas may not exceed a maximum TSS concentration of 45 mg/L for any one day or 25 mg/L for the average of daily values for 30 consecutive days. The pH of the discharges from these areas must be within the range of 6.0 to 9.0. These effluent limitations are in accordance with the Crushed Stone, Construction Sand and Gravel, and Industrial Sand Subcategories of the Mineral Mining and Processing Point Source Categories (40 CFR 436.20, 436.30 and 40 CFR 436.40). These limitations represent the degree of effluent reduction attainable by the application of best practicable control technology and best conventional pollutant control technology. Dischargers subject to these numeric effluent limitations must be in compliance with the limits upon commencement of and for the entire term of this permit.

6. Monitoring and Reporting Requirements

a. Monitoring Requirements. Under the revised methodology for determining pollutants of concern in the various industrial categories, dimension and crushed stone and nonmetallic minerals (except fuels) mining and sand and gravel mining facilities are required to monitor for the pollutants listed in the applicable table below (Table J–6 or J–7). The pollutants listed in this table were found to be above benchmark levels. EPA is requiring monitoring after the pollution prevention plan has been implemented to assess the effectiveness of the pollution prevention plan and to help ensure that a reduction of pollutants is realized.

TABLE J–6.—MONITORING REQUIREMENTS FOR DIMENSION AND CRUSHED STONE AND NONMETALLIC MINERALS (EXCEPT FUELS) (MG/L)

Pollutant of concern	Monitoring cut-off concentration
Total suspended solids.	100 mg/L.

TABLE J–7.—MONITORING REQUIREMENTS FOR SAND AND GRAVEL MINING

Pollutants of concern	Monitoring cut-off concentration
Total suspended solids.	100 mg/L.
Nitrate plus Nitrite Nitrogen.	0.68 mg/L.

At a minimum, storm water discharges from dimension and crushed stone, sand and gravel and nonmetallic mineral (except fuels) mining must be monitored quarterly during the second year of permit coverage. Samples must be collected at least once in each of the following periods: January through March; April through June; July through September; and October through December. At the end of the second year of permit coverage, a facility must calculate the average concentration for each parameter listed in the applicable table (Table J–6 or J–7). If the permittee collects more than four samples in this period, then they must calculate an average concentration for each pollutant of concern for all samples analyzed.

If the average concentration for a parameter is less than or equal to the cut-off concentration, then the permittee is not required to conduct quantitative analysis for that parameter during the fourth year of the permit. If, however, the average concentration for a parameter is greater than the cut-off concentration, then the permittee is required to conduct quarterly monitoring for that parameter during the fourth year of permit coverage. Monitoring is not required during the first, third, and fifth year of the permit. The exclusion from monitoring in the fourth year of the permit is conditional on the facility maintaining industrial operations and BMPs that will ensure a quality of storm water discharges consistent with the average concentrations recorded during the second year of the permit. The schedule for monitoring is presented in Table J–8.

TABLE J–8.—SCHEDULE OF MONITORING

2nd year of permit coverage.	• Conduct quarterly monitoring. • Calculate the average concentration for all parameters analyzed during this period.
4th year of permit coverage.	• If average concentration is greater than the value listed in Table J–6 or J–7, then quarterly sampling is required during the fourth year of the permit. • If average concentration is less than or equal to the value listed in Table J–6 or J–7, then no further sampling is required for that parameter. • Conduct quarterly monitoring for any parameter where the average concentration in year 2 of the permit is greater than the value listed in Table J–6 or J–7. • If industrial activities or the pollution prevention plan have been altered such that storm water discharges may be adversely affected, quarterly monitoring is required for all parameters of concern.

In cases where the average concentration of a parameter exceeds the cut-off concentration, EPA expects permittees to place special emphasis on methods for reducing the presence of those parameters in storm water discharges. Quarterly monitoring in the fourth year of the permit will be used to reassess the effectiveness of the adjusted pollution prevention plan.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly chemical sampling.

Alternative Certification. Throughout today's permit, EPA has included monitoring requirements for facilities which the Agency believes have the potential for contributing significant levels of pollutants to storm water discharges. The alternative certification described below is necessary to ensure that monitoring requirements are only imposed on those facilities that do, in fact, have storm water discharges containing pollutants at concentrations of concern. EPA has determined that if materials and activities are not exposed to storm water at the site, then the potential for pollutants to contaminate storm water discharges does not warrant monitoring.

Therefore, a discharger is not subject to the monitoring requirements of this Part provided the discharger makes a certification for a given outfall or on a pollutant-by-pollutant basis in lieu of monitoring reports described in paragraph (*2*) below, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, significant materials from past industrial activity, and that are located in areas of the facility that are within the drainage area of the outfall are not presently exposed to storm water and will not be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan and submitted to EPA in lieu of monitoring reports required under paragraph (*2*) below. The permittee is required to complete any and all sampling until the exposure is eliminated. If the facility is reporting for a partial year, the permittee must specify the date exposure was eliminated. If the permittee is certifying that a pollutant was present for part of the reporting period, nothing relieves the permittee from the responsibility to sample that parameter up until the exposure was eliminated and it was determined that no significant materials remained. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations. EPA does not expect facilities to be able to exercise this certification for indicator parameters, such as TSS and BOD.

(2) Reporting Requirements. Permittees are required to submit all monitoring results obtained during the second and fourth year of permit coverage within 3 months of the conclusion of each year. For each outfall, one signed Discharge Monitoring Report Form must be submitted to the Director per storm event sampled. For facilities conducting monitoring beyond the minimum requirements, an additional signed Discharge Monitoring Report Form must be filed for each analysis. The permittee must include a measurement or estimate of the total precipitation, volume of runoff, and peak flow rate of runoff for each storm event sampled.

(3) Sample Type. All discharge data shall be reported for grab samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-

hour interval is representative for local storm events during the season when sampling is being conducted. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable.

If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable, permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

(4) Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluent. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(5) Adverse Conditions. When a discharger is unable to collect samples within a specified sampling period due to adverse climatic conditions, the discharger shall collect a substitute sample from a separate qualifying event in the next period and submit the data along with data for the routine sample in that period. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

B. Quarterly Visual Examination of Storm Water Quality. Mineral mining and processing facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination(s) must be made at least once in each of the following three-month periods: January through March, April through June, July through September, and October through December. The examination shall be made during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(1) Examinations shall be made of grab samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) or when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.

(2) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(3) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(4) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes,electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(5) EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

EPA believes that this quick and simple assessment will help the permittee to determine the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examinations. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and the effects of the management practices that are included in the plan.

EPA believes that between quarterly visual examinations, site compliance evaluations and the limited analytical monitoring required of the specified subsectors, potential sources of contaminants can be recognized, addressed, and then controlled with BMPs. In determining the monitoring requirements, EPA considered the nature of the industrial activities and significant materials exposed at these sites and performed a review of data provided in Part 2 group applications.

c. Compliance Monitoring Requirements. Today's permit requires permittees with mine dewatering discharges from construction sand and gravel, industrial sand, and crushed stone mine facilities to monitor for the presence of TSS and pH. These monitoring requirements are necessary to evaluate compliance with the numeric effluent limitation established for these discharges. Monitoring shall be performed quarterly upon a minimum of one grab sample. All samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. Monitoring results shall be submitted on signed Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the month following collection of the sample. Facilities which discharge through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must also submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system.

Alternative Certification provisions described in Section XI.J.5 do not apply to facilities subject to compliance monitoring requirements in this section. Compliance monitoring is required at least annually for discharges subject to effluent limitations. Therefore, EPA cannot permit a facility to waive compliance monitoring.

Construction sand and gravel, industrial sand and crushed stone mining facilities are not required to collect and analyze separate samples for the presence of TSS to satisfy the Compliance Monitoring requirements of Section XI.J.5.d. during a year in which the facilities have collected and analyzed samples for TSS in accordance with the Analytical Monitoring requirements of Section XI.J.5.a. The results of all TSS Analytical Monitoring analyses may also be reported as Compliance Monitoring results in accordance with Section XI.J.5.d.(3) where the monitoring methodologies are consistent.

7. Definitions

''Overburden'' means any material of any nature, consolidated or unconsolidated, that overlies a mineral deposit, excluding topsoil or similar naturally occurring surface materials that are not disturbed by mining operations.

''Overflow'' means a precipitation induced overflow of a facility that is designed, constructed, and maintained to contain, or treat, the volume of wastewater which would result from 10-year, 24-hour precipitation events.

Storm Water Discharges Associated With Industrial Activity from Hazardous Waste Treatment, Storage, or Disposal Facilities

Industry Profile

On November 16, 1990 (55 FR 47990), EPA promulgated the regulatory definition of ''storm water discharge associated with industrial activity.'' This definition includes point source discharges of storm water from 11 categories of facilities, including ''* * * (iv) Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under Subtitle C of RCRA * * * .'' Part XI.K. of today's permit only covers storm water discharges from facilities that treat, store, or dispose of hazardous wastes.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

Some industrial facilities that generate hazardous waste have onsite capacity to store, treat, and even dispose of their waste. Many hazardous waste generators, however, send their waste offsite to a treatment, storage, or disposal facility (TSDF). Generators of hazardous waste must arrange for a transporter who has obtained an EPA ID number to transport the generator's waste to a designated facility (i.e., a facility that is permitted under RCRA to receive and treat, store, or dispose of hazardous waste).

Once wastes are accepted by the TSDF, any number of activities may follow. For example, some wastes are disposed without any intervening storage or treatment, while other wastes are held in storage prior to treatment or disposal. Hazardous wastes are generally stored in containers and tanks, which are enclosed by a bermed area to prevent any releases to the environment from the storage units.

The processes for treating hazardous wastes can be divided into two major categories based on whether the waste is organic or inorganic in nature. Organic wastes are treated by destructive technologies, like incineration, whereas inorganic wastes are treated using fixation technologies, like stabilization, in which the hazardous constituents are immobilized in the residual matrix. Residuals from fixation processes are usually land-disposed where the stabilized constituents are much less likely to leach into the environment.

As mentioned above, some wastes are treated prior to disposal while others are disposed as-generated. Hazardous waste disposal units include landfills, surface impoundments, waste piles, and land treatment units. Such disposal units may have specific requirements under RCRA Subtitle D. Wastes are also disposed by being burned in incinerators. Some liquid hazardous wastes are underground-injected into deep wells regulated under the Underground Injection Control (UIC) program in 40 CFR Parts 144 to 148. The RCRA regulations governing the different types of hazardous waste treatment, storage, and disposal units are located in 40 CFR Part 264, Subparts I through O and Subpart W.

Hazardous wastes are also recycled at TSDFs. Recycling is considered a form of treatment, however, the recycling process itself is not generally regulated under RCRA. Recycling activities include reclamation, regeneration, reuse, burning for energy or materials recovery, and use in a manner constituting disposal (i.e., land application of hazardous waste or products containing hazardous waste).

2. Pollutants in Storm Water Discharges Associated With Hazardous Waste Treatment, Storage, or Disposal Facilities

Given the diversity and amount of hazardous wastes handled at TSDFs, pollutants in storm water discharges may vary considerably. Contaminated storm water discharges may result from precipitation coming in contact with spills or leaks of hazardous waste. TSDFs regulated under RCRA Subtitle C, however, are required to control much of their storm water runoff through secondary containment (e.g., secondary containment for tank systems; 40 CFR 264.193). When a spill of a listed hazardous waste occurs, for example, the spilled material and any storm water that comes into contact with the material is a hazardous waste under RCRA and must be cleaned up and managed in accordance with all applicable regulations.

In addition to the types of hazardous materials handled and the procedures for controlling runoff at a particular TSDF, several other factors influence to what extent significant materials from these types of facilities and processing operations can affect water quality. Such factors include: hydrology/geology; volume of wastes handled; extent of industrial activities at a TSDF (i.e., only storage, or storage plus treatment and disposal); and type, duration, and intensity of precipitation events. These and other factors will interact to influence the quantity and quality of storm water runoff. In addition, sources of pollutants other than storm water, such as illicit connections,[16] spills, and other improperly dumped materials, may increase the pollutant loadings discharged into waters of the United States.

Pollutants in storm water discharges from TSDFs may consist of, in the case of spills or leaks which are not properly contained or cleaned up, hazardous wastes and/or their constituents. 40 CFR Part 261 Subpart D contains the lists of hazardous wastes, and Appendix VII to Part 261 is a list of the hazardous constituents for which each of these wastes is listed.

Based on the similarities of the facilities included in this sector in terms of industrial activities and significant materials, EPA believes it is appropriate to discuss the potential pollutants at TSDFs facilities as a whole and not subdivide this sector. Therefore, Table K–1 lists data for selected parameters from facilities in the TSDF sector. These data include the eight pollutants that all facilities were required to monitor for under Form 2F.

TABLE K–1.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY HAZARDOUS WASTE TREATMENT STORAGE OR DISPOSAL FACILITIES SUBMITTING PART II SAMPLING DATA [i] (mg/L)

Pollutant	No. of facilities		No. of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
Sample type	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	3	4	8	9	17.8	9.44	0.0	0.0	45.0	45.0	11.5	7.0	49.7	35.7	82.3	62.9
COD	3	4	8	9	117.6	51.9	12.0	10.0	500.0	131.0	56.5	45.0	419.2	158.9	910.3	285.8
Nitrate + Nitrite Nitrogen	4	4	9	9	0.46	0.39	0.15	0.07	0.79	0.67	0.47	0.34	1.07	1.06	1.59	1.72
Total Kjeldahl Nitrogen	4	4	9	9	1.43	1.07	0.64	0.25	3.00	3.92	1.30	0.92	2.64	2.96	3.52	5.21
Oil & Grease	4	N/A	9	N/A	9.3	N/A	0.0	N/A	74.0	N/A	0.0	N/A	56.3	N/A	251.8	N/A
pH	2	N/A	7	N/A	N/A	N/A	5.6	N/A	7.8	N/A	7.3	N/A	8.7	N/A	9.6	N/A
Total Phosphorus	4	4	9	9	0.24	0.11	0.00	0.00	1.60	0.32	0.07	0.09	0.67	0.28	1.51	0.43
Total Suspended Solids	3	4	8	9	338	82.7	4	5	1100	304	128	32	2463	397	8651	1083

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

3. Pollutant Control Measures Required Through Other EPA Programs

As part of the RCRA program, 40 CFR Part 264 sets standards for treatment, storage and disposal facilities. EPA realizes that some of the conditions of this section are already addressed by the requirements set forth in Part 264. Under the RCRA program, for example, secondary containment is required for tank systems in order to prevent the release of hazardous waste or hazardous constituents to the environment. Such secondary containment must either be capable of preventing storm water runon from entering the system, or have the capacity to contain the volume of the tank plus precipitation from a 25-year, 24-hour rainfall event (40 CFR 264.193).

Conditions such as those set forth for secondary containment at TSDFs are pertinent because they may overlap with aspects of the pollution prevention plan (PPP) required as part of this section. Therefore, in developing a storm water pollution prevention plan, a TSDF should include as Best Management Practices (BMPs) any controls relevant to storm water that have already been implemented under 40 CFR Part 264.

Other areas where RCRA requirements may overlap with the conditions set forth in this section include inspections and employee training. Daily and weekly inspections of tank systems and containers are required, respectively, under Part 264. Therefore, these inspections will be incorporated into the pollution prevention plan for this storm water permit. Similarly, employee training, required under 40 CFR 264.16, does not need to be repeated as part of implementation of the pollution prevention plan, but rather expanded as necessary to include issues concerning storm water management.

4. Options for Controlling Pollutants

In evaluating options for controlling pollutants in storm water discharges, EPA must achieve compliance with the

[16] Illicit connections are contributions of unpermitted non-storm water discharges to storm sewers from any of a number of sources including sanitary sewers, industrial facilities, commercial establishments, or residential dwellings. The probability of illicit connections at mineral mining and processing facilities is low yet it still may be applicable at some operations.

technology-based standards of the Clean Water Act [Best Available Technology (BAT) and Best Conventional Technology (BCT)]. The Agency does not believe that it is appropriate to establish specific numeric effluent limitations or a specific design or performance standard in this section for storm water discharges associated with industrial activity from hazardous waste treatment, storage, and disposal facilities to meet BAT/BCT standards of the Clean Water Act at this time. Instead, this section establishes requirements for the development and implementation of site-specific storm water pollution prevention plans consisting of a set of Best Management Practices (BMPs) that are sufficiently flexible to address different sources of pollutants at different sites.

Generally, BMPs are implemented to prevent and/or minimize exposure of pollutants from industrial activities to storm water discharges. EPA believes the most effective BMPs for reducing pollutants in storm water discharges are exposure minimization practices. Exposure minimization practices lessen the potential for storm water to come into contact with pollutants. Good housekeeping practices ensure that facilities are sensitive to routine and nonroutine activities which may increase pollutants in storm water discharges. The BMPs which address good housekeeping and exposure minimization are easily implemented, inexpensive, and require little, if any, maintenance. BMP expenses may include construction of roofs for storage areas or other forms of permanent cover and the installation of berms/dikes. Other BMPs such as detention/retention ponds and filtering devices may be needed at these facilities because of the contaminant level in the storm water discharges.

The selection of the most effective BMPs will be based on site-specific considerations such as: facility size, climate, geographic location, hydrogeology and the environmental setting of each facility, and volume and type of discharge generated. Each facility will be unique in that the source, type, and volume of contaminated storm water discharges will differ. In addition, the fate and transport of pollutants in these discharges will vary. EPA believes that the management practices discussed herein are well suited mechanisms to prevent or control the contamination of storm water discharges associated with hazardous waste treatment, storage, or disposal facilities that are not already addressed by RCRA subtitle C.

Facilities covered under this section must already be in compliance with the standards for operating a hazardous waste treatment, storage, or disposal facility as established by 40 CFR Part 264. As discussed in greater detail in the previous section (Pollutant Control Measures Required Through Other EPA Programs), EPA believes that because of the requirements previously imposed on hazardous waste treatment, storage, or disposal facilities, storm water BMPs are already employed at most TSDFs. This belief is supported by part 1 group application data, which indicated that 97 percent of the representative sampling facilities already have SPCC plans in place at their sites.

Because of the potential for spills of hazardous materials during loading and unloading operations, and the absence of an individual discussion of these operations in 40 CFR Part 264, Table K–2 is provided to identify BMPs associated with these activities at hazardous waste treatment, storage, or disposal facilities.

TABLE K–2.—GENERAL LOADING AND UNLOADING STORM WATER BMPS FOR HAZARDOUS WASTE TREATMENT, STORAGE, OR DISPOSAL FACILITIES

Activity	Best management practices (BMPs)
Outdoor Unloading and Loading	Confine loading/unloading activities to a designated area. Consider performing loading/unloading activities indoors or in a covered area. Consider covering loading/unloading area with permanent cover (e.g., roofs) or temporary cover (e.g., tarps). Close storm drains during loading/unloading activities in surrounding areas. Avoid loading/unloading materials in the rain. Inspect the unloading/loading areas to detect problems before they occur. Inspect all containers prior to loading/unloading of any raw or spent materials. Consider berming, curbing, or diking loading/unloading areas. Use dry clean-up methods instead of washing the areas down. Train employees on proper loading/unloading techniques.

Sources: NPDES Storm Water Group Applications—Part 1. Received by EPA, March 18, 1991 through December 31, 1992 EPA, Office of Water. September 1992. ''Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices.'' EPA 832–R–92–006.

5. Storm Water Pollution Prevention Plan Requirements.

EPA believes that pollution prevention is the most effective approach for controlling contaminated storm water discharges from hazardous waste treatment, storage, or disposal facilities. The requirements included in the pollution prevention plans provide a flexible framework for the development and implementation of site-specific controls to minimize the pollutants in storm water discharges. This flexibility is necessary because each facility is unique in that the source, type, and volume of contaminated storm water discharge will vary from site to site.

There are two major objectives to a pollution prevention plan: (1) to identify sources of pollution potentially affecting the quality of storm water discharges associated with industrial activity from a facility; and (2) to describe and ensure implementation of practices to minimize and control pollutants in storm water discharges associated with industrial activity from a facility.

The pollution prevention plan requirement reflects EPA's decision to allow hazardous waste treatment, storage, or disposal facilities to utilize BMPs as the BAT/BCT level of control for the storm water discharges covered by this section.

As previously discussed, many of the storm water pollution prevention plan requirements discussed in this section of today's permit and fact sheet are already addressed by the RCRA program and employed at hazardous waste treatment, storage, or disposal facilities. Please note that if RCRA does not address a particular condition which is stipulated in the storm water pollution prevention plan, the facility still must comply with that requirement of the plan.

6. Numeric Effluent Limitations.

There are no additional requirements under this section other than those stated in Part V.B of the permit.

7. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. EPA believes that treatment, storage, or disposal facilities (TSDFs) may reduce the level of pollutants in storm water runoff from their sites through the development and proper implementation of the storm water pollution prevention plan requirements discussed in today's permit. In order to provide a tool for evaluating the effectiveness of the pollution prevention plan and to characterize the discharge for potential environmental impacts, the permit requires TSDFs to collect and analyze samples of their storm water discharges for the pollutants listed in Table K–3. The pollutants listed in Table K–3 were not found to be above benchmark levels in the limited amount of data that was submitted in the group application process, but are believed to be present based upon the description of industrial activities and significant materials exposed. EPA is requiring monitoring after the pollution prevention plan has been implemented to assess the effectiveness of the pollution prevention plan and to help ensure that a reduction of pollutants is realized.

At a minimum, storm water discharges from TSDFs must be monitored quarterly during the second year of permit coverage. Samples shall be collected at least once in each of the following periods: January through March; April through June; July through September; and October through December. At the end of the second year of permit coverage, a facility must calculate the average concentration for each parameter listed in Table K–3. If the permittee collects more than four samples in this period, then they must calculate an average concentration for each pollutant of concern for all samples analyzed.

TABLE K–3.—Industry Monitoring Requirements

Pollutants of concern	Cut-off concentration (mg/L)
Ammonia	19
Total Recoverable Magnesium*	0.0636
Chemical Oxygen Demand (COD)	120
Total Recoverable Arsenic.	16854
Total Recoverable Cadmium	0.0159
Total Cyanide**	0.0636
Total Recoverable Lead	0.0816
Total Recoverable Mercury	0.0024
Total Recoverable Selenium	0.2385
Total Recoverable Silver	0.0318

*The MDL for magnesium is 0.02 mg/L method 200.6.

**The MDL for cyanide is 0.02 mg/L method 335.1, .2, or .3.

If the average concentration for a parameter is less than or equal to the value listed in Table K–3, then the permittee is not required to conduct quantitative analysis for that parameter during the fourth year of the permit. If, however, the average concentration for a parameter is greater than the cut-off concentration listed in Table K–3, then the permittee is required to conduct quarterly monitoring for that parameter during the fourth year of permit coverage. Monitoring is not required during the first, third, and fifth year of the permit. The exclusion from monitoring in the fourth year of the permit is conditional on the facility maintaining industrial operations and BMPs that will ensure a quality of storm water discharges consistent with the average concentrations recorded during the second year of the permit. The schedule for monitoring is presented in Table K–4.

TABLE K–4.—SCHEDULE OF MONITORING

2nd Year of Permit Coverage	• Conduct quarterly monitoring. • Calculate the average concentration for all parameters analyzed during this period. • If average concentration is greater than the value listed in Table K–3, then quarterly sampling is required during the fourth year of the permit. • If average concentration is less than or equal to the value listed in Table K–3, then no further sampling is required for that parameter.
4th Year of Permit Coverage	• Conduct quarterly monitoring for any parameter where the average concentration in year 2 of the permit is greater than the value listed in Table K–3. • If industrial activities or the pollution prevention plan have been altered such that storm water discharges may be adversely affected, quarterly monitoring is required for all parameters of concern.

In cases where the average concentration of a parameter exceeds the cut-off concentration, EPA expects permittees to place special emphasis on methods for reducing the presence of those parameters in storm water discharges. Quarterly monitoring in the fourth year of the permit will reassess the effectiveness of the adjusted pollution prevention plan.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly chemical sampling.

b. Alternative Certification. Throughout today's permit, EPA has included monitoring requirements for facilities which the Agency believes have the potential for contributing significant levels of pollutants to storm water discharges. The alternative described below is necessary to ensure that monitoring requirements are only imposed on those facilities that do, in fact, have storm water discharges containing pollutants at concentrations of concern. EPA has determined that if materials and activities are not exposed to storm water at the site, then the potential for pollutants to contaminate storm water discharges does not warrant monitoring.

Therefore, a discharger is not subject to the monitoring requirements of this Part provided the discharger makes a certification for a given outfall or on a pollutant-by-pollutant basis in lieu of monitoring described in Table K–3, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, significant materials from past industrial activity, that are located in areas of the facility that are within the drainage area of the outfall are not presently exposed to storm water and will not be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan and submitted to EPA in accordance with Part VI.B. of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph (*C*) below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations. EPA does not expect facilities to be able to exercise this certification for indicator parameters, such as TSS and BOD.

c. Reporting Requirements. Permittees are required to submit all monitoring results obtained during the second and fourth year of permit coverage within 3 months of the conclusion of each year. For each outfall, one signed Discharge Monitoring Report form must be submitted to the Director per storm event sampled. For facilities conducting monitoring beyond the minimum quarterly requirements an additional Discharge Monitoring Report Form must be filed for each analysis.

d. Sample Type. All discharge data shall be reported for grab samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable.

If storm water discharges associated with industrial activity commingle with process or non-process water, then where practicable permittees must attempt to sample the storm water discharges before it mixes with the non-storm water discharge.

e. Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluent. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

f. Quarterly Visual Examination of Storm Water Quality. Quarterly visual examinations of storm water discharges from each outfall are required at TSDFs. The examination must be of a grab sample collected from each storm water outfall. The examination of storm water grab samples shall include any observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, or other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on these samples.

The examination must be made at least once in each of the following designated periods: January through March; April through June; July through September; and October through December, during daylight unless there is insufficient rainfall or snow-melt to runoff. Whenever practicable, the same individual should carry out the collection and examination of discharges throughout the life of the permit to ensure the greatest degree of consistency possible. Grab samples shall be collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff begins discharging. Reports of the visual examination include: the examination date and time, examination personnel, visual quality of the storm water discharge, and probable sources of any observed storm water contamination. The visual examination reports must be maintained onsite with the pollution prevention plan.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

EPA believes that this quick and simple assessment will allow the permittee to approximate the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the inspections. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of storm water problems on that site and the effects of the management practices that are included in the plan.

When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not collecting samples. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

8. Region-specific Conditions

Region VI intends for this permit to cover all eligible hazardous waste treatment, storage, and disposal facilities, except those that treat and dispose exclusively commercial hazardous waste. Region VI believes that more careful compliance tracking is warranted for facilities that treat and dispose of commercially produced hazardous waste due to the wide range of chemicals and large quantities of hazardous waste materials that are generally disposed as a service to generators. Region VI has determined this to be a priority industry and required individual permits in the past with limits. This affects permits issued by EPA Region VI for Louisiana (LAR05*###), New Mexico (NMR05*###), Oklahoma (OKR05*###), Texas (TXR05*###), and Federal Indian Reservations in these States (LAR05*##F, NMR05*##F, OKR05*##F, or TXR05*##F).

L. Storm Water Discharges Associated With Industrial Activity From Landfills and Land Application Sites

1. Industry Profile.

This section of today's permit addresses special requirements for storm water discharges associated with industrial activity from landfill and land application sites. Pursuant to 40 CFR 122.26, storm water discharges from landfills, land application sites, and open dumps that receive or have received industrial waste, including sites subject to regulation under Subtitle D of the Resource Conservation and Recovery Act (RCRA), are required to seek permit coverage. Under this section, industrial waste is defined as waste generated by any of the industrial activities described at 40 CFR 122.26(b)(14).

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

Special conditions contained in this section apply to land disposal sites that meet the definition of a landfill under RCRA Subtitle D contained at 40 CFR Part 257, which establishes criteria for the classification of solid waste disposal facilities and practices. Part 257 defines landfills as areas of land or excavation in which wastes are placed for permanent disposal, and that are not land application units, surface impoundments, injection wells, or waste piles. Included in this definition are municipal solid waste landfills (MSWLFs) and industrial solid nonhazardous waste landfills. (Many of the 1,410 landfill facilities participating in the group application process are classified as MSWLFs). Therefore, the special conditions in this section apply to both MSWLFs and industrial landfills as defined under Part 257. This section also applies to industrial waste land application sites. Land application sites are defined as facilities at which wastes are applied onto or incorporated into the soil surface for the purpose of beneficial use or waste treatment and disposal. No open dumps were included in the facilities participating in the group application process (open dumps are defined as solid waste disposal units not in compliance with State/Federal criteria established under RCRA Subtitle D) and operation of an open dump is prohibited under RCRA Section 4004. Therefore, storm water discharges from open dumps are not addressed by this section. This section also does not apply to inactive landfills or inactive land application sites located on Federal lands, unless an operator can be identified. These discharges are more appropriately covered under a permit currently being developed by EPA.

The following sections describe industrial and municipal solid waste landfills and industrial waste land application sites.

a. Municipal Solid Waste Landfills. In 1988, EPA estimated that there were approximately 9,300 MSWLFs in the United States. The wastes which are disposed of in MSWLF landfills are highly variable. Examples include household waste (including household hazardous waste which is excluded from RCRA hazardous waste regulation), nonhazardous incinerator ashes, commercial wastes, yard wastes, tires, white goods, construction wastes, municipal and industrial sludges, asbestos, and other industrial wastes. Only a small percentage of all wastes disposed of in MSWLFs are industrial wastes. In 1988, EPA's Report to Congress on solid waste generation indicated that nearly 90 percent of wastes disposed of in all MSWLFs were household or commercial (office) wastes. Industrial process wastes represented only 2.73 percent of the total wastestream (although most MSWLFs currently or have previously accepted industrial wastes and are therefore subject to storm water permitting requirements). The Report also indicated that about half of the total number of MSWLFs received small quantity generator hazardous wastes. In addition, MSWLFs that operated prior to the implementation of RCRA hazardous waste management requirements in 1980 may have received wastes that after that date that would have been classified as hazardous wastes under current RCRA requirements.

A typical MSWLF is a constantly evolving facility which is constructed over its operating life as received wastes are spread, compacted, and covered. Most modern landfills contain one or more separate ''units,'' planned final waste containment areas. Active units continue to receive wastes until they have reached disposal capacity. When capacity is reached, a unit is capped with a final cover, and additional wastes must be placed in other active units. As a result, a landfill may consist of multiple inactive and active units at various stages of completion.

Within each unit, wastes are added in layers referred to as lifts. Received wastes are spread across the working face of the landfill to a depth of six to twenty feet and then compacted. At the end of each working day a thin layer of soil (daily cover) is spread on top of the added wastes and compacted. A large unit may consist of multiple lifts, depending on the planned final depth.

Historically, landfills have been constructed according to one of two generic designs, the trench method and the area method, or a combination of these. The trench method requires the excavation of a trench into which wastes will be placed. Soil from the excavation provides the cover material as disposal continues. In the area method, wastes are placed directly on the ground surface and disposal follows the natural contours of the land. Some landfills use combinations of the two methods at different times depending on the location of the active unit.

MSWLF construction creates constant changes in the contours of the facility resulting in changing patterns of storm water runon and runoff. Controlling erosion of landfill slopes is among the primary concerns of the landfill operator. Current practices generally include a combination of temporary controls (straw bales, silt fences, etc.), in active disposal areas, and permanent controls (recontouring, revegetation, etc.), in areas where waste disposal has been completed.

Daily and intermediate covers serve primarily to protect against disease vectors and to prevent fires and the blowing of refuse. Typically, daily covers consist of the minimum amount of soil excavated from the site needed to cover exposed wastes in the active areas of the landfill. After spreading, the cover is usually compacted to reduce loss from erosion. Intermediate covers, which are also typically soil excavated from the site, are often applied to areas of a unit which will be inactive for periods of 30 days or more. Deeper than daily covers, intermediate covers may be applied in conjunction with runoff control measures to minimize pooling and high-velocity flow patterns. Both daily and intermediate covers promote infiltration to some extent, depending on depth and soil material.

When a landfill (or landfill unit) has reached disposal capacity, a final cover is applied. Final covers generally provide a relatively impermeable cap over which topsoil is placed and vegetation is established. Permanent runoff controls (diversion channels, recontouring, terracing, etc.) may be constructed to minimize erosion and ponding. Final cover materials in older landfills, which are generally subject to limited regulatory requirements, often consist of a single layer of natural soils. However, at newer landfills subject to more stringent regulatory requirements, other cover materials (polymers, sand and gravel, sewage sludge, etc.) are frequently combined with soil in multiple layers.[84]

b. Industrial Landfills. Industrial landfills only receive wastes from industrial facilities such as factories, processing plants, and manufacturing sites. These facilities may also receive hazardous wastes from very small quantity hazardous waste generators (less than 100 kilograms per month), as defined in RCRA Subtitle C. Included in these waste streams are some PCB-contaminated wastes. The Toxic Substances Control Act PCB disposal regulations allow limited categories of PCB materials to be disposed of in RCRA Subtitle D landfills.[85] In 1988, EPA estimated that there were at least 3,511 industrial Subtitle D landfills (this would presumably be the maximum number of non-MSWLF facilities regulated by the storm water program). The specific number of these units that are onsite and offsite facilities (i.e., centralized waste management units) was not available. Because wastes generated by industrial facilities vary considerably, both between and within industries, the wastes disposed of at industrial landfills can be highly variable. For example, the industrial nonhazardous waste category includes wastes from the pulp and paper industry, the organic chemical industry, the textile manufacturing industry, and a variety of other industries. Consequently, these waste streams may vary in chemical composition and/or physical form. Most industrial landfills are privately owned.[86]

Currently, there are limited data available on industrial landfills. Specific industrial waste streams have not been well characterized and little is known about the hazards they may pose. Limited data are also available regarding the design, operation, and location of these facilities. It has been documented, however, that there has been only sporadic application of design and operating controls at industrial landfills. In 1988, only about 12 percent of industrial landfills (including both onsite and offsite facilities) had any type of liner, and fewer than 35 percent employed runon/runoff controls.[87] The use of these controls (including runon and runoff controls) at industrial waste landfills is likely to increase as State industrial waste programs continue to evolve.

c. Land Application Sites. In 1988, EPA estimated that there were approximately 5,605 land application sites in the United States. These sites receive wastes (primarily wastewaters and sludges) from facilities in virtually every major industrial category. More than half of all land application sites cover less than 50 acres and receive less than 50 tons of waste annually. The largest number of active land application sites in 1988 were observed in the food and kindred products industry, however the pulp and paper industry managed the largest gross quantity of waste using this practice. Similar to landfills, the variability in types of waste that are land applied precludes any general characterization of the materials that may be exposed to storm water. Typically, individual land applications will only dispose of wastes with specific characteristics. However, the criteria for selection are site-specific depending on type of process used and the soil characteristics. Waste application techniques are dependent on waste characteristics.

In 1988, EPA found that 68.5 percent of all industrial waste land application units had runon and runoff controls. No information was available on the extent of closure requirements applicable to land application units.

2. Potential Pollutant Sources and Options for Controlling Pollutants at Landfill and Land Application Sites

a. Landfills. At landfill sites, runoff carrying suspended sediments and commingling of runoff with uncontrolled leachate are the two primary sources of pollutants that this section is intended to address. Other potential sources of pollutants at landfills, those from ancillary areas of the landfill and which are not directly associated with landfill activities (i.e., vehicle maintenance, truck washing, etc.) may be subject to requirements in other sections of today's permit.

Total Suspended Solids. Storm water discharges from landfill sites often contain high TSS levels because of the extensive land disturbance activities associated with landfill operations. Suspended solids can adversely affect fisheries by covering the bottom of a stream or lake with a blanket of material that destroys the fish food bottom fauna or spawning grounds. In addition, while they remain in suspension, suspended solids can increase turbidity, reduce light penetration, and impair the photosynthetic activity of aquatic plants.[88] Specific sources of TSS loadings from landfill operations and typical Best Management Practices (BMPs) used to control TSS levels in storm water runoff are shown in Table L–1. The listed BMPs are consistent with the BMPs identified in part 1 of the permit applications submitted by landfill group applicants.

[84] ''Report to Congress: Solid Waste Disposal in the United States,'' Vol. II, Office of Solid Waste and Emergency Response, Oct. 1988.

[85] Ibid.

[86] Ibid.

[87] Ibid.

[88] EPA. 1974 (October). ''Development Document for the Effluent Limitations Guidelines and New Source Performance Standards for the Steam Electric Power Point Source Category.''

TABLE L–1.—SOURCES OF TSS LOADINGS AND TYPICAL BMPS USED FOR EROSION CONTROL AT LANDFILLS

Potential pollutant sources	BMPs
Erosion from: Exposed soil from excavating cells/trenches. Exposed stockpiles of cover materials. Inactive cells with final cover but not yet finally stabilized. Daily or intermediate cover placed on cells or trenches. Erosion from haul roads (including vehicle tracking of sediments).	Stabilize soils with temporary seeding, mulching, and geotextiles; leave vegetative filter strips along streams. Implement structural controls such as dikes, swales, silt fences, filter berms, sediment traps and ponds, outlet protection, pipe slope drains, check dams, and terraces to convey runoff, to divert storm water flows away from areas susceptible to erosion, and to prevent sediments from entering water bodies. Frequently inspect all stabilization and structural erosion control measures and perform all necessary maintenance and repairs. Stabilize haul roads and entrances to landfill with gravel or stone. Construct vegetated swales along road. Clean wheels and body of trucks or other equipment as necessary to minimize sediment tracking (but contain any wash waters [process wastewaters]). Frequently inspect all stabilization and structural erosion control measures and perform all necessary maintenance and repairs.

(2) *Other Pollutants.* Table L–2 presents potential sources of other pollutants in storm water discharges from landfill operations. The specific pollutants associated with each of these sources are highly variable, depending upon individual site operations and waste types received. Table L–2 also lists BMPs that would be expected to be used in these areas to minimize potential pollutant loadings. Several of these BMPs were identified in the group permit applications submitted by landfill operators.

TABLE L–2.—SOURCES AND BMP CONTROLS OF POTENTIAL POLLUTANTS (OTHER THAN TSS)

Potential pollutant source	BMPs
Application of fertilizers, pesticides, and herbicides.	Observe all applicable Federal, State, and local regulations when using these products. Strictly follow recommended application rates and methods (i.e., do not apply in excess of vegetative requirements). Have materials such as absorbent pads easily accessible to clean up spills.
Exposure of chemical material storage areas to precipitation (including pesticides, fertilizers, and herbicides).	Provide barriers such as dikes to contain spills. Provide cover for outside storage areas. Have materials such as absorbent pads easily accessible to clean up spills.
Exposure of waste at open face	Minimize the area of exposed open face as much as is practicable. Divert flows around open face using structural measures such as dikes, berms, swales, and pipe slope drains. Frequently inspect erosion and sedimentation controls.
Waste tracking onsite and haul roads, solids transport on wheels and exterior of trucks or other equipment (common with incinerator ash).	Clean wheels and exterior of trucks or other equipment as necessary to minimize waste tracking (but contain any wash waters [process wastewaters]).
Uncontrolled leachate (commingling of leachate with runoff or runon).	Frequently inspect leachate collection system and landfill for leachate leaks. Maintain landfill cover and vegetation. Maintain leachate collection system.

Based on the similarities of the facilities included in this sector in terms of industrial activities and significant materials, EPA believes it is appropriate to discuss the potential pollutants at landfills and land applications sites as a whole and not subdivide this sector. Therefore, Table L–3 lists data for selected parameters from facilities in the landfill and land application sector. These data include the eight pollutants that all facilities were required to monitor for under Form 2F, as well as any pollutants that EPA has determined may merit further monitoring.

TABLE L–3.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY LANDFILLS AND LAND APPLICATION SITES SUBMITTING PART II SAMPLING DATA [i] (mg/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp [ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	30	28	52	50	13.6	8.88	0.0	0.0	140.0	78.0	7.0	4.40	39.8	29.6	76.3	54.5
COD	30	28	52	49	112.9	100.6	0.0	0.0	1220.0	1200.0	31.0	28.0	340.7	278.7	799.1	587.5
Nitrate + Nitrite Nitrogen	29	27	51	48	1.55	1.36	0.00	0.00	22.20	16.6	0.50	0.50	4.07	3.88	8.35	8.14
Total Kjeldahl Nitrogen	30	28	52	49	3.58	3.02	0.20	0.0	37.90	25.9	1.10	1.07	10.90	10.29	25.88	24.6
Oil & Grease	30	N/A	54	N/A	2.9	N/A	0.0	N/A	40.0	N/A	0.0	N/A	12.3	N/A	24.9	N/A
pH	32	N/A	59	N/A	N/A	N/A	3.0	N/A	8.9	N/A	7.3	N/A	9.3	N/A	10.2	N/A
Total Phosphorus	29	27	51	48	0.89	0.93	0.00	0.0	4.28	4.49	0.50	0.36	3.92	4.30	9.30	11.46
Total Suspended Solids	30	27	52	48	2922	1812	0	0	39900	18220	628	336	19476	10933	98449	49016

TABLE L–3.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY LANDFILLS AND LAND APPLICATION SITES SUBMITTING PART II SAMPLING DATA [i] (mg/L)—Continued

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp [ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
Iron, Total	6	6	8	8	65.7	30.2	0.0	0.2	210.0	150.0	17.0	9.4	1736.4	244.8	17684	1105.9

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.

[ii] Composite samples.

b. Land Application Sites. At land application sites, TSS may also be found at elevated levels in storm water discharges (because of the extensive soil disturbance). The occurrence and levels of other pollutants in storm water discharges are dependent on the types of wastes applied and facility design and operation (including use of storm water management/treatment practices. No part 2 data for TSS or any other pollutants were submitted for land application sites nor was such data available from other sources.

There are no Federal criteria for industrial landfill or land application unit design, operation, closure or post-closure care. State programs that address industrial landfills and land application sites vary considerably. As noted above, in 1988, only 35 percent of all industrial landfills had runon/runoff controls. However, many are subject to closure requirements.

3. Pollutant Control Measures Required by Other EPA Programs

EPA recognizes that requirements under other Federal and State programs currently address reclamation/closure of and storm water management at landfill and land application sites. In developing requirements under this section, the Agency has considered how these other program requirements affect the characteristics of storm water discharges (e.g., by limiting contact with potential pollutant sources). Of specific note are recently imposed RCRA criteria at 40 CFR Parts 257 and 258 that address the design, operation, and closure of MSWLFs. These regulations are summarized below.

Regulations at 40 CFR Part 257 classify solid waste disposal facilities and practices. Regulations at 40 CFR Part 258 establish criteria for municipal solid waste landfills. The types of criteria required include: location restrictions, operating criteria, design criteria, ground water monitoring and corrective action, closure and postclosure care, and financial assurance criteria. All States must implement the Federal MSWLF criteria primarily through State solid waste management plans.

As part of the operating criteria, Part 258 requires that all discrete units within MSWLFs receiving waste provide for the following by October 1993 (it should be noted that EPA has proposed an extension of this deadline to April 1994):

(a) Owners or operators of all MSWLF units must design, construct, and maintain:

(1) A runon control system to prevent flow onto the active portion of the landfill during the peak discharge from a 25-year storm:

(2) A runoff control system from the active portion of the landfill to collect and control at least the water volume resulting from a 24-hour, 25-year storm event.

In addition, all MSWLF units that received wastes after October 1991 are required to meet specific closure standards (see 40 CFR 258.60). These standards include installation of a final cover consisting of a minimum of 6 inches of topsoil over a minimum of 18 inches of clay. The cover must be no more permeable than the unit's liner. The criteria also imply, but do not explicitly require, that revegetation should be performed.

These criteria indicate that for all but the most severe storm events (i.e., greater than the 24-hour, 25-year storm event), new units within MSWLFs will be required to separate storm water discharges from active and inactive areas. (Active areas are defined as those that have not yet received a final cover [as required under 258.60].) Further, the closure/final cover criteria described above are intended to prevent contact with waste materials and minimize erosion.

4. Storm Water Pollution Prevention Plans Requirements

The requirements for storm water pollution prevention plans under this section build upon the requirements included in the common pollution prevention requirements discussed in the front of this fact sheet. As such, the following discussion focuses on the plan requirements that are specific to landfills and land application sites. The rationale for the common requirements applicable to all types of facilities covered under today's permit (including landfills) is provided in Part VI of this fact sheet.

a. Description of Potential Pollutant Sources. The first step in preventing pollution of storm water from landfills is to identify potential sources of storm water contamination. Consequently, EPA is requiring that landfill and land application site operators include, in their pollution prevention plan, a narrative description of activities at their facilities. The Agency is also requiring landfill permittees to identify on a site map the locations of active and closed cells or trenches, any known leachate springs or other areas where leachate may commingle with runoff, the locations of any leachate collection and handling systems, and the locations of stockpiles of landfill cover material. The Agency is requiring land application site permittees to identify on their site maps the locations of active and inactive land application areas and the types of wastes applied in those areas, any known leachate springs or other areas where leachate may commingle with runoff, the locations of any leachate collection and handling systems, and the locations of temporary waste storage areas. EPA believes these requirements will, in the event contamination is detected in storm water, facilitate the identification of any source of contamination.

EPA is also requiring owners or operators to summarize all available sampling data for storm water and leachate generated at the site because the Agency believes these data will help to determine whether storm water is commingling with any leachate produced at the site. Finally, operators must identify any current NPDES-permitted discharges at their sites.

b. Measures and Controls. EPA is requiring good housekeeping practices for materials storage areas exposed to precipitation and for vehicle tracking of sediment and waste. EPA believes good housekeeping practices provide a simple and inexpensive means of controlling pollutants from entering storm water and therefore will not be overly burdensome to regulated facilities.

EPA believes that frequent and thorough inspections are necessary to ensure adequate functioning of: sediment and erosion controls, leachate collection systems, intermediate and final covers, and significant materials storage containers. Failure of any of the aforementioned items could cause contamination of storm water with sediment, leachate, or significant materials stored onsite. EPA believes it is necessary to conduct inspections both during storm events and during dry weather. Inspections during dry periods allow facilities to identify and address any problems prior to a storm event, thereby minimizing the chance for storm water contamination. Inspections during significant storm events ensure that measures are functioning as originally intended and provide an opportunity for facilities to observe what materials and/or activities are exposed to storm water. Pollution prevention plans must address the specific inspection requirements for active and inactive landfills and land application sites described in Part XI.L.3.a.(3).(d) of today's permit.

Failures of significant materials storage containers, leachate collection and treatment systems, cover materials, and sedimentation and erosion controls can result in storm water contamination. EPA believes it is necessary to maintain these items in good working order to prevent storm water contamination. Consequently, EPA is requiring (in pollution prevention plans) that owners or operators ensure the maintenance of material storage areas to prevent leaking or rupture and all elements of leachate collection and treatment systems to prevent commingling of leachate with storm water. Pollution prevention plans must also describe measures to be taken to protect the integrity and effectiveness of any intermediate and final covers.

EPA believes controls are needed to reduce potential TSS contamination of storm water and to reduce suspended solids which have been carried by storm water before the discharge leaves the site. Therefore, EPA has chosen to require that pollution prevention plans address both stabilization and structural controls to reduce potential TSS loadings to surface waters.

5. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. This section establishes separate requirements for municipal solid waste landfills (MSWLFs) and industrial landfills. These requirements are discussed below.

(1) MSWLFs. The Agency believes that the MSWLF criteria in 40 CFR 258.60 will effectively separate runoff from active and inactive areas at newer landfills. As a result, separate requirements have been established for active and inactive areas at MSWLF sites.

For discharges from active landfill areas, the Agency believes that there is reasonable potential for runoff to contact waste materials. In these areas, runoff may also become commingled with leachate. In fact, a significant percentage of landfill facilities that submitted group applications, identified leachate and wastes as ''exposed materials.'' In addition, total suspended solids (TSS) levels are also likely to be elevated where contact occurs with wastes, disturbed areas, and daily/intermediate cover materials.

At this time, the Agency does not believe that there are sufficient data available to establish numeric limits based on best available technology for storm water discharges from active MSWLF areas. The data submitted in the part 2 applications, as well as leachate data from available literature, suggest that a variety of constituents may be present at levels that are highly site-specific depending on the types and extent of contact with exposed wastes and extent of commingling with leachate. Furthermore, the volumes of runoff generated will be dependent on the frequency and intensity of precipitation events. For TSS, little or no data are available to characterize the TSS levels in active landfill area runoff and to assess the performance of treatment technologies/best management practices currently in use.

Therefore, in this section, EPA is requiring that landfill operators develop storm water pollution prevention plans. For active landfill areas, these plans should be tailored toward minimizing contact of storm water with waste materials. The plans should also include design and implementation of best management practices and/or treatment methods to control the pollutants likely to be found in runoff at the site. For the active portion of the landfill, this section also requires quarterly monitoring for TSS and total recoverable iron (see below) to quantify the performance of BMPs/treatment measures. These data may be used in the future in the development of individual and/or general permits to establish numeric limitations based on best available technology. It should also be noted that EPA is currently in the process of developing effluent limitation guidelines for discharges of leachate from waste management facilities (including MSWLFs). Where these effluent guidelines apply to discharges from active areas, facilities will be required to comply with these requirements on the effective date.

For units/areas that ceased receiving wastes after October 1991, EPA believes that closure criteria under 40 CFR 258.60 will minimize or eliminate pollutant loadings from waste materials to storm water. For MSWLF units closed in accordance with these criteria, TSS should be the only pollutant of concern. Again, EPA does not believe that adequate data are currently available to establish a numeric limitation based on best available technology (BAT) for TSS in storm water discharges from inactive areas. TSS concentrations in untreated storm water discharges have not been sufficiently well characterized to address the site-specific variability arising from local geology and topography along with individual cover materials and reclamation practices. Furthermore, the available data do not support an assessment of the relative performance of specific BMPs/treatment measures. Quarterly TSS monitoring is required to provide additional data to evaluate the effectiveness of specific control measures.

The Agency is uncertain whether all MSWLF units which ceased receiving wastes prior to October 1991 will have been closed in such a manner to ensure long term stability and minimize the potential for runoff to contact wastes and leachate. Therefore, operators of units that were closed prior to October 1991 are required to conduct the same monitoring as required for active areas. This monitoring is intended to evaluate the integrity and performance of final cover materials in minimizing pollutant loadings to storm water discharges. Based on the results of this monitoring, the permitting authority may elect to continue/modify or terminate the required monitoring, provide for additional permit conditions (including specific BMPs and/or numeric limitations), or terminate coverage under the permit, as appropriate.

An exception from most monitoring requirements is provided for older landfill areas closed prior to October 1991 in accordance with State requirements that meet or exceed the final cover criteria in 40 CFR 258.60. Similar to newer units, TSS should be the only pollutant of concern at these sites and only quarterly TSS monitoring is required.

(2) Industrial Landfills. As discussed above, minimal data are available to characterize storm water discharges or management practices for industrial solid waste landfills. EPA recognizes that onsite landfills are likely to be dedicated waste management units. However, the 1988 Report to Congress indicates that these onsite units can be found at sites in virtually every major industrial category. Offsite landfills can receive industrial wastes from almost any sources. Further, there are no current or planned Federal minimum requirements for runon/runoff control and closure of these onsite and offsite facilities. As a result, existing State programs vary. Some States have extensive permitting and design standard requirements for industrial landfills, often for specific waste types. In contrast, other States have much more limited industrial solid waste programs.

Because of the variability between sites, the need for representative runoff characterization data, and the lack of information on BMP/treatment method performance, this section does not establish effluent limitations for storm water discharges from industrial landfills. At this time, best available technology shall consist of development and implementation of pollution prevention plans. In addition, to ensure protection of water quality, the Agency has established monitoring requirements based on the potential for elevated TSS levels (due to erosion) and the concern that runoff from industrial landfills may contact waste materials and/or leachate.

(3) Land Application Sites. This section includes the same requirements for land application sites as for industrial landfills (as described above). The Agency does not currently have sufficient data to identify specific pollutants common to land application sites and develop numeric limitations. Therefore, the Agency believes that requiring implementation of pollution prevention plans along with TSS and Total Recoverable iron monitoring requirements is appropriate.

In summary, EPA believes that landfill/land application sites may reduce the level of pollutants in storm water runoff from their sites through the development and proper implementation of the storm water pollution prevention plan requirements discussed in today's permit. In order to provide a tool for evaluating the effectiveness of the pollution prevention plan and to characterize the discharge for potential environmental impacts, the permit requires landfill/land application sites to collect and analyze samples of their storm water discharges for the pollutants listed in Table L–5.

At a minimum, storm water discharges from landfill/land application sites must be monitored quarterly during the second year of permit coverage. At the end of the second year of permit coverage, a facility must calculate the average concentration for each parameter listed in Table L–5. If the permittee collects more than four samples in this period, then they must calculate an average concentration for each pollutant of concern for all samples analyzed.

TABLE L–5.—INDUSTRY MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Total Suspended Solids (TSS) [i]	100 mg/L.
Total Recoverable Iron [ii]	1.0 mg/L.

[i] Applicable to all landfill and land application sites.
[ii] Applicable to all facilities except MSWLF areas closed in accordance with 40 CFR 258.60 requirements.

If the average concentration for a parameter is less than or equal to the value listed in Table L–5, then the permittee is not required to conduct quantitative analysis for that parameter during the fourth year of the permit. If, however, the average concentration for a parameter is greater than the cut-off concentration listed in Table L–5, then the permittee is required to conduct quarterly monitoring for that parameter during the fourth year of permit coverage. Monitoring is not required during the first, third, and fifth year of the permit. The exclusion from monitoring in the fourth year of the permit is conditional on the facility maintaining industrial operations and BMPs that will ensure a quality of storm water discharges consistent with the average concentrations recorded during the second year of the permit. The schedule of monitoring is presented in Table L–6.

TABLE L–6.—SCHEDULE OF MONITORING

2nd Year of Permit Coverage	• Conduct quarterly monitoring. • Calculate the average concentration for all parameters analyzed during this period. • If average concentration is greater than the value listed in Table L–5, then quarterly sampling is required during the fourth year of the permit. • If average concentration is less than or equal to the value listed in Table L–5, then no further sampling is required for that parameter.
4th Year of Permit Coverage	• Conduct quarterly monitoring for any parameter where the average concentration in year 2 of the permit is greater than the value listed in Table L–5. • If industrial activities or the pollution prevention plan have been altered such that storm water discharges may be adversely affected, quarterly monitoring is required for all parameters of concern.

In cases where the average concentration of a parameter exceeds the cut-off concentration, EPA expects permittees to place special emphasis on methods for reducing the presence of those parameters in storm water discharges. Quarterly monitoring in the fourth year of the permit will reassess the effectiveness of the adjusted pollution prevention plan.

The monitoring cut off concentrations listed in Table L–5 are not numerical effluent limitations. These values represent a level of pollutant discharge which facilities may achieve through the implementation of pollution prevention plans. At least half of the facilities which submitted Part 2 data, reported concentrations greater than or equal to the values listed in Table L–5. Facilities that achieve average discharge concentrations which are less than or equal to the values in Table L–5 are not relieved from the pollution prevention plan requirements or any other requirements of the permit.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly chemical sampling.

b. Alternative Certification. Throughout today's permit, EPA has included monitoring requirements for facilities which the Agency believes have the potential for contributing significant levels of pollutants to storm water discharges. The alternative described below is necessary to ensure that monitoring requirements are only imposed on those facilities that do, in fact, have storm water discharges containing pollutants at concentrations of concern. EPA has determined that if materials and activities are not exposed to storm water at the site, then the potential for pollutants to contaminate storm water discharges does not warrant monitoring.

Therefore, a discharger is not subject to the monitoring requirements of this Part provided the discharger makes a certification for a given outfall, or on a pollutant-by-pollutant basis in lieu of monitoring reports described in (*c*) below, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, significant materials from past industrial activity, that are located in areas of the facility that are within the drainage area of the outfall are not presently exposed to storm water and will not be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan and submitted to EPA in accordance with Part VI.C. of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph (*c*) below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations. EPA does not expect facilities to be able to exercise this certification for indicator parameters, such as TSS and BOD.

c. Reporting Requirements. Permittees are required to submit all monitoring results obtained during the second and fourth year of permit coverage within 3 months of the conclusion of each year. Such permittees must submit monitoring results on signed Discharge Monitoring Report Forms to the Director. For each outfall, one Discharge Monitoring Reporting Form must be submitted per storm event sampled. For facilities conducting monitoring beyond the minimum quarterly requirements an additional Discharge Monitoring Report Form must be filed for each analysis.

d. Sample Type. All discharge data shall be reported for grab samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable.

If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

e. Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluent. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

f. Quarterly Visual Examination of Storm Water Quality. Landfills and land application sites shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted under paragraph (3) below. The examination(s) must be made at least once in each of the following three-month periods: January through March, April through June, July through September, and October through December. The examination shall be made during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(1) Examinations shall be made of grab samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.

(2) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(3) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials,

and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the observation data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage are (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(4) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(5) EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

EPA believes that this quick and simple assessment will allow the permittee to approximate the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examinations. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and effects on the management practices that are included in the plan.

M. Storm Water Discharges Associated With Industrial Activity From Automobile Salvage Yards

1. Industry Profile

On November 16, 1990 (55 FR 47990), EPA promulgated the regulatory definition of ''storm water discharges associated with industrial activity.'' This definition included point source discharges of storm water from eleven categories of facilities, including ''* * * battery reclaimers, salvage yards, and automobile recyclers, including but limited to those classified as Standard Industrial Classification 5015.* * *''

This section establishes special conditions for the storm water discharges associated with industrial activities at automobile salvage yards. Washwaters from vehicle, equipment, and parts cleaning areas are process wastewaters. Discharges of process wastewater and discharges subject to process wastewater effluent limitation guidelines are not eligible for coverage under this section.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

This section has been developed for storm water discharges associated with activities related to dismantling of used motor vehicles for the purpose of selling parts. As stated above, category (vi) of the definition of storm water discharges associated with industrial activity includes facilities primarily engaged in the wholesale or retail distribution of used motor vehicle parts and classified as SIC code 5015. Dismantlers are a major source for replacement parts for motor vehicles in service.

The following description summarizes operations that might occur at a typical automobile dismantling facility. The primary activity involves the dismantling or wrecking of used motor vehicles. Some facilities, however, perform vehicle maintenance and may rebuild vehicles for resale.

Typically, automobile dismantling facilities receive vehicles that are either uneconomical to run or wrecks that are uneconomical to repair. The nature of operations generally depends on the size and location of the facility. In urban areas where land is more valuable, vehicles are typically dismantled upon arrival, parts are segregated, cleaned, and stored. Remaining hulks are generally sold to scrap dealers rather than stored onsite due to limited space. In more rural areas, discarded vehicles are typically stored on the lot and parts removed as necessary. Remaining hulks are sold to scrap dealers less frequently.

Once a used vehicle is brought to the site, fluids may be drained and the tires, gas tank, radiator, engine and seats may be removed. The dismantler may separate and clean parts. Such cleaning may include steam cleaning of the engine and transmission as well as the use of solvents to remove oil and grease and other residues. Usable parts are then inventoried and stored for resale. The remaining car and/or truck bodies are stored onsite for future sale of the sheet metal and glass. Stripped vehicles and parts that have no resale value are typically crushed and sold to a steel scrapper. Some operations may, however, convert used vehicles and parts into steel scrap as a secondary operation. This is accomplished by incineration, shearing (bale shearer), shredding, or baling.

According to the 1987 census, 6,075 establishments reported SIC code 5015 as their primary SIC code, although some estimates indicate that there may be as many as 11,000 to 12,000 of these facilities.[89] Vehicle wreckers and dismantlers are generally small, privately owned businesses. Most facilities employ 10 or fewer employees and derive the majority of their profits from the sale of usable parts. Only a small percentage of this universe consists of large establishments with fleets of trucks, cranes, mobile balers and computers to maintain inventories of parts.[90]

Table M–1 below lists potential pollutant sources from activities that commonly take place at automobile salvage yards.

---

[89] ''The Automobile Scrap Processing Industry,'' Howard Ness, P.E., 1984.

[90] Ibid.

TABLE M–1.—COMMON POLLUTANT SOURCES

Activity	Pollutant source	Pollutants
Vehicle Dismantling	Oil, anti-freeze, batteries, gasoline, diesel fuel, hydraulic fluids.	Oil and grease, ethylene glycol, heavy metals.
Used Parts Storage	Batteries, chrome bumpers, wheel balance weights, tires, rims, filters, radiators, catalytic converters, engine blocks, hub caps, doors, drivelines, galvanized metals, mufflers.	Sulfuric acid, galvanized metals, heavy metals, petroleum hydrocarbons, suspended solids.
Outdoor Vehicle and Equipment Storage	Leaking engines, chipping/corroding bumpers, chipping paint, galvanized metal.	Oil and grease, arsenic, organics, heavy metals, TSS.
Vehicle and Equipment Maintenance	Parts cleaning	Chlorinated solvents, oil and grease, heavy metals, acid/alkaline wastes.
	Waste disposal of greasy rags, oil filters, air filters, batteries, hydraulic fluids, transmission fluids, radiator fluids, degreasers.	Oil, heavy metals, chlorinated solvents, acid/alkaline wastes oil, heavy metals, chlorinated solvents, acid/alkaline wastes, ethylene glycol.
	Spills of oil, degreasers, hydraulic fluids, transmission fluid, and radiator fluids.	Oil, arsenic, heavy metals, organics, chlorinated solvents, ethylene glycol
	Fluids replacement, including oil, hydraulic fluids, transmission fluid, and radiator fluids.	Oil, arsenic, heavy metals, organics, chlorinated solvents, ethylene glycol.
Vehicle, Equipment, and Parts Washing Areas	Washing and steam cleaning waters	Oil and grease, detergents, heavy metals, chlorinated solvents, phosphorus, salts, suspended solids.
Liquid Storage in Above Ground Storage Tanks	External corrosion and structural failure	Fuel, oil and grease, heavy metals, materials being stored.
	Installation problems	Fuel, oil and grease, heavy metals, materials being stored.
	Spills and overfills due to operator error	Fuel, oil and grease, heavy metals, materials being stored.
Illicit Connection to Storm Sewer	Process wastewater	Dependent on operations.
	Sanitary water	Bacteria, biochemical oxygen demand (BOD), suspended solids.
	Floor drain	Oil and grease, heavy metals, chlorinated solvents, fuel, ethylene glycol.
	Vehicle washwaters	Oil and grease, detergents, metals, chlorinated solvents, phosphorus, suspended solids.
	Radiator flushing wastewater	Ethylene glycol.
	Leaking underground storage tanks	Materials stored or previously stored.

Sources:
NPDES Storm Water Group Applications—Part 1. Received by EPA March 18, 1991 through December 31, 1992.
Alabama Department of Environmental Management. September 30, 1992. "Best Management Plan for Automobile Salvage Yards—Final Report."
EPA, Office of Research and Development. October 1991. "Guides to Pollution Prevention—The Automotive Refinishing Industry." EPA/625/7–91/016.
EPA, Office of Research and Development. October 1991. "Guides to Pollution Prevention—The Automotive Repair Industry." EPA/625/7–91/013.
EPA, Office of Research and Development. May 1992. "Facilities Pollution Prevention Guide." EPA/600/R–92/088.
EPA, Office of Water. September 1992. "Storm Water Management for Industrial Activities—Developing Pollution Prevention Plans and Best Management Practices." EPA 832–R–92–006.

2. Pollutants in Storm Water Discharges Associated With Automobile Salvage Yards.

Impacts caused by storm water discharges from automobile salvage yards will vary. Several factors influence to what extent operations at the site can affect water quality. Such factors include: geographic location; hydrogeology; the types of industrial activity occurring outside (e.g., dismantling, vehicle and parts storage, or steam cleaning); the size of the operation; and the type, duration, and intensity of precipitation events. Each of these, and other factors, will interact to influence the quantity and quality of storm water runoff. For example, outdoor storage of leaking engine blocks may be a significant source of pollutants at some facilities, while dismantling operations is the primary source at others. In addition, sources of pollutants other than storm water, such as illicit connections,[91] spills, and other improperly dumped materials, may increase the pollutant loading discharged into waters of the United States.

[91] Illicit connections are contributions of unpermitted non-storm water discharges to storm sewers from any number of sources including improper connections, dumping or spills from industrial facilities, commercial establishments, or residential dwellings. The probability of illicit connections at used motor vehicle parts facilities is low yet it may be applicable at some operations.

EPA has identified the storm water pollutants and sources resulting from various automobile salvage yard activities in Table M–1. Table M–1 identifies oil, heavy metals, acids, and ethylene glycol as some of the parameters of concern at automobile salvage yards.

Based on the similarities of the facilities included in this sector in terms of industrial activities and significant materials, EPA believes it is appropriate to discuss the potential pollutants at automobile salvage yards as a whole and not subdivide this sector. Therefore, Table M–2 lists data for selected parameters from facilities in the automobile salvage yards sector. These data include the eight pollutants that all facilities were required to monitor under Form 2F, as well as the pollutants that EPA determined merit further monitoring.

TABLE M–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY AUTOMOBILE SALVAGE YARDS SUBMITTING PART II SAMPLING DATA [i] (mg/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp [ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	45	59	58	74	15.9	12.37	2.0	0.0	216.0	84.0	7.0	6.0	42.3	38.62	82.5	77.33
COD	65	43	83	54	123.8	73.52	0.0	11.0	1660.0	215.0	62.0	54.5	365.2	177.2	722.3	279.3
Nitrate + Nitrite Nitrogen	45	58	58	73	1.02	2.38	0.00	0.0	6.50	69.3	0.60	0.67	3.23	6.96	6.52	17.0
Total Kjeldahl Nitrogen	37	51	50	68	3.19	2.20	0.04	0.04	18.0	011.0	2.00	1.68	10.22	6.01	19.48	10.2
Oil & Grease	41	N/A	58	N/A	7.0	N/A	0.0	N/A	84.0	N/A	3.0	N/A	26.8	N/A	60.5	N/A
pH	67	N/A	87	N/A	N/A	N/A	3.1	N/A	9.1	N/A	7.3	N/A	9.0	N/A	9.9	N/A
Total Phosphorus	39	54	52	66	0.76	1.22	0.00	0.00	11.20	45.0	0.15	0.11	2.61	2.49	7.70	7.79
Total Suspended Solids	47	60	60	76	552	524.9	0	1.0	4200	8565	196	166.00	2473	2462.6	6951	7999.9
Aluminum, Total	37	34	37	34	13.38	9.14	0.30	0.40	88.00	45.20	8.50	5.95	61.05	36.47	158.90	81.08
Iron, Total	37	34	37	34	19.1	11.2	0.9	0.7	95.0	54.0	10.7	7.5	82.3	43.9	212.2	98.6
Lead, Total	22	22	24	22	0.340	0.200	0.100	0.100	1.400	0.600	0.21	0.10	0.884	0.467	1.512	0.731

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.

[ii] Composite samples.

3. Options for Controlling Pollutants

In evaluating options for controlling pollutants in storm water discharges, EPA must achieve compliance with the technology-based standards of the Clean Water Act [Best Available Technology (BAT) and Best Conventional Technology (BCT)]. The Agency does not believe that it is appropriate to establish specific numeric effluent limitations or a specific design or performance standard in this section for storm water discharges associated with industrial activity from automobile salvage yard operations to meet the BAT/BCT standards of the Clean Water Act. Because of the diversity of operations at automobile salvage yards and the lack of sufficient storm water water quality data currently available to EPA, establishing numeric effluent limitations is not feasible at this time. Rather, this section establishes requirements for the development and implementation of a site-specific storm water pollution prevention plan consisting of a set of Best Management Practices that are sufficiently flexible to address different sources of pollutants at different sites.

Best Management Practices (BMPs) are implemented to prevent and/or eliminate pollutants in storm water discharges. EPA believes the most effective BMPs for reducing pollutants in storm water discharges from automobile salvage yards is through exposure minimization practices. Exposure minimization practices minimize the potential for storm water to come in contact with pollutants. These BMP methods are generally uncomplicated and inexpensive practices. They are easy to implement, and require little or no maintenance. In some instances, more resources-intensive BMPs, including detention ponds or filtering devices, may be necessary depending on the type of discharge, types and concentrations of contaminants, and volume of flow.

The selection of the most effective BMPs will be based on site-specific considerations such as: facility size, climate, geographic location, hydrogeology and the environmental setting of each facility, and volume and type of discharge generated. Each facility will be unique in that the source, type, and volume of contaminated storm water discharges will differ. In addition, the fate and transport of pollutants in these discharges will vary. EPA believes that the management practices discussed herein are well suited mechanisms to prevent or control the contamination of storm water discharges associated with automobile salvage yards.

Part 1 group application data indicate that BMPs have not been widely implemented at the representative sampling facilities. Less than 5 percent of the sampling subgroup list indoor storage as a material management practice. Less than 8 percent of the representative sampling facilities use covering at their storage areas. Less than 3 percent of the representative facilities utilize waste minimization practices. The most commonly listed (approximately 20 percent) material management practice is draining fluids from vehicles prior to storage. Because BMPs described in part 1 data are limited, Table M–3 is provided to identify BMPs associated with activities that may be employed at automobile salvage yards.

TABLE M–3.—STORM WATER BMPS FOR AUTOMOBILE SALVAGE YARDS

Activity	BMPs
Dismantling and vehicle maintenance	Drain all fluids from vehicles upon arrival at the site. Segregate the fluids and properly store or dispose of them.
	Maintain an organized inventory of materials used in the maintenance shop.
	Keep waste streams separate (e.g., waste oil and mineral spirits). Nonhazardous substances that are contaminated with a hazardous substance is considered a hazardous substance.
	Recycle anti-freeze, gasoline, used oil, mineral spirits, and solvents.
	Dispose of greasy rags, oil filters, air filters, batteries, spent coolant, and degreasers properly.
	Label and track the recycling of waste material (e.g., used oil, spent solvents, batteries).
	Drain oil filters before disposal or recycling.

TABLE M–3.—STORM WATER BMPS FOR AUTOMOBILE SALVAGE YARDS—Continued

Activity	BMPs
	Store cracked batteries in a nonleaking secondary container.
	Promptly transfer used fluids to the proper container. Do not leave full drip pans or other open containers around the shop. Empty and clean drip pans and containers.
	Do not pour liquid waste down floor drains, sinks, or outdoor storm drain inlets.
	Plug floor drains that are connected to the storm or sanitary sewer. If necessary, install a sump that is pumped regularly.
	Inspect the maintenance area regularly for proper implementation of control measures.
	Filtering storm water discharges with devices such as oil-water separators.
	Train employees on proper waste control and disposal procedures.
Outdoor vehicle, equipment, and parts storage .	Use drip pans under all vehicles and equipment waiting for maintenance and during maintenance.
	Store batteries on impervious surfaces. Curb, dike or berm this area.
	Confine storage of parts, equipment and vehicles to designated areas.
	Cover all storage areas with a permanent cover (e.g., roofs) or temporary cover (e.g., canvas tarps).
	Install curbing, berms or dikes around storage areas.
	Inspect the storage yard for filling drip pans and other problems regularly.
	Train employees on procedures for storage and inspection items.
Vehicle, equipment and parts washing areas	Avoid washing parts or equipment outside.
	Use phosphate-free biodegradable detergents.
	Consider using detergent-based or water-based cleaning systems in place of organic solvent degreasers.
	Designate an area for cleaning activities.
	Contain steam cleaning washwaters or discharge under an applicable NPDES permit.
	Ensure that washwaters drain well.
	Inspect cleaning area regularly.
	Install curbing, berms or dikes around cleaning areas.
	Train employees on proper washing procedures.
Liquid storage in above ground containers	Maintain good integrity of all storage containers.
	Install safeguards (such as diking or berming) against accidental releases at the storage area.
	Inspect storage tanks to detect potential leaks and perform preventive maintenance.
	Inspect piping systems (pipes, pumps, flanges, couplings, hoses, and valves) for failures or leaks.
	Train employees on proper filling and transfer procedures.
Improper connection with storm sewers	Plug all floor drains if it is unknown whether the connection is to storm sewer or sanitary sewer systems. Alternatively, install a sump that is pumped regularly.
	Perform dye testing to determine if interconnections exist between sanitary water system and storm sewer system.
	Update facility schematics to accurately reflect all plumbing connections.
	Install a safeguard against vehicle washwaters and parts cleaning waters entering the storm sewer unless permitted.
	Maintain and inspect the integrity of all underground storage tanks; replace when necessary.
	Train employees on proper disposal practices for all materials.

Sources: NPDES Storm Water Group Applications—Part 1. Received by EPA March 18, 1991 through December 31, 1992.
EPA, Office of Research and Development. October 1991. ''Guides to Pollution Prevention—The Automotive Refinishing Industry.'' EPA/625/7–91/0.
EPA, Office of Research and Development. October 1991. ''Guides to Pollution Prevention—The Automotive Repair Industry.'' EPA/625/7–91/013.
EPA, Office of Research and Development. May 1992. ''Facility Pollution Prevention Guide.'' EPA/600/R–92/088.
EPA, Office of Water. September 1992. ''Storm Water Management for Industrial Activities—Developing Pollution Prevention Plans and Best Management Practices.'' EPA 832–R–92–006.
Minnesota Technical Assistance Program. September 1988. ''Waste minimization—Auto Salvage Yards.''

4. Pollutant Control Measures Required Through Other EPA Programs

Because hazardous substance including oil, gasoline, and lead are commonly found at automobile salvage yards, such facilities may be subject to other State or Federal environmental protection programs. In particular, as described below, the Resource Conservation and Recovery Act (RCRA) and the Underground Storage Tank (UST) programs require careful management of materials used onsite which decreases the probability that storm water from such areas will be contaminated by these materials.

Under the RCRA program, on September 10, 1992, EPA promulgated standards in 40 CFR Part 279 for the management of used oils that are recycled (57 FR 41566). These standards include requirements for used oil generators, transporters, processors/re-refiners, and burners. The standards for used oil generators apply to all generators, regardless of the amount of used oil they generate. Do-it-yourself (DIY) generators which generate used oil from the maintenance of their personal vehicles, however, are not subject to the management standards in 40 CFR 279.20(a)(1)).

The requirements for used oil generators were designed to impose a minimal burden on generators while protecting human health and the environment from the risks associated with managing used oil. Under Subpart C of 40 CFR Part 279, used oil generators must not store used oil in units other than tanks, containers, or units subject to regulation under 40 CFR Parts 264/265 (Section 279.22(a)). In other words, generators may store used oil in tanks or containers that are not subject to Subpart J (hazardous waste tanks) or Subpart I (containers) of 40 CFR Parts 264/265, as long as such tanks or containers are maintained in compliance with the used oil management standards. This does not preclude generators from storing used oil in Subpart J tanks or Subpart I containers or other units, such as surface impoundments (Subpart K), that are subject to regulation under 40 CFR Part 264 or 265.

Storage units at generator facilities must be maintained in good condition and labeled with the words ''used oil.'' Upon detection of a release of used oil to the environment, a generator must take steps to stop the release, contain the released used oil, and properly manage the released used oil and other materials [40 CFR 279.22 (b) to (d)]. Generators storing used oil in underground storage tanks are subject to the UST regulations in 40 CFR Part 280.

If used oil generators ship used oil offsite for recycling, they must use a transporter who has notified EPA and obtained an EPA identification number [40 CFR 279.24].

The technical standards for USTs at 40 CFR Part 280 require that new UST systems (defined as systems for which installation commenced after December 12, 1988) use overfill prevention equipment that will: 1) automatically shut off flow into the tank when the tank is no more than 95 percent full; or 2) alert the transfer operator when the tank is no more than 90 percent full by restricting the flow into the tank or triggering a high level alarm. The preceding requirements do not apply to systems that are filled by transfers of no more than 25 gallons at one time. Existing UST systems (defined as systems for which installation has commenced on or before December 12, 1988) are required to have installed the described overfill prevention equipment by December 12, 1998.

5. Storm Water Pollution Prevention Plan Requirements

EPA believes that pollution prevention is the most effective approach for controlling contaminated storm water discharges from automobile salvage yards. Pollution prevention plans allow the operator of a facility to select BMPs based on site-specific considerations such as: facility size; climate; geographic location; geology/hydrology; the environmental setting of each facility; and volume and type of discharge generated. This flexibility is necessary because each facility will be unique in that the source, type, and volume of contaminated surface water discharges will differ from site to site.

Under today's general permit, all facilities must prepare and implement a storm water pollution prevention plan. The establishment of a pollution prevention plan requirement reflects EPA's decision to allow operators of automobile salvage yards to utilize BMPs as the BAT/BCT level of control for the storm water discharges covered by this section. The requirements included in pollution prevention plans provide a flexible framework for the development and implementation of site specific controls to minimize pollutants in storm water discharges. This approach and associated deadlines are consistent with EPA's storm water general permits finalized on September 9, 1992 and September 25, 1992 for discharges in nonauthorized NPDES States (57 FR 41236).

There are two major objectives to a pollution prevention plan: 1) to identify sources of pollution potentially affecting the quality of storm water discharges associated with industrial activity from a facility; and 2) to describe and ensure implementation of practices to minimize and control pollutants in storm water discharges associated with industrial activity from a facility.

Specific requirements for a pollution prevention plan for automobile salvage yards are described below. These requirements must be implemented in addition to the baseline pollution prevention plan provisions discussed previously.

a. Contents of the Plan. Storm water pollution prevention plans are intended to aid operators of automobile salvage yards to evaluate all potential pollution sources at a site, and assist in the selection and implementation of appropriate measures designed to prevent, or control, the discharge of pollutants in storm water runoff. EPA has developed guidance entitled ''Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices,'' EPA, 1992, (EPA 832–R–92–006) to assist permittees in developing and implementing pollution prevention measures.

(1) Description of Potential Pollution Sources. There are no requirements beyond those described in Part VI.C.2 of this fact sheet.

(2) Measures and Controls. Following completion of the source identification and assessment phase, the permittee must evaluate, select, and describe the pollution prevention measures, best management practices (BMPs), and other controls that will be implemented at the facility. For the following areas at the site, the permittee must assess the applicability of the corresponding BMPs:

Vehicle Dismantling and Maintenance Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from all areas used for vehicle dismantling and maintenance. The facility must consider draining and segregating all fluids from vehicles upon arrival at the site, or as soon as feasible thereafter. The facility must consider performing all maintenance activities indoors, maintaining an organized inventory of materials used in the shop, draining all parts fluids prior to disposal, prohibiting the practice of hosing down the shop floor, using dry cleanup methods, and/or collecting the storm water runoff from the maintenance area and providing treatment. Where dismantling and maintenance activities can not take place indoors, facilities may consider methods for containing oil or other fluid spillage during parts removal. Drip pans, large plastic sheets, or canvas may be considered for placement under vehicles or equipment during maintenance and dismantling activities. Where drip pans are used, they should not be left unattended to prevent accidental spills.

Vehicle, Parts, and Equipment Storage Areas—The storage of vehicles, parts, and equipment must be confined to designated areas (delineated on the site map). The plan must describe measures that prevent or minimize contamination of the storm water runoff from these areas. The facility must consider the use of drip pans, large sheets of plastic, canvas (or equivalent measures) under vehicles, parts, and equipment. Canvas or sheets of plastic may be used as temporary coverage of storage areas. Indoor storage of vehicles, parts and equipment, as well as the installation of roofs, curbing, berming and diking of these areas must be considered. Large plastic or metal bins with secure lids should be used to store oily parts (e.g., small engine parts). Used batteries should be stored within nonleaking secondary containment or by other equivalent means to prevent leaks of acid into storm water discharges.

Material Storage Areas—As part of a good housekeeping program, consider labeling storage units of all materials (e.g., used oil, used oil filters, spent solvents, paint wastes, radiator fluids, transmission fluids, hydraulic fluids). Maintain such containers and units in good condition, so as to prevent contamination of storm water. The plan must describe measures that prevent or minimize contamination of the storm water runoff from such storage areas. The facility may consider indoor storage of the materials and/or installation of berming and diking of the area.

Vehicle, Equipment, and Parts Cleaning Areas—The plan must describe measures that prevent or minimize contamination of storm water from all areas used for vehicle, equipment, and parts cleaning. The facility must consider performing all cleaning operations indoors. In addition, the facility must consider covering or berming the cleaning operation area. Washwaters from vehicle, equipment, and parts cleaning areas are process wastewaters that are not authorized discharges under this section.

These four areas are sources of pollutants in storm water from automobile salvage yards. EPA believes that the incorporation of BMPs such as those suggested, in conjunction with a pollution prevention plan, will substantially reduce the potential of storm water contamination from these areas. In addition, EPA believes that these requirements continue to provide the necessary flexibility to address the variable risk for pollutants in storm water discharges associated with different facilities.

(a) Preventive Maintenance—Permittees are required to develop a preventive maintenance program that includes regular inspections and maintenance of storm water BMPs. The purpose of the inspections, which may coincide with the inspections required in (b) below, is to check on the effectiveness of the storm water pollution prevention plan. The inspections allow facility personnel to monitor the success or failure of elements of the plan on a regular basis. The use of an inspection checklist should be considered. The checklist will ensure that all required areas are inspected, as well as help to meet the recordkeeping requirements. In addition to regular inspections, employees identifying potential problems during their daily activities, such as leaks or spills, shall take appropriate measures to address these problems as soon as feasible.

(b) Inspections—This section requires that in addition to the comprehensive site evaluation required under Part XI.M.3.a. of today's permit, qualified facility personnel shall be identified to inspect: upon arrival, or as soon as feasible thereafter, all vehicles for leaks; any equipment containing oily parts, hydraulic fluids, or any other fluids, at least quarterly for leaks; and any outdoor storage containers for liquids, including, but not limited to, brake fluid, transmission fluid, radiator water, and anti-freeze, at least quarterly for leaks.

In addition, qualified facility personnel are required to conduct, at a minimum, quarterly visual inspections of BMPs. The inspections shall include: (1) an assessment of the integrity of any flow diversion or source minimization systems; and (2) visual inspections of dismantling areas; outdoor vehicle, equipment, and parts storage area; vehicle and equipment maintenance areas; vehicle, equipment, and parts washing areas; and liquid storage in above ground containers. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections.

The quarterly inspections must be made at least once in each of the following designated periods during daylight hours: January through March (storm water runoff or snow melt); April through June (storm water runoff); July through September (storm water runoff); October through December (storm water runoff). Records of inspections shall be maintained as part of the plan.

(c) Employee Training—Permittees are required to include a schedule for conducting training in the plan. EPA recommends that facilities conduct training annually at a minimum. However, more frequent training may be necessary at facilities with high turnover of employees or where employee participation is essential to the storm water pollution prevention plan. Employee training must, at a minimum, address the following areas when applicable to a facility: used oil management; spill prevention and response; good housekeeping practices; used battery management; and proper handling (i.e., collection, storage, and disposal) of all fluids. This training should serve as: (1) training for new employees; (2) a refresher course for existing employees; and (3) training for all employees on any storm water pollution prevention techniques recently incorporated into the plan, where appropriate, contractor personnel also must be trained in relevant aspects of storm water pollution prevention.

(d) Recordkeeping and Internal Reporting—Permittees must describe procedures for developing and retaining records on the status and effectiveness of plan implementation. The plan must address spills, monitoring, and BMP inspection and maintenance activities. Ineffective BMPs must be reported and the date of their corrective action noted.

(e) Storm Water Management—The permittee must evaluate the appropriateness of each storm water BMP that diverts, infiltrates, reuses, or otherwise reduces the discharge of contaminated storm water. In addition, the permittee must describe the storm water pollutant source area or activity (i.e., loading and unloading operations, raw material storage piles etc.) to be controlled by each storm water management practice.

(3) Comprehensive Site Compliance Evaluation. The storm water pollution prevention plan must describe the scope and content of comprehensive site evaluations that qualified personnel will conduct to: (1) confirm the accuracy of the description of potential pollution sources contained in the plan; (2) determine the effectiveness of the plan; and (3) assess compliance with the terms and conditions of this section. Comprehensive site compliance evaluations should be conducted at least once a year for automobile salvage yards. These evaluations are intended to be more in depth than the quarterly visual inspections. The individual or individuals who will conduct the evaluations must be identified in the plan and should be members of the pollution prevention team. Evaluation reports must be retained for at least 3 years after the date of the evaluation.

Based on the results of each evaluation, the description of potential pollution sources, and measures and controls, the plan must be revised as appropriate within 2 weeks after each evaluation. Changes in the measures and controls must be implemented on the site in a timely manner, and never more than 12 weeks after completion of the evaluation.

6. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. EPA believes that automobile salvage yards may reduce the level of pollutants in storm water runoff from their sites through the development and proper implementation of the storm water pollution prevention plan requirements discussed in today's permit. In order to provide a tool for evaluating the effectiveness of the pollution prevention plan and to characterize the discharge for potential environmental impacts, the permit requires automobile yards to collect and analyze samples of their storm water discharges for the pollutants listed in Table M–4. The pollutants listed in Table M–4 were found to be above benchmark levels for a significant portion of sampling facilities that submitted quantitative data in the group application process. EPA is requiring monitoring for these pollutants after the pollution prevention plan has been implemented to assess the effectiveness of the pollution prevention plan and to help ensure that a reduction of pollutants is realized.

At a minimum, storm water discharges from automobile salvage yards must be monitored quarterly during the second year of permit coverage, unless the facility exercises the Alternative Certification in Section VI.E.3 of this fact sheet. At the end of the second year of permit coverage, a facility must calculate the average concentration for each parameter listed in Table M–4. If the permittee collects more than four samples in this period, then they must calculate an average concentration for each pollutant of concern for all samples analyzed.

TABLE M–4.—INDUSTRY MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Total Suspended Solids	100 mg/L.
Total Recoverable Aluminum	0.75 mg/L.
Total Recoverable Iron	1.0 mg/L.
Total Recoverable Lead	0.0816 mg/L.

If the average concentration for a parameter is less than or equal to the value listed in Table M–4, then the permittee is not required to conduct quantitative analysis for that parameter during the fourth year of the permit. If, however, the average concentration for a parameter is greater than the cut-off concentration listed in Table M–4, then the permittee is required to conduct quarterly monitoring for that parameter during the fourth year of permit coverage. Monitoring is not required during the first, third, and fifth year of the permit. The exclusion from monitoring in the fourth year of the permit is conditional on the facility maintaining industrial operations and BMPs that will ensure a quality of storm water discharges consistent with the average concentrations recorded during the second year of the permit. The schedule of monitoring is presented in Table M–5.

TABLE M–5.—SCHEDULE OF MONITORING

2nd Year of Permit Coverage	• Conduct quarterly monitoring. • Calculate the average concentration for all parameters analyzed during this period. • If average concentration is greater than the value listed in Table M–4, then quarterly sampling is required during the fourth year of the permit. • If average concentration is less than or equal to the value listed in Table M–4, then no further sampling is required for that parameter.
4th Year of Permit Coverage	• Conduct quarterly monitoring for any parameter where the average concentration in year 2 of the permit is greater than the value listed in Table M–4. • If industrial activities or the pollution prevention plan have been altered such that storm water discharges may be adversely affected, quarterly monitoring is required for all parameters of concern.

In cases where the average concentration of a parameter exceeds the cut-off concentration, EPA expects permittees to place special emphasis on methods for reducing the presence of those parameters in storm water discharges. Quarterly monitoring in the fourth year of the permit will reassess the effectiveness of the adjusted pollution prevention plan.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly chemical sampling.

b. Alternative Certification. Throughout today's permit, EPA has included monitoring requirements for facilities which the Agency believes have the potential for contributing significant levels of pollutants to storm water discharges. The alternative certification described below is necessary to ensure that monitoring requirements are only imposed on those facilities that do, in fact, have storm water discharges containing pollutants at concentrations of concern. EPA has determined that if materials and activities are not exposed to storm water at the site, then the potential for pollutants to contaminate storm water discharges does not warrant monitoring.

Therefore, a discharger is not subject to the monitoring requirements of this Part provided the discharger makes a certification for a given outfall or on a pollutant-by-pollutant basis, in lieu of sampling described under Part VIII.M.6.a of this factsheet, under penalty of law, signed in accordance with Part VII.G (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, significant materials from past industrial activity, that are located in areas of the facility that are within the drainage area of the outfall are not presently exposed to storm water and will not be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan and submitted to EPA in lieu of monitoring reports. The permittee is required to complete any and all sampling until the exposure is eliminated. If the facility is reporting for a partial year, the permittee must specify the date exposure was eliminated. If the permittee is certifying that a pollutant was present for part of the reporting period, nothing relieves the permittee from the responsibility to sample that parameter up until the exposure was eliminated and it was determined that no significant materials remained. This certification is not to be confused with the low concentration sampling waiver. The test for the application of this certification is whether the pollutant is exposed, or can reasonably be expected to be present in the storm water discharge. If the facility does not and has not used a parameter, or if exposure is eliminated and no significant materials remain, then the facility can exercise this certification. The Agency does not expect that facilities will be able to use the alternative certification for indicator parameters such as TSS and BOD. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations. EPA does not expect facilities to be able to exercise this certification for indicator parameters, such as TSS and BOD.

c. Reporting Requirements. Permittees are required to submit all monitoring results obtained during the second and fourth year of permit coverage within 3 months of the conclusion of each year. For each outfall, one signed Discharge Monitoring Report Form must be submitted per storm event sampled. For facilities conducting monitoring beyond the minimum requirements an additional Discharge Monitoring Report Form must be filed for each analysis.

d. Sample Type. All discharge data shall be reported for grab samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

e. Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluent. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

f. Quarterly Visual Examination of Storm Water Quality. All automobile salvage yard facilities are required to conduct quarterly visual examinations of storm water discharges from each outfall. The examination of storm water grab samples shall include any observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, or other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on these samples. The examinations must be of a grab sample collected from each storm water outfall.

The examination must be made at least once in each of the following three-month periods: January through March, April through June, July through September, and October through December. The examinations shall be made during daylight unless there is insufficient rainfall or snow-melt to runoff. Whenever practicable, the same individual should carry out the collection and examination of discharges throughout the life of the permit to ensure the greatest degree of consistency possible. Grab samples shall be collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff begins discharging. Reports of the visual examination include: the examination date and time, examination personnel, visual quality of the storm water discharge, and probable sources of any observed storm water contamination. The visual examination reports must be maintained onsite with the pollution prevention plan.

When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

EPA believes that this quick and simple assessment will allow the permittee to approximate the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examinations. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and the effects of the management practices that are included in the plan.

N. Storm Water Discharges Associated With Industrial Activity From Scrap Recycling and Waste Recycling Facilities

1. Industry Profile

Specific requirements have been established for those facilities that are engaged in the processing, reclaiming and wholesale distribution of scrap and recyclable waste materials. As background, the storm water regulations define 11 categories of storm water discharges associated with industrial activity in 40 CFR 122.26(b)(14). Category (vi) includes facilities that are engaged in the recycling of materials, including metal scrapyards, battery reclaimers, and salvage yards, including but limited to those classified Standard Industrial Classification (SIC) 5093. For purposes of this section, special conditions have been included for those facilities engaged in the reclaiming and retail/wholesale distribution of used motor vehicle parts identified as SIC 5015 in Part XI.M.

SIC 5093 includes establishments engaged in assembling, breaking up, sorting and the wholesale distribution of scrap and recyclable waste materials including bag, bottle and box wastes, fur cuttings, iron and steel scrap, metal and nonferrous metal scrap, oil, plastics, rags, rubber, textiles, waste paper, aluminum and tin cans, and rag wastes. For purposes of this permit, the term waste recycling facility applies to those facilities that receive a mixed wastestream of non-recyclable and recyclable wastes. The term recycling facility applies to those facilities that receive only source-separated recyclable materials primarily from non-industrial and residential sources. For purposes of this permit the term recycling facility also applies to those facilities commonly identified as material recovery facilities (MRF).

Part XI.N of the permit is segregated into three separate classes of recycling facilities: (1) scrap recycling and waste recycling facilities (non-liquid recyclable wastes); (2) liquid recyclable waste facilities; and (3) recycling facilities. Each of these three classes of recycling facilities have separate pollution prevention plan and monitoring requirements. EPA further clarifies that battery reclaimers engaged in the breaking up of used lead-acid batteries are not eligible for coverage under this permit. Facilities that participated in U.S. Environmental Protection Agency (EPA) Group Permit Applications 195, 274, 467, 596, 647 (except facilities identified as SIC 4212), 826, 1035, 1145 and 1204 are eligible for coverage under this section.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Pollutants Found in Storm Water Discharges

This fact sheet is organized into three major subsections: scrap and waste recycling facilities (nonliquid wastes); industrial activities engaged in reclaiming and recycling liquid wastes, e.g., used oils, solvents, mineral spirits and antifreeze; and recycling facilities (including material recovery facilities) that receive only source-separated recyclable materials primarily from non-industrial and residential sources including waste paper, newspaper, glass bottles, plastic containers, aluminum and tin cans, and cardboard. Industrial operations and BMPs associated with these three groups are dissimilar enough to warrant establishing separate permit conditions for each group. Therefore, conditions for each of these three groups are identified separately.

a. Scrap and Waste Recycling Facilities (SIC 5093) (nonliquid recyclable wastes). The scrap recycling and waste recycling industry reclaims, processes and provides wholesale distribution of a diversity of materials and products. Typical recyclable materials include ferrous and nonferrous metals, paper, cardboard, animal hides, glass and plastic. Inbound recyclable materials are processed onsite in order to achieve a uniform grade product that meets a particular manufacturer's specifications. A significant inventory of processing equipment is frequently required to process recyclable waste material into a uniform grade. Processing equipment typically employ enormous physical forces such as shearing, shredding, and compacting in the process of eventually achieving a desired uniform grade product.

Individual scrap and waste recycling facilities may process one or more types of recyclable materials at a single site. Depending on the requirements of a manufacturer, recyclable waste materials, e.g., paper and cardboard, may need to be stored under cover to prevent deterioration. The bulk size of the recyclable waste materials and the processing equipment associated with these facilities frequently necessitates stockpiling materials and equipment outdoors. Consequently, there is significant opportunity for exposure of storm water runoff to pollutants. The extent of material potentially exposed to storm water runoff is illustrated in the following table based on information provided from one group application consisting of approximately 1,100 members.

TABLE N–1.—PERCENTAGE OF APPLICANTS IN ONE GROUP APPLICATION THAT PROVIDE COVER OVER MATERIALS OR PROCESSES

Material/processes	Percent of applicants
Ferrous Materials	6.6
Nonferrous Materials	53
Glass/plastic/paper	14
Other Materials	1.7
Material Processing Equipment	43

There are at least four types of activities that are common to most scrap and waste recycling facilities, they include: scrap waste material stockpiling, material processing, segregating processed materials into uniform grades, and collecting nonrecyclable materials for disposal. This fact sheet outlines pollutants of concern associated with each of these types of activities. Other operations of concern, including vehicle and equipment maintenance, are also discussed in this fact sheet.

(1) Pollutants Associated With Material Stockpiling. During material stockpiling, including unloading and loading areas, the potential exists for some types of inbound recyclable materials to deposit residual fluids on the ground. Used automotive engines, radiators, brake fluid reservoirs, transmission housings, and lead-acid from batteries may contain residual fluids that, if not properly managed, can eventually come in contact with storm water runoff. For example, sampling data from two group applications indicated the presence of oil and grease in 103 individual grab samples. In response to other Federal and State environmental regulations, such as the Resource Conservation and Recovery Act (RCRA), many scrap recycling and waste recycling facilities have instituted inspection and supplier education programs to minimize or eliminate the amount of inbound recyclable materials containing fluids and other potentially hazardous materials prior to their acceptance. Part XI.N.3.a.(3)(a)(i) of today's permit imposes conditions that will make an inbound recyclable materials inspection program part of the pollution prevention plan.

Another concern of outdoor stockpiling, including unloading and loading areas, is associated with deterioration of materials. Metal surfaces that are stockpiled for extended periods may be subject to corrosion. Corrosion is the deterioration of metal surfaces that typically results in the loss of metal to a solution, i.e., water. The following metals are referred to as the galvanic (or electromotive) series and have a tendency to corrode and become soluble in water; magnesium, aluminum, cadmium, zinc, steel or iron, cast iron, chromium, tin, lead, nickel, soft and silver solder, copper, stainless steel, silver, gold, platinum, brass and bronze. For some metals, the extent and rate of corrosion is dependent on whether it occurs in an oxygen-starved or oxygen-abundant atmosphere.

Corrosion of stockpiled materials at scrap recycling facilities is a potential source of pollutants given that metals such as copper, lead, nickel, zinc, chromium and cadmium were frequently detected in sampling data. In addition, the majority of these metals are associated with recyclable materials handled by the scrap recycling industry. Part XI.N.3.a.(3) of today's permit identifies BMP options to address these sources.

Another significant material of concern is the acceptance and temporary storage of scrap lead acid batteries from automotive vehicles and equipment. If a battery casing becomes cracked or damaged, special precautions are necessary to ensure that the contents do not come in contact with storm water runoff. This includes battery terminals with visible corrosion. In all cases, used batteries shall be handled and stored in such a manner as to prevent exposure to either precipitation or runoff. Part XI.N.3.a.(3) addresses conditions for these sources.

The following table presents a list of typical materials that may be received and processed at a scrap and waste recycling facility and which may be potential pollutant sources if they are not managed properly.

TABLE N–2.—SIGNIFICANT MATERIALS POTENTIALLY EXPOSED TO STORM WATER RUNOFF AT SCRAP AND WASTE RECYCLING FACILITIES [1]

Significant materials	Potential sources	Pollutants of concern
White goods (appliances)	Leaking oil-filled capacitors, ballasts, leaking compressors, pumps, leaking pressure vessels, reservoirs, sealed electrical components and chipped or deteriorated painted surfaces.	PCBs, oil, lubricants, paint pigments or additives such as lead, and other heavy metals.
Ferrous and nonferrous turnings and cuttings	Cutting oil residue, metallic fines	Oil, heavy metals.
Materials from demolition projects	Deteriorated/damaged insulation, chipped painted surfaces, lead, copper, and steel pipes.	Asbestos fibers, lead, copper, zinc, cadmium, other metals, TKN.
Electrical components, transformers, switch gear, mercury float switches, sensors.	Leaking oil-filled transformer casings, oil-filled switch, float switches, radioactive materials in gauges, sensors.	PCBs, oils, mercury, ionizing radioactive isotopes.
Fluorescent lights, light fixtures	Leaking ballasts	PCBs, oil.
Food/beverage dispensing equipment	Leaking fluorescent light ballasts, chipped painted surfaces.	PCBs, oil, heavy metals from paint pigments and additives.
Hospital and dental waste and equipment	Drums/containers of hospital waste, shielding from diagnostic and other medical equipment, radioactive materials from gauges, sensors and diagnostic equipment.	Infectious/bacterial contamination, lead, ionizing radioactive isotopes.
Instruments	Radioactive material from thickness gages	Ionizing radioactive isotopes.
Insulated wire	Insulation and other coatings, wire	Lead, zinc, copper.
Lawnmowers, snowmobiles, motorcycles	Leaking engines, transmissions, fuel, oil reservoirs,leaking batteries.	Oils, transmission and brake fluids, fuel, grease, battery acid, lead acid.
Light gage materials	Deteriorating insulation, painted surfaces and other coatings.	Asbestos, lead, chromium.
Locomotives, rail cars	Leaking fuel reservoirs, fittings, hydraulic components, engines, bearings, compressors, oil reservoirs, worn brake pads, damaged insulation.	PCBs, diesel fuel, hydraulic oil, oil, brake fluid, grease from fittings, asbestos.
Motor vehicle bodies, engines, transmissions, exhaust systems.	Leaking fuel tanks, oil reservoirs, transmission housings, brake fluid reservoir and lines, brake cylinders, shock absorber casing, engine coolant, wheel weights, leaking battery casings/housings and corroded terminals, painted surfaces and corrosion inhibitors, exhaust system, catalytic converters.	Fuel, benzene, oil, hydraulic oil, transmission fluids, brake fluids, ethylene glycol (antifreeze), lead, lead acid, lead oxides, cadmium, zinc, other heavy metals.
Miscellaneous machinery and obsolete equipment.	Leaking reservoirs, damaged or chipped painted surfaces/coatings.	Fuel, oil, lubricants, lead, cadmium, zinc.
Pipes/materials from chemical and industrial plants.	Chemical residue, insulation, lead piping, chipped or damaged painted surfaces and protective coatings.	Chemical residue, oil, lubricants, damaged insulation (asbestos), lead, cadmium, zinc, copper.
Sealed containers, hydraulic cylinders	Leaking liquid reservoirs, containers, cylinders, miscellaneous chemicals.	Oil, PCBs, solvents, chemical residue.
Salvaged construction materials	Chemical residues, oils, solvents, lubricants, damaged insulation, chipped painted surfaces and protective coatings.	Chemical residue, oily wastes, asbestos, lead, cadmium, zinc.
Tanks, containers, vessels, cans, drums	Leaking or damaged containers	Chemical residue, oily wastes, petroleum products, heating oil.
Transformers (oil filled)	Leaking transformer housings	PCBs, oil.

[1] Institute of Scrap Recycling Industries, Inc.'s "Environmental Operating Guidelines." (April 1992)

(2) Material Processing. The type of processes employed at a particular facility depends on the type of recyclable and waste material. Typical processes include: torch cutting, shredding, baling, briquetting, wire stripping and chopping, and compacting. Processes such as shredding and shearing reduce the bulk size of recyclable scrap and waste into a size that is more easily transportable and which allows separation into uniform grades based on manufacturer specifications. Processes such as shredding of automotive bodies include a means of segregating materials into their ferrous and nonferrous fractions.

Process equipment at scrap recycling and waste recycling facilities are also potential sources of pollutants in storm water runoff. The sources of concern will be discussed separately. Scrap process equipment such as shearers are often actuated by a hydraulic system. Components such as hydraulic reservoirs, hydraulic pumps, motors, cylinders, control valves, accumulators, filters, and fittings are prone to leaking hydraulic fluid. Some hydraulic machinery also require frequent lubrication of cutting and wear surfaces. Storm water runoff exposure to hydraulic fluids and other lubricants is very likely unless adequate source control measures such as good housekeeping, preventive maintenance, diversion and/or containment are provided.

Stationary process equipment also produce a substantial amount of residual particulate material that tends to accumulate on and around the equipment, particularly rotating machinery, moving parts, bearings, conveyors and at the output of the equipment, e.g., storage containers. Particulate material that accumulates can become a source of contamination if it comes in contact with both precipitation and storm water runoff. Other sources of residual particulate and waste material include air pollution equipment, material handling equipment and processing equipment. In the case of shredding equipment, there are typically three (3) separate material streams produced. Shredded material is ultimately separated into its ferrous and nonferrous fractions, and a third stream referred to as fluff. The fluff material consists of a heterogeneous mix of materials including, but not limited to, small metal fragments, plastics, rubber, wood and textiles. After the material exits the shredder (hammermill), it typically enters an air classification system that separates the lightweight fraction, e.g., particulates, from the more dense fraction. The ferrous metal fraction is then separated from the nonferrous fraction and fluff by the use of a magnetic separator (typically a belt- or drum-type magnetic separator). The separated material may be collected in a hopper or it may accumulate on the ground. If recyclable and nonrecyclable waste material is allowed to accumulate on the ground, a greater potential exists for this material to come in contact with either precipitation or storm water runoff.

The scrap and recycling industry uses a diversity of processes to reclaim and recycle materials that can contribute pollutants to storm water runoff. The following table presents a list of typical scrap equipment operations which are potential pollutant sources.

TABLE N–3.—TYPICAL PROCESS AND EQUIPMENT OPERATIONS THAT ARE LIKELY SOURCES OF POLLUTANTS[i]

Activity	Potential sources	Pollutants of concern
Air Pollution Equipment (including incinerators, furnaces, wet scrubbers, filter houses, bag houses).	Normal equipment operations that include the collection and disposal of filter bag material and ash, process wastewater from scrubbers, accumulation of particulate matter around leaking joint connections, malfunctioning pumps and motors, e.g., leaking gaskets, seals or pipe connections, leaking oil-filled transformer casings.	Hydraulic fluids, oils, fuels, grease and other lubricants, accumulated particulate matter, chemical additives, PCBs from oil-filled electrical equipment.
Combustion Engines	Spills and/or leaks from fueling tanks, spills/leaks from oil/hydraulic fuel reservoirs, faulty/leaking hose connections, worn gaskets, leaking transmission crankcases and brake systems (if applicable), leaking battery casings and/or corroded terminals.	Accumulated particulate matter, oil/lubricants, fuel (gas/diesel), fuel additives, antifreeze (ethylene glycol), battery acid, products of incomplete combustion.
Material Handling Systems (forklifts, cranes, conveyors).	Normal operations including spills and leaks from fuel tanks, hydraulic and oil reservoirs due to malfunction parts, e.g., worn gaskets and parts, leaking hose connections, and faulty seals. Damaged or faulty electrical switches (mercury filled) Damaged or leaking battery casings, including exposed corroded battery terminals. Damaged or worn bearing housings.	Hydraulic fluids, oils, fuels and fuel additives, grease and other lubricants, accumulated particulate matter, chemical additives, mercury, lead, battery fluids.
Stationary Scrap Processing Facilities (balers, briquetters, shredders, shearers, compactors, engine block/cast iron breakers, wire chopper, turnings crusher).	Normal equipment operations including leaks from hydraulic reservoirs, hose and fitting connections, worn gaskets, spills or leaks from fuel tanks, particulates/residue from scrap processing, malfunctioning pumps and motors, e.g., leaking gaskets, seals or pipe connections, leaking oil-filled transformer casings.	Heavy metals, e.g., zinc, copper, lead, cadmium, chromium, hydraulic fluids.
Hydraulic equipment and systems, balers/briquetter, shredders, shearers, compactors, engine block/cast iron breaker, wire chopper, turnings crusher.	Particulate/residue from material processing, spills and/or leaks from fueling tanks, spills/leaks from oil/hydraulic fuel reservoirs, faulty/leaking hose connections/fittings, leaking gaskets.	Hydraulic fluids/oils, lubricants, particulate matter from combustion engines, PCBs (oil-filled electrical equipment components), heavy metals (nonferrous, ferrous).

TABLE N–3.—TYPICAL PROCESS AND EQUIPMENT OPERATIONS THAT ARE LIKELY SOURCES OF POLLUTANTS[i]—Continued

Activity	Potential sources	Pollutants of concern
Electrical Control Systems (transformers, electrical switch gear, motor starters).	Oil leakage from transformers, leakage from mercury float switches, faulty detection devices.	PCBs, mercury (float switches), ionizing radioactive material (fire/smoke detection systems).
Torch cutting	Residual/accumulated particulates	Heavy metal fragments, fines.

[i] Institute of Scrap Recycling Industries, Inc.'s ''Environmental Operating Guidelines.'' (April 1992)

(3) Segregation of Processed Materials into Uniform Grades. Processing, e.g., shearing, shredding, baling, etc., of recyclable materials is followed by its segregation into uniform grades to meet a particular manufacturer's specifications. If segregated recyclable material remains exposed to precipitation, the potential still exists for storm water contamination.

(4) Disposal of Nonrecyclable Waste Materials. During recycling of scrap and waste materials, a significant fraction of nonrecyclable waste materials is generated and must be disposed of properly. The volume or quantity of material that remains nonrecyclable may be too large to allow covered storage prior to shipment. Consequently, nonrecyclable waste materials may be left exposed to both precipitation and runoff and, therefore, they are a likely source of storm water pollutants.

(5) Other Operations of Concern. There are a number of activities of concern that frequently occur at scrap and waste recycling facilities including, heavy vehicle traffic over unstabilized areas, vehicle maintenance and fueling, and material handling operations. Operations associated with the receipt, handling, and processing of scrap and waste material frequently occur over areas that are not stabilized to prevent erosion. Unless specific measures or controls are provided to either prevent erosion or trap the sediment, this material will be carried away in storm water runoff and eventually exit the site. Suspended solids are of significant concern given the potential amount of unstabilized area and the significant amount of particulate matter that is often produced at these facilities. For example, many facilities use spray water for dust control on heavily traveled areas. Both organic and inorganic pollutants can become bound up or absorbed to suspended solids in runoff. For this reason, today's proposed permit identifies conditions to minimize the contribution of suspended solid loadings from these facilities.

Some scrap and waste recycling facilities may also conduct vehicle maintenance onsite. Although vehicle maintenance frequently occurs indoors, there are specific activities which could contribute pollutants to storm water. This includes washdown of vehicle maintenance areas, leaks or spills of fuel, hydraulic fluids and oil and outdoor storage of lubricants, fluids, oils and oily rags. Fueling stations are also frequently located outdoors without any roof cover. Activities such as topping off fuel tanks, or overfilling storage tanks (without high-level alarms or automatic shut-offs) are also activities that can cause contamination of runoff. Vehicle washing can result in accumulated residue material being discharged to a storm sewer system.

The following table highlights activities associated with vehicle maintenance and material handling that are potential sources of storm water contamination.

TABLE N–4.—OTHER POTENTIAL POLLUTANT SOURCE ACTIVITIES

Activity	Potential sources	Pollutants of concern
Material Handling Systems (forklifts, cranes, conveyors).	Spills and/or leaks from fueling tanks, spills/leaks from oil/hydraulic fuel reservoirs, faulty/leaking hose connections/fittings, leaking gaskets.	Accumulated particulate matter (ferrous and nonferrous metals, plastics, rubber, other), oil/lubricants, PCBs (electrical equipment), mercury (electrical controls), lead/battery acids.
Vehicle Maintenance	Parts cleaning, waste disposal of rags, oil filters, air filters, batteries, hydraulic fluids, transmission fluids, brake fluids, coolants, lubricants, degreasers, spent solvents.	Fuel (gas/diesel), fuel additives, oil/lubricants, heavy metals, brake fluids, transmission fluids, chlorinated solvents, arsenic.
Fueling Stations	Spills and leaks during fuel transfer, spills due to ''topping off'' tanks, runoff from fueling areas, washdown of fueling areas, leaking storage tanks, spills of oils, brake fluids, transmission fluids, engine coolants.	Gas/diesel fuel, fuel additives, oil, lubricants, heavy metals.
Vehicle and Equipment Cleaning and Washing	Washing and steam cleaning	Solvent cleaners, oil/lubricants/additives, antifreeze (ethylene glycol).

(6) Pollutants Found in Storm Water Discharges. Sampling data provided in part 2 of the group application process revealed that storm water discharges from scrap and waste recycling facilities contain pollutants such as heavy metals, Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), TSS, nutrients and oil and grease. The following table summarizes the statistical analysis of sampling data provided in part 2 group applications. Table N–6 provides a comparison of a selected subset of these pollutants to benchmark concentrations.

TABLE N–5.—SUMMARY STATISTICS FOR SCRAP AND WASTE RECYCLING FACILITIES[i] (SIC 5093) (Nonliquid Recyclable Waste Materials.) All units in mg/L unless otherwise noted

Pollutant Sample type	No. of samples		Mean		Minimum		Maximum		Median		99th Percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
pH (std units)	136	N/A	N/A	N/A	4.93	N/A	10.2	N/A	N/A	N/A	9.58	N/A
BOD_5	131	120	23.49	24	0.00	0.00	330.0	360	9.0	9.0	330.0	330.0
COD	131	117	251.33	204	0.00	0.00	1588.0	2400	120.0	110.0	1323	1014
TSS	131	116	437.11	375	0.00	0.00	3894	6042	148.0	84.5	3100	4860
Nitrate + Nitrite N	130	117	1.76	5.9	0.00	0.00	84.0	220.0	0.61	0.80	28	129.0
TKN	132	114	3.44	3.4	0.00	0.00	43.0	39.0	2.05	2.20	25	22.0
Oil and Grease	136	N/A	8.95	N/A	0.00	N/A	85.0	N/A	5.0	N/A	69	N/A
Total P	133	114	0.81	0.77	0.00	0.00	36.0	29.0	0.29	0.28	4.7	10.0
Total Pb	103	100	0.85	0.84	0.00	0.00	8.70	13.00	0.205	0.215	4.9	11.00
Total Cd	75	73	0.02	0.02	0.000	0.000	0.10	0.65	0.0074	0.005	0.069	.65
Total Cu	102	99	0.77	0.60	0.000	0.000	12.0	8.20	0.26	0.22	5.98	8.2
Total Zn	97	94	3.16	3.2	0.028	0.000	22.0	38.0	1.50	1.4	22.0	38.0
Total Cr	103	100	0.08	0.122	0.000	0.000	2.10	2.60	0.03	0.02	0.547	2.3
Total Fe	5	5	25.4	9.80	0.8	0.0	74.0	20.0	10.0	14.0	72.7	19.8
Total Ni	94	93	0.202	0.21	0.001	0.000	5.80	7.30	0.05	0.040	5.8	7.3
Arsenic	9	8	0.038	0.019	0.00	0.00	0.170	0.90	0.005	0.005	0.170	0.090
Total Al	5	3	4.86	3.327	.68	.68	10.0	7.6	4.0	1.70	10.0	7.6
PCB–1016	27	26	0.001	0.051	0.001	0.001	0.010	1.30	0.001	0.001	0.010	1.3
PCB–1221	26	24	0.001	0.001	0.001	0.000	0.010	0.001	0.001	0.001	0.010	0.001
PCB–1232	28	26	0.001	0.001	0.001	0.000	0.010	0.001	0.001	0.001	0.010	0.001
PCB–1242	27	26	0.001	0.047	0.000	0.000	0.010	1.30	0.001	0.001	0.010	1.3
PCB–1248	26	24	0.003	0.005	0.000	0.000	0.025	0.078	0.001	0.001	0.025	0.078
PCB–1254	28	26	0.001	0.001	0.000	0.000	0.010	0.006	0.001	0.001	0.010	0.006
PCB–1260	28	26	0.002	0.049	0.001	0.000	0.011	1.30	0.001	0.001	0.011	1.3

[i] Applicants that did not report the units of measurement for the reported values were not included in these statistics.
[ii] Composite samples.

TABLE N–6.—COMPARISON SAMPLING DATA FOR SELECTED PARAMETERS VERSUS BENCHMARK CONCENTRATIONS (MG/L)

Pollutant Sample type	Mean		Maximum		Median		Benchmark
	Grab	Comp	Grab	Comp	Grab	Comp	
COD	251	204	1588	2400	120	110	120
TSS	437	375	3894	6042	148	84.5	100
Total Pb	0.85	0.84	8.70	13.00	0.205	0.215	0.0816
Total Cu	0.77	0.60	12.0	8.20	0.26	0.22	0.0636
Total Fe	25.4	9.80	74.00	20.00	10.00	14.00	1.0
Total Al	4.86	3.327	10.0	7.6	4.0	1.70	0.075
Total Zn	N/A	3.2	22.0	38.0	1.5	1.4	0.065

b. Waste Recycling Facilities (SIC 5093)—(Liquid Recyclable Wastes). This subsection applies to those facilities engaged in the reclaiming and recycling of liquid wastes such as ''spent solvents,'' ''used oil,'' and ''used ethylene glycol'' typically identified under SIC 5093. This subsection is particularly applicable to those facilities that participated in EPA group application number 195. EPA received a single group application in this category of waste recycling facilities. The following is a profile of industrial activities and the types of significant materials associated with facilities participating in this group activity.

Group application number 195 included 220 facilities of which 214 were classified as service centers. Service centers accumulate spent solvent, used oil and antifreeze, filter cartridges and still bottoms contaminated with dry cleaning solvents (typically perchloroethylene), and used lacquer thinner from paint gun cleaning machines. The typical service center has individual containers with storage capacity of up to 10,000 gallons each, and tanks with storage capacity of up to 20,000 gallons each. Service centers are typically limited to a maximum of 6 tanks (a total of 120,000 gallons). Twenty (20) of the service centers also function as accumulation centers where they have a maximum storage capacity of 70,000 gallons of liquid materials in containers. None of the containers are opened except under conditions where a container begins to leak or is damaged.

The group application also included four (4) facilities that operated only as container transfer stations and do not operate storage tanks. These facilities are largely enclosed warehouses that provide secondarily contained storage areas. Three (3) facilities were identified as used oil depots where only oily water and/or used oil are accumulated in storage tanks. Storage tanks are limited to a maximum capacity of 20,000 gallons each. Used oil is transported to the facility in tanker trucks (3,500 gallons) and shipped out in tanker trucks (7,500 gallons). The used oil is ultimately transported to a processing or re-refining facility (not covered under this section). The following table summarizes the percentage of facilities with significant materials stored.

TABLE N–7. SIGNIFICANT MATERIALS REPORTED IN GROUP APPLICATION NUMBER 195

Significant materials	Percent of facilities
Mineral Spirits	98
Immersion Cleaner	98
Dry Cleaner Solvents	98
Paint Solvents	83
Industrial Solvents	81
Spent Antifreeze	59
Used Oil	57
Allied Products	98

The types of materials identified in Table N–7 are potential sources of storm water runoff contamination. Since these materials are stored and transported in individual drums and bulk storage tanks, the potential exists for spills and/or leaks during all phases of waste transport, waste transfer, container/drum handling and shipping.

There are a number of operations at these facilities that have significant potential to release pollutants to the environment if recyclable waste materials are not managed properly. Potential sources of pollutants are discussed in Part XI.N.3.a.(2) of today's permit. However, in response to other Federal and State environmental regulations, such as RCRA and 40 CFR Part 112 (Oil Pollution Prevention), facilities in this group application currently employ a range of the BMPs and structural controls that also benefit storm water quality. Typical measures and controls for controlling pollutants for facilities in this subsection are presented in Part XI.N.3.a.(3)(b).

(1) Waste Material Handling and Storage. Given the nature and type of materials stored and handled at these facilities, the potential exists for accidental spills and leaks. Consequently, the types of activities that occur at these facilities which could potentially result in contamination of storm water runoff is also of concern to EPA. The following table is a list of activities which may result in a release of pollutants.

TABLE N–8. TYPES OF POTENTIAL POLLUTANT-CAUSING ACTIVITIES AT WASTE RECYCLING FACILITIES THAT HANDLE LIQUID RECYCLABLE WASTES

Activity	Potential sources of pollutants	Pollutants of concern
Drum/Individual Container Storage and Handling.	Leaks or spills due to faulty container/drum integrity, e.g., leaking seals or ports. Container materials incompatible with waste material. Improper stacking and storage of containers.	Mineral spirits, industrial solvents, immersion cleaners, dry cleaner solvents, paint solvents, spent antifreeze.
Return and Fill Stations	Leaks, spills, or overflows from tanker truck transfer of wastes and hose drainage. Leaking pipes, valves, pumps, worn or deteriorated gaskets or seals.	Mineral spirits, industrial solvents, immersion cleaners, dry cleaner solvents, paint solvents, spent antifreeze.
Individual Container/Drum Storage Improper Stacking and Storage of Containers.	Leaks or spills due to faulty container/drum integrity, e.g., leaking seals or ports.	Mineral spirits, industrial solvents, immersion cleaners, dry cleaner solvents, paint solvents, spent antifreeze.
Storage Tank Operations	Overfill of storage tanks, leaking pipes, valves, worn or deteriorated pumps seals. Leaking underground storage tanks.	Mineral spirits, industrial solvents, immersion cleaners, dry cleaner solvents, paint solvents, spent antifreeze.
Material Handling Equipment	Leaking fuel lines, worn gaskets, leaking hydraulic lines and connections.	Fuel, hydraulic fluid, oil and grease.

(2). Other Activities of Concern. The following table highlights other types of activities that are potential sources of storm water contamination.

TABLE N–9. OTHER POTENTIAL SOURCES OF STORM WATER CONTAMINATION

Activity	Potential sources of pollutants	Pollutants of concern
Vehicle and Equipment Maintenance (if applicable).	Replacement of fluids such as transmission and brake fluids, antifreeze, oil and other lubricants, washdown of maintenance areas, dumping fluids down floor drains connected to storm sewer system, outside storage of fluids and oily rags and waste material.	Oil and grease, fuel, accumulated particulate matter, antifreeze.
Vehicle or Equipment Washing (if applicable)	Wash water or steam cleaning	Oil, detergents, chlorinated solvents, suspended solids and accumulated particulate matter.

(3). Pollutants Found in Storm Water Discharges. Based on data provided in group application sampling information, pollutants that were most frequently reported included TSS, BOD, COD, nitrite plus nitrate, oil and grease. The following table provides a statistical summary of data.

TABLE N–10. SUMMARY STATISTICS FOR WASTE RECYCLING FACILITIES[i] (SIC 5093)—(RECYCLABLE LIQUID WASTES). ALL VALUES IN MG/L

Parameter Sample type	# of Samples		Mean		Min		Max		Median		99th percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	22	17	18	9	2	2	94	48	5	5	79	38

TABLE N–10. SUMMARY STATISTICS FOR WASTE RECYCLING FACILITIES[i] (SIC 5093)—(RECYCLABLE LIQUID WASTES). ALL VALUES IN MG/L—Continued

Parameter Sample type	# of Samples		Mean		Min		Max		Median		99th percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
COD	22	17	133	83	12	5	660	400	45	45	449	320
TSS	21	16	51	28	5	5	500	84	28	20	68	59
Nitrite + Nitrate	22	17	0.90	0.78	0.05	0.05	3.70	3.50	0.61	0.38	3.45	3.29
TKN	22	17	3.1	2.0	1.0	1.0	11.0	6.0	1.5	1.0	9.9	5.7
Oil and Grease	22	N/A	1.8	N/A	1.0	N/A	5.0	N/A	1.5	N/A	4.0	N/A

[i] Applicants that did not report the units of measurement for the reported values were not included in these statistics.
[ii] Composite samples.

c. *Recycling Facilities.* This particular group of recycling facilities is distinguished from scrap recycling facilities and waste recycling facilities that accept a mixed wastestream of non-recyclable and recyclable wastes. Facilities included in this sub-sector would include only those facilities that receive source-separated, recyclable materials primarily from non-industrial and residential sources. This includes source-separated material recovery facilities (MRF). EPA Group Applications 274, 647, 826, and 1145 included significant numbers of facilities that would fall within this sub-sector. The recyclable materials in this sub-sector can be characterized as common consumer products such as paper, newspaper, cardboard, plastic containers, glass bottles, aluminum and tin cans. These facilities commonly accept a mix of recyclable materials and reject non-recyclable materials at the source.

(1) *Pollutant-Causing Activities Associated with Recycling Facilities.* There are basically four areas associated with these facilities that are potential sources of pollutants, they include: (1) Inbound recyclable materials; (2) outdoor material storage; (3) indoor storage and material processing; and (4) vehicle maintenance. The potential exists that recycling facilities may unknowingly accept nonrecyclable materials and/or small quantities of household hazardous wastes (HHW). If these materials are not handled, stored or disposed of properly, they could become potential pollutant sources. Recycling facilities are already aware of this issue and have commonly instituted practices to minimize accepting such materials. These practices include public education brochures, training of curbside pick-up drivers, and rejecting non-recyclable materials at the source.

Outdoor material storage is another issue of concern given the practice of storing degradable, recyclable products outdoors such as bales of wastepaper and various types of recyclable containers containing residual fluids, e.g., beverage containers. Wastepaper exposed to weather will deteriorate and can be a source of oxygen-demanding substances. For example, biochemical oxygen demand (BOD) concentrations as high as 152 mg/l were measured at facilities that store wastepaper outdoors. Similarly, recycling facilities that stored unprocessed aluminum beverage containers outdoors can be a contaminant source of oxygen-demanding substances. BOD concentrations as high as 460 mg/l were measured at recycling facilities that store unprocessed recyclable containers outdoors.

The third area of concern is indoor processing and storage. EPA is primarily concerned with the potential for illicit connections or improper dumping to floor drains that discharge to a storm sewer system. Another potential source of contamination is the practice of washing down tipping floor areas and allowing the washwater to drain to the storm sewer system. EPA believes that these issues can be readily addressed by disconnecting floor drains to the storm sewer, good housekeeping practices and providing routine employee training. The practice of allowing tipping floor washwaters to discharge to a storm sewer system is prohibited under this permit.

The last area of concern is vehicle maintenance. Onsite vehicle maintenance was infrequently reported in group permit applications. Although vehicle maintenance frequently occurs indoors, the following specific activities could contribute pollutants to storm water: washdown of vehicle maintenance areas, leaks or spills of fuel, hydraulic fluids, lubricants, and other fluids, and exposed oils and oily rags. Fueling areas may lack roof cover, consequently, topping off fuel tanks or overfilling storage tanks (without high-level alarms) could contribute to contamination of surface runoff. Vehicle washing can result in accumulated residue material being discharged to a storm sewer system. The following tables identify significant materials that are exposed to precipitation or runoff based on information from two group applications (274 and 647).

TABLE N–11.—SIGNIFICANT MATERIALS REPORTED IN GROUP APPLICATION NO. 274

Significant materials	Percent of facilities[i]	Pollutant-causing activities
Paper Stock	43	Outdoor exposure could result in deterioration of paper.
Wood Pallets	83	Residual materials on pallets.
Recyclable Waste Paper in Bales	83	Outdoor exposure could result in deterioration of paper.
Recyclables Plastic, Glass, and Aluminum	30	Residual fluids from containers.
Gasoline/Diesel Fuel (outside pumps)	28	Leaks or spills. Overtopping during fueling.

[i] Column totals greater than 100% because many facilities have one or more of these significant materials exposed.

TABLE N–12.—Significant Materials Reported in Group Application No. 826

Significant materials	Percent of facilities[i]	Pollutant-causing activity
Wood Pallets	64	Residual materials on pallets.
Waste Paper	27	Outdoor exposure could result in deterioration of paper.
Recyclable Waste Paper in Bales	41	Outdoor exposure could result in deterioration of paper.
Gasoline/Diesel Fuel (outside pumps)	55	Leaks or spills. Overtopping during fueling.
Lubricating Fluids	14	Leaks or spills.

[i] Column totals greater than 100% because many facilities have one or more of these significant materials exposed.

EPA has established special pollution prevention plan requirements for recycling facilities that receive only source-separated recyclable materials. Specific requirements are discussed in Part XI.N.3.a.(3)(c) of the permit.

(2) Pollutants Found in Storm Water Discharges.

Based on data provided in group applications 274, 647, 826, and 1145, pollutants that were most frequently reported included TSS, BOD, COD, nitrite plus nitrate, TKN, total phosphorus, oil and grease, and total aluminum (group 1145 only). The table N–13 provides a statistical summary of data.

TABLE N–13.—SUMMARY STATISTICS FOR SELECTED RECYCLING FACILITIES[i] (SIC 5093) (GROUP APPLICATIONS 247, 647, 826, AND 1145) ALL UNITS IN mg/L UNLESS OTHERWISE NOTED

Pollutant, Sample type	# of Samples	Comp[ii]	Mean		Minimum		Maximum		Median		95th percentile	
	Grab		Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	....	....	31	22	0	0	460	220	31	22	78	75
COD	....	....	179	118	0	0	1200	940	73	43	1005	441
TSS	....	....	495	383	0	0	7440	4860	73	40	1731	2754
Nitrate + Nitrite N	....	....	0.60	0.76	0	0	13	69	0.41	0.37	1.61	1.33
TKN	....	....	1.48	1.78	0	0	6.90	16.85	1.01	0.79	6.12	7.30
Oil and Grease	....	....	9.4	0.7	0	0	69.0	13.0	3.0	0.0	32.4	4.9
Total P	....	....	0.22	0.19	0	0	7.60	2.20	0.22	0.19	2.17	1.14
Total Al[iii]	....	....	5.51	1.55	0	0	44.0	5.40	1.20	0.90	26.00	4.80

[i] Applicants that did not report the units of measurement for the reported values were not included in these statistics.
[ii] Composite samples.
[iii] Values reported for Group Application No. 1145.

3. Options for Controlling Pollutants

a. Scrap and Waste Recycling Facilities (SIC 5093) (Nonliquid recyclable waste materials). This section addresses source control measures, BMPs and structural controls that are specifically applicable to the scrap recycling facilities (SIC 5093) and waste recycling facilities (SIC 5093) and which are engaged in the reclaiming and recycling of solid materials such as ferrous and nonferrous metals, plastics, paper, glass and cardboard and automotive parts.

The BMPs described in this subsection are specifically applicable to scrap recycling and waste recycling facilities. Scrap recycling and waste recycling facilities applying for coverage under Part XI.N. of today's permit shall employ a broad and comprehensive range of BMPs and source control measures to minimize and/or eliminate the diversity of pollutants associated with scrap processing operations. In instances where facilities conduct certain operations indoors or under cover, a determination will be made by the owner/operator of the facility as to the applicability of these BMPs and source control measures to these particular activities.

The following table summarizes alternative source control measures, nonstructural BMPs (BMPs), and structural controls that are associated with and applicable to scrap and waste processing facilities (SIC 5093) (nonliquid recyclable materials).

TABLE N–14.— SUMMARY OF ALTERNATIVE BMP OPTIONS FOR SCRAP AND WASTE RECYCLING PROCESSING FACILITIES

Activity	BMP alternatives
Inbound Recyclable and Waste Material Control.	Establish program to encourage suppliers of scrap, waste and other salvageable materials to drain residual fluids prior to arrival at the facility.
	Establish acceptance program for handling, storage and disposal of lead-acid batteries.
	Establish procedures for rejecting or handling, storing and disposal of hazardous wastes and other nonhazardous residual fluids.
	Establish procedures to properly handle industrial turnings and cuttings and prohibiting cutting oils and metallic fines from coming in contact with runoff.
	Identify inspector training requirements.
Outside Scrap Material Storage: (liquids)	Conduct inspections for fluids, e.g., oils, transmission fluids, antifreeze, brake fluid, and fuels. Establish handling/ storage/disposal procedures for these materials.

TABLE N–14.— SUMMARY OF ALTERNATIVE BMP OPTIONS FOR SCRAP AND WASTE RECYCLING PROCESSING FACILITIES—Continued

Activity	BMP alternatives
	Drain and collect liquids in a designated area. Provide covered storage or impervious areas with curbing/berms or other appropriate containment. Stored liquid materials in covered areas or impervious areas with curbing/berms or other appropriate measure.
	Establish spill prevention procedures.
	Provide adequate supply of materials for dry clean up of spills or leaks.
	Prevent runoff into liquid storage areas. Store liquid wastes in materially compatible containers. Minimize/eliminate the accumulation of liquid wastes.
	Establish procedures if hazardous wastes are discovered after material accepted.
	Conduct periodic inspections of storage areas.
	Conduct preventative maintenance of BMPs as necessary.
Outside Scrap Material Storage: (bulk solid materials).	Minimize runoff from coming into areas where significant materials are stored, e.g., diversion structures such as curbing, berms, containment trenches, surface grading, and elevated concrete pads or other equivalent measure.
	Use adsorbents to collect leaking or spills of oil, fuel, transmission and brake fluids, e.g., dry absorbent, drip pans.
	Install media filters such as catch basin filters and sand filters.
	Install oil/water separator in storage areas with vehicle transmissions and engines. Locate spill plans under stored vehicles.
	Provide nonrecyclable waste storage bins and containers.
	Conduct periodic inspections.
	Conduct preventative maintenance as necessary.
	Provide equipment operator training to minimize damage to controls, e.g., curbing and berms.
Storage Other: (lightweight materials)	Identify/provide supplier training or information bulletins on requirements for acceptance of lightweight materials.
	Encourage supplier participation in program to minimize/eliminate, as practicable, volume of semisolid and liquid residues in recyclable materials, e.g., residual fluids in aluminum and plastic containers.
	Provide covered storage, container bins or equivalent for lighter-weight materials such as glass, plastics, aluminum cans, paper, cardboard.
	Minimize/eliminate residue from bottles, containers, etc. from coming in contact with runoff. Establish dry clean up methods.
	Establish procedures and employee training for the handling, storage and disposal of residual fluids from small containers.
	Prohibit washdown of tipping floor areas.
	Provide good housekeeping to eliminate particulate and residual materials buildup. Establish cleaning schedule for high traffic areas.
	Provide covered disposal containers or equivalent for residual waste materials.
	Eliminate floor drains discharging to storm sewer.
Scrap Processing Operations:	Provide training to equipment operators on how to minimize exposure of runoff to scrap processing areas.
	Schedule frequent cleaning of accumulated fluids and particulate residue around all scrap processing equipment.
	Schedule frequent inspections of equipment for spills or leakage of fluids, oil, fuel, hydraulic fluids.
	Conduct routine preventive maintenance of equipment per original manufacturer's equipment (OME) recommendations. Replace worn or malfunctioning parts.
	Site process equipment on elevated concrete pads or provide runoff diversion structures around process equipment, berms, containment trenches or surface grading or other equivalent measure. Discharge runoff from within bermed areas to a sump, oil/water separator, media filter or discharge to sanitary sewer.
	Conduct periodic maintenance and clean out of all sumps, oil/water separators, media filters. Dispose of residual waste materials properly, e.g., according to RCRA.
	Provide curbing, dikes, and berms around scrap processing equipment to prevent contact with runoff.
	Where practicable, locate process equipment e.g., balers, briquetters, small compactors, under an appropriate cover.
	Provide cover over hydraulic equipment and combustion engines. Provide dry-clean up materials, e.g., dry-adsorbents, drip pans, absorbent booms, etc. to prevent contact of hydraulic fluids, oils, fuels, etc., with storm water runoff.
	Provide alarm, pump shutoff, or sufficient containment for hydraulic reservoirs in the event of a line break.
	Stabilize high traffic areas, e.g., concrete pads, gravel, pavement, around processing equipment, where practicable.
	Provide site gages or overfill protection devices for all liquid and fuel storage reservoirs and tanks.
	Establish spill prevention and response procedures, including employee training.
	Provide containment bins or equivalent for shredded material, especially lightweight materials such as fluff (preferably at the discharge of these materials from the air classification system).
Supplies for Process Equipment	Locate storage drums containing liquids, including oils and lubricants indoors. Alternatively, site palletized drums and containers on an impervious surface and provide sufficient containment around the materials. Provide sumps, oil/water separators, if necessary.

TABLE N–14.— SUMMARY OF ALTERNATIVE BMP OPTIONS FOR SCRAP AND WASTE RECYCLING PROCESSING FACILITIES—Continued

Activity	BMP alternatives
	Conduct periodic inspections of containment areas and containers/drums for corrosion. Perform preventive maintenance of BMPs, as necessary. Instruct employees on proper material handling and storage procedures.
Scrap lead acid battery Program	Establish inspection and acceptance procedures for scrap lead-acid batteries. Provide supplier training on acceptance practices for scrap batteries. Provide employee training on the safe handling, storage and disposition of scrap batteries. Separate all scrap batteries from other scrap materials. Store scrap batteries under cover or equivalent. Establish procedures for the storage, handling, disposition of cracked or broken batteries in accordance with applicable Federal regulations, e.g., RCRA. Establish procedures to collect and dispose of leaking battery acid according to Federal regulations, e.g., RCRA. Provide covered storage or equivalent to prevent exposure to either precipitation or runoff.
Vehicle and Equipment Maintenance	Establish an inventory of materials used in the maintenance shop that could become a potential pollutant source with storm water runoff, e.g., fuels, solvents, oils, lubricants. Store and dispose of oily rags, filters (oil and air), batteries, engine coolant, transmission fluid, use oil, brake fluid, and solvents in a manner that minimizes potential contact with runoff and in compliance with State and Federal regulations. Label and track recycling of waste materials, e.g., batteries, solvent, used oil. Drain oil filters before disposal or recycling. Drain all fluids from all parts or components that will become scrap material or secondhand parts. Store liquid waste materials in compatible containers. Store and dispose used batteries in accordance with scrap lead acid battery program. Disconnect all floor drains connected to storm sewer system. Prohibit non-storm water discharges, e.g., dumping of used liquids down floor drains and washdown of maintenance areas. Provide employee training on appropriate storage and disposal of waste materials. Provide good housekeeping measures. Conduct inspections of work areas for compliance with BMPs.
Fueling	Use spill and overflow protection devices. Provide high level alarm on fuel storage tanks. Minimize/eliminate runoff onto fueling areas. Reduce exposure of fueling areas to precipitation by covering the fueling area. Provide dry adsorbents to clean up fuel spills. Conduct periodic inspections of fueling areas. Instruct personnel on proper fueling procedures. Provide curbing or posts around fuel pumps to prevent collisions during vehicle ingress and egress.
Vehicle and Equipment Washing	Avoid washing vehicles and equipment outdoors. Use biodegradable, phosphate free detergents. Recycle wash water. Provide vehicle wash rack with dedicated sediment trap. Use autoshut-off valves on washing equipment.
Outdoor vehicle parking and storage	Use drip pans under all equipment and vehicles waiting maintenance. Cover vehicle and equipment storage areas. Conduct inspections of storage and parking areas for leaks and filled drip pans. Provide employee training.
Vehicle and Equipment Painting (where applicable).	Keep paint and solvents away from traffic areas. Conduct sanding and painting in nonexposed areas, e.g., under cover, in accordance with OSHA standards. Cleanup accumulated particulate matter. Minimize overspraying parts. Dispose or recycle paint, solvents and thinner properly. Provide training to employees. Conduct periodic inspections of paint spraying areas.
Erosion and Sediment Control	Minimize runon from adjacent properties, e.g., diversion dikes, berms, or equivalent. Trap sediment at downgradient locations and outlets serving unstabilized areas. This may include filter fabric fences, gravel outlet protection, sediment traps, vegetated or riprap swales, vegetated strips, diversion structures, catch-basin filters, retention/detention basins or equivalent. Runoff containing oil and grease may include the use of absorbent booms or sand filters in front of outlet structures or other equivalent measures. Stabilize all high traffic areas, including all vehicle entrances and exit points. Conduct periodic sweeping of all traffic areas. Conduct inspections of BMPs. Perform preventative maintenance as needed on BMPs. Provide employee training on the proper installation and maintenance of erosion and sediment controls.

b. Waste Recycling Facilities (SIC 5093)—(recyclable liquid wastes). This section addresses source control measures, BMPs, and structural controls that are specifically applicable to waste recycling facilities (SIC 5093) which are engaged in such activities as reclaiming and recycling of liquid wastes such as spent solvents, used oil, and used antifreeze (ethylene glycol). Waste recycling facilities applying for coverage under Part XI.N. of today's proposed permit will be required to employ a comprehensive range of BMPs and source control measures to minimize contact of pollutants with storm water runoff and precipitation. In instances where facilities conduct certain operations indoors or under cover, a determination will be made by the owner/operator of the facility as to the applicability of these BMPs and source control measures to their particular facility. The following table summarizes the percent breakdown of BMPs that were reported by applicants participating in group application number 195.

TABLE N–15.—TYPES OF BMPS REPORTED IN EPA GROUP APPLICATION NUMBER 195

BMP	Percent of facilities
Secondary Containment (includes tanks, piping, and return/fill stations)	70
Containment Trench (includes closed loop containment trenches with sumps, sloped floors, and/or berms)	91
Roof (includes canvass tent roofs and enclosed structures)	7
Contingency Plan (serves as Spill Prevention and Countermeasures Control Plan)	100
Prevention and Preparedness Plan (includes inspection information and general housekeeping procedures)	100

The following table summarizes types of BMPs, and structural control options that are applicable to liquid waste recycling facilities.

TABLE N–16.—TYPES OF BMP OPTIONS APPLICABLE TO LIQUID WASTE RECYCLING FACILITIES

Activity	BMP alternatives
Individual Drum/Container Storage	Ensure container/drums are in good condition. Store waste materials in materially compatible drums. Use containers that meet National Fire Protection Association (NFPA) guidelines. Put individual containers on pallets. Limit stack height of individual containers/drums. Provide straps, plastic wrap, or equivalent around stacked containers to provided stability. Label/mark drums. Segregate hazardous and flammable wastes. Comply with NFPA guidelines for segregation of flammable wastes. Provide adequate clearance to allow material movement and access by material handling equipment. Provide semipermanent or permanent cover over wastes. Provide adequate clearance between stored materials to allow movement and handling. Establish clean up procedures, including the use of dry adsorbents, in the event of spills or leaks. Prohibit washing down of material storage areas. Disconnect or seal all floor drains from storm sewer system. Develop spill prevention, countermeasures and control (SPCC) procedures for all liquid container storage areas. Ensure employees are familiar with SPCC procedures. Schedule/conduct periodic employee training. Provide secondary containment, dikes, berms, containment trench, sumps, or other equivalent measure, in all storage areas.
Bulk Liquid Storage	Use welded pipe connections versus flange connections. Inspect all flange gaskets for deterioration. Apply corrosion inhibitors to exposed metal surfaces. Provide high level alarms for storage tanks. Provide redundant piping, valves, pumps, motors, as necessary, at all pumping stations. Provide manually activated shutoff valves in the event of spill. Install visible and/or audible alarms in the event of a spill. Install manually activated drainage values, or equivalent, versus flapper-type drain values. Provide adequate security against vandalism and tampering. Provide secondary containment around all bulk storage tanks, including berms, dikes, surface impoundments or equivalent. Ensure surfaces of secondary containment areas are adequately sealed to prevent leaks. Provide stationary boxes around all return and fill stations to eliminate/minimize hose drainage and minor waste transfer spills.
Waste Transfer Areas	Provide secondary containment or equivalent measures around all liquid waste transfer facilities. Provide cover over liquid waste transfer areas. Establish clean up procedures for minor spills including the use of dry adsorbents.
Inspections	Conduct inspections of all material storage, handling and transfer areas. Document signs of corrosion, worn parts or components on pumps and motors, leaking seals and gaskets. Conduct periodic nondestructive testing (NDT) of all bulk storage tanks for signs of deteriorating structural integrity.
Preventive Maintenance	Conduct periodic preventive maintenance of all structural controls, replace worn parts on components on valves, pumps, motors per manufacturer's recommendations.
Vehicle Maintenance (if applicable)	Establish an inventory of materials used in the maintenance shop that could become a potential pollutant source with storm water runoff, e.g., fuels, solvents, oils, lubricants.

TABLE N–16.—TYPES OF BMP OPTIONS APPLICABLE TO LIQUID WASTE RECYCLING FACILITIES—Continued

Activity	BMP alternatives
	Store and dispose of oily rags, filters (oil and air), batteries, engine coolant, transmission fluid, use oil, brake fluid, and solvents in a manner that minimizes potential contact with runoff and in compliance with State and Federal regulations. Label and track recycling of waste materials, e.g., batteries, solvent, used oil. Drain oil filters before disposal or recycling. Drain all fluids from all parts or components that will become scrap material or secondhand parts. Store liquid waste materials in compatible containers. Store and dispose used batteries in accordance with scrap lead acid battery program. Disconnect all floor drains connected to storm sewer system. Prohibit non-storm water discharges, e.g., dumping of used liquids down floor drains and washdown of maintenance areas. Provide employee training on appropriate storage and disposal of waste materials. Provide good housekeeping measures. Conduct inspections of work areas for compliance with BMPs.
Vehicle Cleaning (if applicable)	Avoid washing vehicles and equipment outdoors. Use biodegradable, phosphate free detergents. Recycle wash water. Provide vehicle wash rack with dedicated sediment trap. Use autoshut-off valves on washing equipment.
Training	Provide employee training on proper material handling and storage procedures. Require familiarization with applicable SPCC measures.

c. Recycling Facilities (SIC 5093). This section addresses best management practices that have been employed by one or more facilities within group applications 274, 647, 826, and 1145. The following table provides examples of BMPs used by the recycling facilities within this sub-section:

TABLE N–17.—Types of BMP Options Applicable to Recycling Facilities

Activity	BMP options and alternatives
Inbound Recyclable Materials Control	Provide public education brochures on acceptable recyclable materials. Educate curbside pick-up drivers on acceptable materials. Reject unacceptable materials at the source. Employee training. Provide totally-enclosed drop-off containers for public.
Indoor Storage	Store equivalent of the average daily volume of recyclable materials indoors. Provide good housekeeping. Disconnect all floor drains from storm sewer system. Prohibit illicit discharges and illegal dumping to floor drains that are connected to the storm sewer. Direct tipping floor washwaters to sanitary sewer system if permitted by local sanitary authority.
Recyclable Material Processing	Conduct processing operations indoors. Clean up residual fluids. Conduct routine preventive maintenance on all processing equipment. Schedule frequent good housekeeping to minimize particulate and residual materials buildup.
Outdoor Storage	Store only processed materials, i.e., baled plastic and aluminum and glass cullet. Provide containment pits with sumps pumps that discharge to sanitary sewer system. Prevent discharge of residual fluids to storm sewer. Provide dikes and curbs around bales of waste paper. Use tarpaulins or covers over bales of wastepaper. Conduct regularly scheduled sweeping of storage areas to minimize particulate buildup.
Residual Non-recyclable Materials	Store residual non-recyclable materials in covered containers for transport to a proper disposal facility. Bale residual non-recyclable materials and cover with tarpaulin or equivalent.
Vehicle Maintenance	Avoid washing equipment and vehicles outdoors. Eliminate outdoor maintenance areas.
Fueling	Establish spill prevention and clean-up procedures. Provide dry-absorbent materials or equivalent. Provide employee training, i.e., avoid topping off fuel tanks. Divert runoff from fueling areas.
Lubricant Storage	Eliminate or minimize outside storage. Provide employee training on proper, handling, storage. Divert runoff from storage areas.

4. Discharges Covered under this Section

The requirements listed under this section are applicable to storm water discharges from facilities typically identified in SIC 5093 (except for battery reclaimers and auto salvage yards). This includes facilities that are engaged in the processing, reclaiming and wholesale distribution of scrap and waste materials such as ferrous and nonferrous metals, paper, plastic, cardboard, glass. For purposes of this permit, the term waste recycling facility applies to those facilities within SIC 5093 that receive a mixed wastestream of recyclable and non-recyclable wastes. Facilities that are engaged in reclaiming and recycling liquid wastes such as used oil, antifreeze, mineral spirits and industrial solvents and which are classified SIC 5093 are also covered under this section. The term recycling facility is used in this permit to those facilities that only receive source-separated recyclable materials primarily from non-industrial and residential sources, e.g., common consumer products including paper, newspaper, glass, cardboard, plastic containers, aluminum and tin cans.

5. Special Conditions

The following section identifies special conditions that are applicable to permittees applying for coverage under Part XI.N. of today's permit.

a. Prohibition of Non-storm Water Discharges. This section requires scrap and waste recycling facilities that are typically classified in SIC 5093 to certify that certain non-storm water discharges are not occurring at their facilities. A list of non-storm water discharges that are not authorized by this section has been identified. These discharges are prohibited due to the likelihood these discharges will contain substantial pollutant concentrations. The following non-storm water discharges are not authorized by this section: waste discharges to floor drains or sinks connected to the facilities storm sewer or storm drainage system; water originating from vehicle and equipment washing; steam cleaning wastewater; process wastewaters; washwater originating from cleaning tipping floor areas or material receiving areas that discharge to any portion of a storm sewer system; wastewater from wet scrubbers; boiler blowdown; noncontact and contact cooling water; discharges originating from dust control spray water; discharges from oil/water separators and sumps in the absence of a storm event; discharges originating from the cleaning out of oil/water separators or sumps; and non-storm water discharges from turnings containment areas.

The operators of non-storm water discharges must seek coverage for these discharges under a separate National Pollutant Discharge Elimination System (NPDES) permit if discharging to either a municipal separate storm sewer system or to waters of the United States. If such a permit has been issued, the plan shall identify the NPDES permit number and a copy of the NPDES permit shall be located at the facility and shall be readily accessible. If a permit application has been submitted for a non-storm water discharge, the plan shall be annotated accordingly and a copy of the application shall be located at the facility and shall be readily accessible.

For facilities that have prohibited discharges identified under this section and which discharge to a sanitary sewer system, the facility operator is required to take the appropriate notification actions as may be required by the operator of the sanitary sewer system. Any relevant documentation, i.e., notification letters and approvals, shall be kept with the plan. For facilities that have been issued an industrial user permit under the pretreatment program for discharges prohibited under this section, the plan shall identify the appropriate NPDES permit number and a copy of the permit shall be kept at the facility and shall be readily accessible. EPA strongly recommends that operators keep copies of relevant documentation concerning non-storm water discharges and NPDES permits with the plan.

6. Storm Water Pollution Prevention Plan Requirements

a. Contents of the Plan. In addition to the supplemental information requirements identified in Part VI.C., scrap and waste recycling facilities in SIC 5093 are required to provide the additional information applicable to their industrial sector. The storm water pollution prevention plan is broken out into three subcategories; scrap recycling and waste recycling facilities (nonliquid materials); waste recycling facilities (liquid materials); and recycling facilities.

(1) Description of Potential Pollutant Sources

(a) Scrap Recycling and Waste Recycling Facilities (nonliquid recyclable wastes)—This section establishes that scrap recycling and waste recycling facilities shall provide the following information in their pollution prevention plan.

(i) Inbound Recyclable and Waste Material Control Program—The plan shall include a recyclable and waste material inspection program to minimize the likelihood of receiving non-recyclable materials (e.g., hazardous materials) that may be significant pollutant sources to storm water discharges. At a minimum, the plan shall address the following:

Information/education measures to encourage major suppliers of scrap and recyclable waste materials to drain residual fluids, whenever applicable, prior to its arrival at the facility. This includes vehicles and equipment engines, radiators, and transmissions, oil-filled transformers, white goods (appliances) and individual containers or drums;

Activities which accept scrap and materials that may contain residual fluids, e.g., automotive engines containing used oil, transmission fluids, etc., shall describe procedures to minimize the potential for these fluids from coming in contact with either precipitation or runoff. The description shall also identify measures or procedures to properly store, handle, dispose and/or recycle these residual fluids;

Procedures pertaining to the acceptance of scrap lead-acid batteries. Additional requirements for the handling, storage and disposal or recycling of batteries shall be in conformance with conditions for a scrap lead-acid battery program, see below;

A description of training requirements for those personnel engaged in the inspection and acceptance of inbound recyclable materials; and

Liquid wastes, including used oil, shall be stored in materially compatible and nonleaking containers and disposed or recycled in accordance with all requirements under the Resource Recovery and Conservation Act (RCRA), and other State or local requirements.

(ii) Scrap and Waste Material Stockpiles (outdoors)—The plan shall address areas where significant materials are exposed to either storm water runoff or precipitation. The plan must describe those measures and controls used to minimize contact of storm water runoff with stockpiled materials. The plan should include measures to minimize the extent of storm water contamination from these areas. The operator shall consider (within the plan) the use of the following BMPs (either individually or in combination) or their equivalent to minimize contact with storm water runoff:

Diversion devices or structures such as dikes, berms, containment trenches, culverts and/or surface grading;

Media filtration such as catch basin filters and sand filters;

Silt fencing; and,

Oil/water separators, sumps and dry adsorbents in stockpile areas that are potential sources of residual fluids, e.g., automotive engine storage areas.

The operator may consider the use of permanent or semipermanent covers, or other similar forms of protection over stockpiled materials where the operator determines that such measures are reasonable and appropriate.

The operator may consider the use of sediment traps, vegetated swales and/or vegetated strips to facilitate settling or filtering out of pollutants and sediment.

(iii) Stockpiling of Turnings Previously Exposed to Cutting Fluids (outdoors)—The plan shall address all areas where stockpiling of industrial turnings (previously exposed to cutting fluids) occurs. The plan shall implement those measures necessary to minimize contact of surface runoff with residual cutting fluids. The operator shall consider implementation of either of the following two alternatives or a combination of both or equivalent measures:

Alternative 1: Storage of all turnings previously exposed to cutting fluids under some form of permanent or semi-permanent cover. Discharges of residual fluids from these areas to the storm sewer system in the absence of a storm event is prohibited. Discharges to the storm sewer system as a consequence of a storm event is permitted provided the discharge is first directed through an oil/water separator or its equivalent. Procedures to collect, handle, and dispose or recycle residual fluids that may be present shall be identified in the plan.

Alternative 2: Establish dedicated containment areas for all turnings that have been exposed to cutting fluids where runoff from these areas is directed to a storm sewer system, providing the following:

Containment areas constructed of either concrete, asphalt or other equivalent type of impermeable material;

A perimeter around containment areas to prevent runoff from moving across these areas. This would include the use of shallow berms, curbing, or constructing an elevated pad or other equivalent measure;

A suitable drainage collection system to collect all runoff generated from within containment areas. At a minimum, the drainage system shall include a plate-type oil/water separator or its equivalent. The oil/water separator or its equivalent shall be installed according to the manufacturer's recommended specifications, whenever available, specifications will be kept with the plan;

A schedule to maintain the oil/water separator (or its equivalent) to prevent the accumulation of appreciable amounts of fluids. In the absence of a storm event, no discharge from containment areas to the storm sewer system are permitted unless the discharge is covered by a separate NPDES permit; and

Identify procedures for the proper disposal or recycling of collected residual fluids.

(iv) Scrap and Waste Material Stockpiles (covered or indoors)—The plan shall address, at a minimum, measures and controls to minimize and, whenever feasible, eliminate residual liquids and particulate matter from materials stored indoors from coming in contact with surface runoff. The operator shall consider including in their plan: good housekeeping measures to collect residual liquids from aluminum, glass and plastic containers and prohibiting the practice of allowing washwater from tipping floors or other indoor processing areas from discharging to a storm sewer system, inspections to ensure that material stockpile areas with existing floor drains are not connected to the storm sewer system or any portion of the storm sewer system, and the disconnection of any floor drains to the storm drainage system.

(v) Scrap and Recyclable Waste Processing Areas—The plan shall address areas where scrap and recyclable waste processing equipment are sited. This includes measures and controls to minimize surface runoff from coming in contact with scrap processing equipment. In the case of processing equipment that generate visible amounts of particulate residue, e.g., shredding facilities, the plan shall describe good housekeeping and preventive maintenance measures to minimize contact of runoff with residual fluids and accumulated particulate matter. At a minimum, the operator shall consider including the following:

A schedule of periodic inspections of equipment for leaks, spills, malfunctioning, worn or corroded parts or equipment; preventive maintenance program to repair and/or maintain processing equipment; measures to minimize shredder fluff from coming in contact with surface runoff; use of dry-absorbents or other cleanup practices to collect and to dispose or recycle spilled or leaking fluids; and installation of low-level alarms or other equivalent protection devices on unattended hydraulic reservoirs over 150 gallons in capacity. Alternatively, provide secondary containment with sufficient volume to contain the entire volume of the reservoir.

The operator shall consider using the following types of BMPs:

(a) Diversion structures such as dikes, berms, culverts, containment trenches, elevated concrete pads, grading to minimize contact of storm water runoff with outdoor processing equipment;

(b) Oil/water separators or sumps in processing areas that are potential sources of residual fluids and grease;

(c) Permanent or semipermanent covers, or other similar measures;

(d) Retention and detention basins or ponds, sediment traps or vegetated swales and strips, to facilitate settling or filtering out of pollutants in runoff from processing areas; or

(e) Media filtration such as catch basin filters and sand filters.

(vi) Scrap Lead-acid Battery Program—The plan shall address measures and controls for the proper receipt, handling, storage and disposition of scrap lead-acid batteries (battery reclaiming is not eligible for coverage under this permit). The operator shall consider including: procedures for accepting scrap batteries and describing how they will be segregated from other scrap materials; procedures for managing battery casings that may be cracked or leaking, including the proper handling and disposal of residual fluids; measures to minimize and, whenever possible, eliminate exposure of scrap batteries to either runoff or precipitation; the schedule for conducting periodic inspections of scrap battery storage areas and applicable source control measures; and measures to provide employee training on the management of scrap batteries.

(vii) Erosion and Sediment Control—The plan shall identify all areas associated with industrial activity that have a high potential for soil erosion and suspended solids loadings, i.e., areas that tend to accumulate significant particulate matter. Appropriate source control, stabilization measures, nonstructural, structural controls, or an equivalent shall be provided in these areas. The plan shall also contain a narrative discussion of the reason(s) for selected erosion and sediment controls. At a minimum, the operator shall consider in the plan, either individually or in combination, the following erosion and sediment control measures:

Filtering or diversion practices, such as filter fabric, sediment filter boom, earthen or gravel berms, curbing or other equivalent measure;

Catch basin filters, filter fabric, or equivalent measure, placed in or around inlets or catch basins that receive runoff from scrap and waste storage areas, and processing equipment; and

Sediment traps, vegetative buffer strips, or equivalent, that effectively trap or remove sediment prior to discharge through an inlet or catch basin.

In instances where significant erosion and suspended solids loadings continue after implementation of source control measures and nonstructural controls, the operator shall consider providing in the plan for a detention or retention basin or other equivalent structural control. All structural controls shall be designed using good engineering practice. All structural controls and outlets that are likely to receive discharges containing oil and grease must include appropriate measures to minimize the discharge of oil and grease through the outlet. This may include the use of an absorbent boom or other equivalent measure.

Where space limitations (e.g., obstructions caused by permanent structures such as buildings and permanently-sited processing equipment and limitations caused by a restrictive property boundary) prevent the siting of a structural control, i.e., retention basin, such a determination will be noted in the plan. The operator will identify in the plan what existing practices shall be modified or additional measures shall be undertaken to minimize erosion and suspended sediment loadings in lieu of a structural BMP.

(*viii*) *Spill Prevention and Response Procedures*—To prevent or minimize storm water contamination at loading and unloading areas, and from equipment or container failures, the operator shall consider including in the plan the following practices:

Description of spill prevention and response measures to address areas that are potential sources of leaks or spills of fluids;

All significant leaks and spills should be contained and cleaned up as soon as possible. If malfunctioning equipment is responsible for the spill or leak, repairs should also be conducted as soon as possible;

Cleanup procedures should be identified in the plan, including the use of dry absorbent materials or other cleanup methods. Where dry absorbent cleanup methods are used, an adequate supply of dry absorbent material should be maintained onsite. Used absorbent material should be disposed of properly;

Drums containing liquids, including oil and lubricants, should be stored indoors; or in a bermed area; or in overpack containers or spill pallets; or in similar containment devices;

Overfill prevention devices should be installed on all fuel pumps or tanks;

Drip pans or equivalent measures should be placed under any leaking piece of stationary equipment until the leak is repaired. The drip pans should be inspected for leaks and checked for potential overflow, and be emptied regularly to prevent overflow and all liquids will be disposed of in accordance with all requirements under RCRA; and

An alarm and/or pump shut off system should be installed and maintained on all outside equipment with hydraulic reservoirs exceeding 150 gallons (only those reservoirs not directly visible by the operator of the equipment) in order to prevent draining the tank contents in the event of a line break. Alternatively, the equipment may have a secondary containment system capable of containing the contents of the hydraulic reservoir plus adequate freeboard for precipitation. Leaking hydraulic fluids should be disposed of in accordance with all requirements under RCRA.

(ix) Quarterly Inspections—A quarterly inspection shall include all designated areas of the facility and equipment identified in the plan. The inspection shall include a means of tracking and conducting follow up actions based on the results of the inspection. The inspections shall be conducted by members of the Storm Water Pollution Prevention team. At a minimum, quarterly inspections shall include the following areas:

All outdoor scrap processing areas;

All material unloading and loading areas (including rail sidings) that are exposed to either precipitation or storm water runoff;

Areas where structural BMPs have been installed;

All erosion and sediment BMPs;

Outdoor vehicle and equipment maintenance areas;

Vehicle and equipment fueling areas; and

All areas where waste is generated, received, stored, treated, or disposed and which are exposed to either precipitation or storm water runoff.

If exposed to precipitation or storm water runoff, the inspection shall attempt to identify any corroded or leaking containers, corroded or leaking pipes, leaking or improperly closed valves and valve fittings, leaking pumps and/or hose connections, and deterioration in diversionary or containment structures. Spills or leaks shall be immediately addressed according to the facilities. A record of inspections shall be maintained with the plan.

The BMPs identified above have been employed by scrap recycling and waste recycling facilities are believed to be appropriate given the types of pollutants found in storm water discharges from these facilities. In addition, the diversity of options allows permittees to select those BMPs that are most applicable to the extent of the risk that exists at a particular facility. In instances where nonstructural measures are not sufficient, the conditions direct the permittee to more stringent requirements such as structural controls.

(b) Waste Recycling Facilities (Recyclable liquid wastes)—This section establishes that waste recycling facilities (recyclable liquid wastes) shall provide the following information.

(i) Waste Material Storage (indoors)—The operator shall consider including in the plan measures and controls to minimize residual liquids from waste materials stored indoors from coming in contact with surface runoff and provisions to maintain a sufficient supply of dry-absorbent materials or a wet vacuum system or other equivalent measure to promptly respond to minor leaks or spills. Measures for secondary containment or its equivalent and procedures for proper material handling (including labeling and marking) and storage of containerized materials should be considered. Drainage from bermed areas should be discharged to an appropriate treatment facility or sanitary sewer system. Discharges from bermed areas should be covered by a separate NPDES permit or industrial user permit under the pretreatment program. The drainage system, where applicable, should include appropriate appurtenances such as pumps or ejectors and manually-operated valves of the open-and-close design.

(ii) Waste Material Storage (outdoors)—The plan will address areas where waste materials are exposed to either storm water runoff or precipitation. The plan must include measures to provide appropriate containment, drainage control and/or other appropriate diversionary structures. The plan must describe those measures and controls used to minimize contact of storm water runoff with stored materials. The operator shall consider including in the plan the following preventative measures or an equivalent:

An appropriate containment structure such as dikes, berms, curbing or pits, or other equivalent measure. The containment should be sufficient to store the volume of the largest single tank and should include sufficient freeboard for precipitation;

A sufficient supply of dry-absorbent materials or a wet vacuum system to collect liquids from minor spills and leaks in contained areas; and

Discharges of precipitation from containment areas containing used oil shall be in accordance with applicable sections of 40 CFR Part 112.

(iii) Truck and Rail Car Waste Transfer Areas—The plan will describe

measures and controls for truck and rail car loading and unloading areas. This includes appropriate containment and diversionary structures to minimize contact with precipitation and/or storm water runoff. The plan will also address measures to clean up minor spills and/ or leaks originating from the transfer of liquid wastes. This may include dry-clean up methods, roof coverings, and other runoff controls.

(iv) Erosion and Sediment Control—The plan shall identify all areas associated with industrial activity that have a high potential for soil erosion. Appropriate stabilization measures, nonstructural and structural controls shall be provided in these areas. The plan shall contain a narrative consideration of the appropriateness for selected erosion and sediment controls. Where applicable, the facility shall consider the use of the following types of preventive measures: sediment traps; vegetative buffer strips; filter fabric fence; sediment filtering boom; gravel outlet protection; or other equivalent measures that effectively trap or remove sediment prior to discharge through an inlet or catch basin.

(v) Spill Prevention and Response Procedures—The plan will address measures and procedures to address potential spill scenarios that could occur at the facility. This includes all applicable handling and storage procedures, containment, diversion controls and clean-up procedures. The plan will specifically address all outdoor and indoor storage areas, waste transfer areas, material receiving areas (loading and unloading), and waste disposal areas.

(vi) Quarterly Inspections—Quarterly visual inspections shall be conducted by a member, or members, of the storm water pollution prevention team. The quarterly inspection shall include all designated areas of the facility and equipment identified in the plan. The inspection shall include a means of tracking and conducting follow up actions based on the results of the inspection. At a minimum, the inspections shall include the following areas:

Material storage areas;

Material unloading and loading areas (including rail sidings) that are exposed to either precipitation or storm water runoff;

Areas where structural BMPs have been installed;

All erosion and sediment BMPs;

Outdoor vehicle and equipment maintenance areas (if applicable);

Vehicle and equipment fueling areas (if applicable); and

All areas where waste is generated, received, stored, treated, or disposed and which are exposed to either precipitation or storm water runoff.

If exposed to precipitation or storm water runoff, the inspection shall identify the presence of any corroded or leaking containers, corroded or leaking pipes, leaking or improperly closed valves and valve fittings, leaking pumps and/or hose connections, and deterioration in diversionary or containment structures. Spills or leaks shall be immediately addressed according to the facility's spill prevention and response procedures.

(c) Recycling Facilities.—This section establishes that recycling facilities (including MRFs) that receive only source-separated recyclable materials primarily from non-industrial and residential sources shall provide the following information in their pollution prevention plan.

(i) Inbound Recyclable Material Control Program. The plan shall include a recyclable material inspection program to minimize the likelihood of receiving non-recyclable materials (e.g., hazardous materials) that may be significant source of pollutants in surface runoff. At a minimum, the operator shall consider addressing in the plan the following:

A description of information and education measures to educate the appropriate suppliers of recyclable materials on the types of recyclable materials that are acceptable and those that are not acceptable, e.g., household hazardous wastes;

A description of training requirements for drivers responsible for pickup of recyclable materials;

Clearly mark public drop-off containers as to what materials can be accepted;

Rejecting non-recyclable wastes or household hazardous wastes at the source; and

A description of procedures for the handling and disposal of nonrecyclable materials.

(ii) Outdoor Storage. The plan shall include BMPs to minimize or reduce the exposure of recyclable materials to surface runoff and precipitation. The plan, at a minimum, shall include good housekeeping measures to prevent the accumulation of visible quantities of residual particulate matter and fluids, particularly in high traffic areas. The plan shall consider tarpaulins or their equivalent to be used to cover exposed bales of recyclable waste paper. The operator shall consider within the plan the use of the following types of BMPs (individually or in combination) or their equivalent:

Provide totally-enclosed drop-off containers for public.

Provide a sump and sump pump with each containment pit. Prevent the discharge of residual fluids to storm sewer system. Prevent discharging to the storm sewer system;

Provide dikes and curbs around bales of recyclable waste paper;

Divert surface runoff away from outside material storage areas;

Provide covers over containment bins, dumpsters, roll-off boxes; and,

Store the equivalent one day's volume of recyclable materials indoors.

(iii) Indoor Storage and Material Processing. The plan shall address BMPs to minimize the release of pollutants from indoor storage and processing areas to the storm sewer system. The plan shall establish specific measures to ensure that all floor drains do not discharge to the storm sewer system. The following BMPs shall be considered for inclusion in the plan:

Schedule routine good housekeeping measures for all storage and processing areas;

Prohibit the practice of allowing tipping floor washwaters from draining to any portion of a storm sewer system;

Provide employee training on pollution prevention practices;

(iv) Vehicle and Equipment Maintenance. The plan shall also provide for BMPs in those areas where vehicle and equipment maintenance is occurring outdoors. At a minimum, the following BMPs shall be considered for inclusion in the plan:

Prohibit vehicle and equipment washwater from discharging to the storm sewer system;

Minimize or eliminate outdoor maintenance areas, wherever possible;

Establish spill prevention and clean-up procedures in fueling areas;

Provide employee training on avoiding topping off fuel tanks;

Divert runoff from fueling areas;

Store lubricants and hydraulic fluids indoors;

Provide employee training on proper, handling, storage of hydraulic fluids and lubricants.

Monitoring and Reporting Requirements

Analytical Monitoring Requirements. EPA believes that scrap recycling and waste recycling facilities (nonsource-separated facilities only) may reduce the level of pollutants in storm water runoff from their sites through the development and proper implementation of the storm water pollution prevention plan requirements discussed in today's permit. In order to provide a tool for evaluating the effectiveness of the pollution prevention plan and to characterize the discharge for potential environmental impacts, the permit requires scrap recycling and waste recycling facilities to collect and analyze samples of their storm water discharges for the pollutants listed in Table N–18. The pollutants listed in Table N–18 were found to be above benchmark levels for a significant portion of scrap and waste recycling facilities that submitted quantitative data in the group application process, or are believed to be present based upon the description of industrial activities and significant materials exposed. Because these pollutants have been reported above benchmark levels , EPA is requiring monitoring after the pollution prevention plan has been implemented to assess the effectiveness of the pollution prevention plan and to help ensure that a reduction of pollutants is realized.

At a minimum, storm water discharges from scrap recycling and waste recycling facilities must be monitored quarterly during the second year of permit coverage. Samples must be collected at least once in each of the following periods: January through March; April through June; July through September; and October through December. At the end of the second year of permit coverage, a facility must calculate the average concentration for each parameter listed in Table N–18. If the permittee collects more than four samples in this period, then they must calculate an average concentration for each pollutant of concern for all samples analyzed.

TABLE N–18.—INDUSTRY MONITORING REQUIREMENTS

Pollutants of concern [1]	Cut-off concentration
Chemical Oxygen Demand (COD).	120 mg/L
Total Suspended Solids (TSS).	100 mg/L
Total Recoverable Aluminum.	0.75 mg/L
Total Recoverable Copper.	0.0636 mg/L
Total Recoverable Iron	1.0 mg/L
Total Recoverable Lead	0.0816 mg/L
Total Recoverable Zinc	0.065 mg/L

[1] Several congeners of PCBs (PCB–1016, –1221, –1242, –1248, –1260) were above established benchmarks, however, EPA believes that these constituents will readily bound up with sediment and particulate matter. Therefore, EPA feels that monitoring for TSS will serve as an adequate indicator for the control of PCBs.

If the average concentration for a parameter is less than or equal to the value listed in Table N–18, then the permittee is not required to conduct quantitative analysis for that parameter during the fourth year of the permit. If, however, the average concentration for a parameter is greater than the cut-off concentration listed in Table N–18, then the permittee is required to conduct quarterly monitoring for that parameter during the fourth year of permit coverage. Monitoring is not required during the first, third, and fifth year of the permit. The exclusion from monitoring in the fourth year of the permit is conditional on the facility maintaining industrial operations and BMPs that will ensure a quality of storm water discharges consistent with the average concentrations recorded during the second year of the permit.

TABLE N–19.—SCHEDULE OF MONITORING

2nd Year of Permit Coverage	• Conduct quarterly monitoring. • Calculate the average concentration for all parameters analyzed during this period. • If average concentration is greater than the value listed in Table N–18, then quarterly sampling is required during the fourth year of the permit. • If average concentration is less than or equal to the value listed in Table N–18, then no further sampling is required for that parameter.
4th Year of Permit Coverage	• Conduct quarterly monitoring for any parameter where the average concentration in year 2 of the permit is greater than the value listed in Table N–18. • If industrial activities or the pollution prevention plan have been altered such that storm water discharges may be adversely affected, quarterly monitoring is required for all parameters of concern.

In cases where the average concentration of a parameter exceeds the cut-off concentration, EPA expects permittees to place special emphasis on methods for reducing the presence of those parameters in storm water discharges. Quarterly monitoring in the fourth year of the permit will reassess the effectiveness of the adjusted pollution prevention plan.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly chemical sampling.

b. Alternative Certification. Throughout today's permit, EPA has proposed monitoring requirements for facilities which the Agency believes have the potential for contributing significant levels of pollutants to storm water discharges. The alternative described below is necessary to ensure that monitoring requirements are only imposed on those facilities that do, in fact, have storm water discharges containing pollutants at concentrations of concern. EPA has determined that if materials and activities are not exposed to storm water at the site, then the potential for pollutants to contaminate storm water discharges does not warrant monitoring.

Therefore, a discharger is not subject to the monitoring requirements of this Part provided the discharger makes a certification for a given outfall, or on a pollutant-by-pollutant basis in lieu of monitoring reports required, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, significant materials from past industrial activity that are located in areas of the facility that are within the drainage area of the outfall are not presently exposed to storm water and will not be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan and submitted to EPA in the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph (*c*) below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations. EPA does not expect facilities to be able to exercise this certification for indicator parameters, such as TSS and BOD.

c. Reporting Requirements. Permittees are required to submit all monitoring results obtained during the second and fourth year of permit coverage within 3 months of the conclusion of each year. For each outfall, one signed Discharge Monitoring Report form must be submitted to the Director per storm event sampled. For facilities conducting monitoring beyond the minimum quarterly requirements an additional Discharge Monitoring Report Form must be filed for each analysis.

d. Sample Type. All discharge data shall be reported for grab samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

e. Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluent. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

f. Quarterly Visual Examination of Storm Water Quality. Quarterly visual examinations of storm water discharges from each outfall are required. The examination must be of a grab sample collected from each storm water outfall. The examination of storm water grab samples shall include any observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, or other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on these samples. The examination must be conducted at least once in each of the following periods: January through March; April through June; July through September; and October through December.

The examination must be made at least once in each quarter of the permit during daylight unless there is insufficient rainfall or snow-melt to generate runoff. Where practicable, the same individual should carry out the collection and examination of discharges throughout the life of the permit to ensure the greatest degree of consistency possible. Grab samples shall be collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 60 minutes) of when the runoff begins discharging. Reports of the visual examination include: the examination date and time, examination personnel, visual quality of the storm water discharge, and probable sources of any observed storm water contamination. The visual examination reports must be maintained onsite with the pollution prevention plan.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

EPA believes that this quick and simple assessment will allow the permittee to approximate the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the inspections. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and effects on the management practices that are included in the plan.

When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation on-site with the records of the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

g. Retention of Records

(1) The permittee shall retain records of all inspections and monitoring information, including certification reports, noncompliance reports, calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports, and supporting data, requested by the permitting authority for at least 3 years after the date of the sampling event or inspection.

O. Storm Water Discharges Associated With Industrial Activity From Steam Electric Power Generating Facilities, Including Coal Handling Areas

1. Industrial Profile

The conditions in this section apply to storm water discharges from steam electric power generating facilities. The steam electric power generating category includes facilities which are coal, oil, gas, or nuclear fired. Heat captured co-generation facilities are not covered under the definition of storm water discharge associated with industrial activity, however, dual fuel co-generation facilities are included in the definition. When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

Storm water discharges from coal piles are eligible for coverage under this permit, where these discharges are not already subject to an existing NPDES permit.

The production of electrical energy always involves the conversion of some other form of energy. The two most important sources of energy which are converted to steam electric energy are the chemical energy of fossil fuels and the atomic energy of nuclear fuels. Current uses of fossil fuels are based on a combustion process, followed by steam generation to convert the heat first into mechanical energy and then to convert the mechanical energy into electrical energy. Nuclear power plants utilize a cycle similar to that used in fossil fueled power plants except that the source of heat is atomic interactions rather than the combustion of fossil fuel.

The steam electric power generating process for fossil fuel systems are typically enclosed and subject to effluent limitations guidelines [40 Code of Federal Regulations (CFR) Part 423], as is coal pile runoff. However, the unloading and transport of coal within the facility is subject to the conditions set forth in this section of today's permit. Likewise, the unloading and storage areas for liquid fuels and chemicals are subject to the conditions in this section of today's permit.

Industrial activities occurring at steam electric power generating facilities that pertain to the storm water rule include, ''* * * but [are] not limited to, storm water discharges from industrial plant yards; material handling sites; refuse sites; sites used for the application or disposal of process wastewaters (as defined at 40 CFR Part 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials and intermediate and finished materials; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water'' (40 CFR 122.26(b)(14)). Common industrial activities at steam electric power generating facilities include the unloading, transport, and storage of raw materials, and the disposal of waste materials.

Significant materials include, ''* * * but [are] not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; * * * hazardous substances designated under Section 101(14) of CERCLA; any chemical facilities required to report pursuant to Section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharges'' (40 CFR 122.26(b)(12)). Significant materials commonly found at steam electric power generating facilities include: coal; diesel fuel; and waste materials.

Historically, steam electric power generating facilities were categorized in accordance with the type of fuel they burned. Recently, however, steam electric power generating facilities have modified their equipment to enable them to use more than one fuel. Presented below are brief descriptions of the industrial activities and significant materials associated with the production of steam electric power. Due to the increase in facilities burning multiple fuels the industrial activities and significant materials are discussed together. However, the industrial activities and significant materials for nuclear powered facilities are discussed separately. Unique practices are noted.

a. Industrial Activities: Fossil Fuel Powered Plants. Steam electric power generation can be divided into four stages. In the first operation, fossil fuel (coal, oil, or natural gas) is burned in a boiler furnace. The evolving heat is used to produce pressurized and superheated steam. This steam is conveyed to the second stage, the turbine, where it gives energy to the rotating blades and, in the process, loses pressure and increases in volume. The rotating blades of the turbine act to drive an electric generator or alternator to convert the imparted mechanical energy into electrical energy. The steam leaving the turbine enters the third state, the condenser, where it is condensed to water. The liberated heat is transferred to a cooling medium which is normally water. Finally, the condensed steam is reintroduced into the boiler by a pump to complete the cycle.

Features unique to coal-fired plants include coal storage and preparation (transport, beneficiation, pulverization, drying), coal-fired boiler, ash handling and disposal systems, and flue gas cleaning, and desulfurization.

b. Significant Materials: Fossil Fuel Powered Plants. The type of fuel (coal, oil, gas, nuclear) used to fire power plant boilers most directly influences the number of waste streams. The influence comes principally from the effect of fuel on the volume of ash generated. Stations using heavy or residual oils generate fly ash in large quantities and may generate some bottom ash. Stations which burn coal create both fly ash and bottom ash. Bottom ash is the residue which accumulates on the furnace bottom, and fly ash is the lighter material which is carried over in the flue gas stream.

c. Industrial Activities: Nuclear Powered Plants. Nuclear power plants utilize a cycle similar to that used in fossil fueled power plants except that the source of heat is atomic interactions rather than the combustion of fossil fuel. Water serves as both moderator and coolant as it passes through the nuclear reactor core. In a pressurized water reactor, the heated water then passes through a separate heat exchanger where steam is produced on the secondary side. This steam, which contains radioactive materials, drives the turbines. In a boiling water reactor, steam is generated directly in the reactor core and is then piped directly to the turbine. This arrangement produces some radioactivity in the steam and therefore requires some shielding of the turbine and condenser.

d. Significant Materials: Nuclear Powered Plants. Few if any significant materials are exposed to storm water at nuclear powered steam electric facilities. Materials that are potentially exposed do not involve steam electric generating equipment, raw materials, or waste products. The materials that are exposed to storm water are office wastes and ground maintenance equipment and tools.

2. Pollutants in Storm Water Discharges Associated With Steam Electric Power Generating Facilities

Steam electric generating facilities are subject to effluent limitations guidelines that limit the number and variety of industrial activities that are included in the storm water program. Pollutants may be present in storm water as a result of outdoor activities associated with steam electric power generating facilities such as: material handling and transport operations; waste disposal; and deposition of airborne particulate matter. In addition, sources of pollutants other than storm water, such as illicit connections,[92] spills, and other improperly dumped materials, may increase the pollutant loadings discharged into waters of the United States.

Many of the part 2 group application data submittals did not identify individual site characteristics or sources of storm water pollutants which may be responsible for pollutant loadings. In addition, because the industry has been moving toward combined fuel generating facilities, the part 2 sampling data was reviewed in the aggregate.

Table O–1 lists potential pollutant source activities and related pollutants associated with steam electric power generating facilities. The primary and largest potential source of storm water pollutants from fossil-fueled steam electric generating facilities is ash refuse piles.

TABLE O–1.—INDUSTRIAL ACTIVITIES, POLLUTANT SOURCES, AND POLLUTANTS FOR STEAM ELECTRIC POWER GENERATING FACILITIES

Activity	Pollutant source	Pollutant
Above Ground Liquid Storage Tank.	External corrosion and structural failure	Fuel, oil, heavy metals, ammonia, chlorine, sulfuric acid, sodium hydroxide, and other materials being stored.
	Installation problems	Fuel, oil, heavy metals, ammonia, chlorine, sulfuric acid, sodium hydroxide, and other materials being stored.
	Spills due to operator error	Fuel, oil, heavy metals, ammonia, chlorine, sulfuric acid, sodium hydroxide, and other materials being stored.
	Failure of piping systems	Fuel, oil, heavy metals, ammonia, chlorine, sulfuric acid, sodium hydroxide, and other materials being stored.
	Leaks or spills during pumping of liquids from barges, trucks, rail cars to a storage facility.	Fuel, oil, heavy metals, ammonia, chlorine, sulfuric acid, sodium hydroxide, and other materials being stored.
Vehicle and Equipment Maintenance.	Parts cleaning	Oil, heavy metals, chlorinated solvents, acid/alkaline wastes, ethylene glycol.
	Spills of oil, degreasers, hydraulic fluids, transmission fluid, radiator fluids.	Oil, arsenic, heavy metals, organics, chlorinated solvents, ethylene glycol.
	Fluids replacement	Oil, arsenic, heavy metals, organics, fuel.
Fueling Operations	Spills & leaks during fuel delivery	Fuel, oil, heavy metals.
	Spills caused by ‘‘topping off’’ fuel tanks	Fuel, oil, heavy metals.
	Leaking storage tanks	Fuel, oil, heavy metals.
	Allowing rainfall on the fuel area or storm water to run onto the fuel area.	Fuel, oil, heavy metals.
Coal Handling Areas	Fugitive dust emissions from coal handling	Suspended solids, copper, iron, aluminum, nickel, and trace metals.
	Spills during delivery	Suspended solids, copper, iron, aluminum, nickel, and trace metals.
	Offsite tracking of coal dust	Suspended solids, copper, iron, aluminum, nickel, and trace metals.
Ash Handling Areas, Ash Landfills.	Spills during transfer of ash to landfills	Suspended solids, chromium, copper, iron, zinc, oil and grease, aluminum.
	Offsite tracking of ash	Suspended solids, chromium, copper, iron, zinc, oil and grease, aluminum.
Scrapyards, Refuse Sites	Discarded material	Fuel, oils, heavy metals.

The ash composition from oil, on a weight percent basis, is much lower than that of coal. Oil ash rarely exceeds 0.3 percent of the input oil whereas coal ash comprises from 3 to 30 percent of the coal. In general, the ash content increases with increasing asphaltic constituents in which the sulfur acts largely as a bridge between aromatic rings.

The many elements which may appear in oil ash deposits include vanadium, sodium, and sulfur. Compounds containing these elements are found in almost every deposit in boilers fired by residual fuel oil and often constitute the major portion of these deposits. Oil ash, especially from plants using Venezuelan and certain Middle Eastern oil can contain significant amounts of nickel.

Some of the ash-forming constituents in the crude oil had their origin in animal and vegetable matter from which the oil was derived. The remainder is extraneous material resulting from contact of the crude oil with rock structures and salt brines or picked up during refining processes, storage, and transportation. Vanadium, iron, sodium, nickel, and calcium in fuel oil are common in rock strata, but elements including vanadium, nickel, zinc, and copper are believed to come from organic matter from which the petroleum was created.

[92] Illicit connections are contributions of unpermitted non-storm water discharges to storm sewers from any of a number of sources including sanitary sewers, industrial facilities, commercial establishments, or residential dwellings. The probability of illicit connections at steam electric facilities is low yet it still may be applicable at some operations.

The ash residue resulting from the combustion of coal is primarily derived from the inorganic matter in the coal. The chemical composition of dry bottom ash and fly ash are quite similar. The major constituents present in coal ash are silica, alumina, ferric oxide, calcium oxide, magnesium oxide, and minor amounts of sodium and potassium oxides. Other parameters which may be present include sulfur trioxide, carbon, boron, phosphorus, uranium, and thorium. The concentration differences can vary considerably from one site to another.[93]

When conducting their data analysis for their 1980 Development Document, the U.S. Environmental Protection Agency (EPA) found that there was no correlation between arsenic, nickel, zinc, copper, and selenium and total suspended solids, whenever their value was 30 mg/L or less.[94]

The quality of storm water runoff from coal handling areas is dependent on pH, as pH influences the release of toxic and heavy metals. Suspended solids levels result when storm water suspends coal particulates. Most of the total dissolved solids concentrations are a consequence of enhanced pyritic oxidation.

Storm water runoff from exposed sources of coal tends to be of an acid nature, primarily as a result of the oxidation of iron sulfide in the presence of oxygen and water.[95] The presence of certain acidophilic, chemoautotrophic bacteria, and a pH of 2.0 to 4.5 generally indicates storm water runoff high in iron, manganese, and total dissolved solids.[96]

Based on the similarities of the facilities included in this sector in terms of industrial activities and significant materials, EPA believes it is appropriate to discuss the potential pollutants at steam electric power generating facilities as a whole and not subdivide this sector. Therefore, Table O–2 lists data for selected parameters from facilities in the steam electric power generating sector. These data include the eight pollutants that all facilities were required to monitor for under Form 2F, as well as the pollutants that EPA has determined may merit further monitoring.

TABLE O–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY STEAM ELECTRIC GENERATING FACILITIES SUBMITTING PART II SAMPLING DATA [i] (mg/L)

Pollutant, Sample type	# of Facilities		# of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	29	33	78	80	5.8	5.7	0.0	0.0	45.0	37.0	4.3	4.0	20.3	16.8	38.4	29.5
COD	30	33	78	79	102.5	68.7	0.0	0.0	1410.0	540.0	32.5	39.0	332.8	188.3	739.8	333.6
Nitrate + Nitrite Nitrogen	30	33	78	79	5.47	0.73	0.00	0.00	350.00	3.90	0.36	0.41	4.34	2.41	11.17	4.66
Total Kjeldahl Nitrogen	30	33	78	80	2.36	1.90	0.00	0.00	22.30	19.1	1.20	0.99	7.35	5.37	14.95	10.26
Oil & Grease	34	N/A	90	N/A	1.4	N/A	0.0	N/A	20.0	N/A	0.0	N/A	7.3	N/A	19.5	N/A
pH	30	N/A	72	N/A	N/A	N/A	3.8	N/A	9.0	N/A	7.4	N/A	8.9	N/A	9.7	N/A
Total Phosphorus	30	33	77	80	0.81	0.65	0.00	0.00	6.00	7.20	0.30	0.28	3.56	2.62	9.27	6.45
Total Suspended Solids	30	33	78	79	504	208	0	0	22790	5554	44	40	1561	967	6077	3292
Iron, Total	29	32	67	73	7.0	6.3	0.0	0.0	67.0	191.0	1.8	1.4	34.7	19.9	117.0	58.1
Zinc, Total	14	17	33	38	0.300	0.250	0.000	0.000	5.500	4.200	0.07	0.08	1.164	0.725	3.389	1.607

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

3. Pollutant Control Measures Required Under Other EPA Programs.

The Agency recognizes that other EPA programs address pollution prevention at steam electric power generating facilities. The Oil Pollution Prevention Program (40 CFR Part 112) has established procedures to prevent the discharge of oil from nontransportation related onshore and offshore facilities. This program requires owners or operators of onshore and offshore facilities to prepare a Spill Prevention Control and Countermeasure Plan (SPCC Plan) for their facility if they could reasonably be expected to discharge oil, into or upon the navigable waters of the United States or adjoining shorelines, in quantities that violate applicable water quality standards, or cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines. Guidelines for the preparation and implementation of a Spill Prevention Control and Countermeasure Plan can be found at 40 CFR 112.7.

Under the Resource Conservation and Recovery Act (RCRA) specific requirements have been established which address generators of hazardous wastes. Regulations have been developed which address the accumulation of hazardous waste onsite prior to transport to a hazardous waste disposal facility. These regulations address proper storage of hazardous wastes, emergency planning, and training personnel in proper handling procedures for hazardous wastes.

4. Storm Water Pollution Prevention Plan Requirements

The conditions that apply to steam electric power generating facilities are based on the requirements set forth in the common permit conditions for storm water discharges from industrial activities discussed in today's fact sheet. The discussion that follows only addresses conditions that differ from those common conditions. There are no additional pollution prevention requirements beyond the common conditions for nuclear powered steam electric generating facilities.

a. Description of Pollutant Sources. Under the description of pollutant sources in the storm water pollution prevention plan requirements, permittees are required to include a site map of the facility. The areas required to be identified on the site map now also include the following: landfills,

[93] EPA. Effluent Guidelines Division. ''Development Document for Effluent Limitations Guidelines and Standards for the Steam Electric Point Source Category.'' September 1980. (EPA 440/1–80/029–b). Page 131.

[94] EPA. Effluent Guidelines Division. ''Development Document for Effluent Limitations Guidelines and Standards for the Steam Electric Point Source Category.'' September 1980. (EPA 440/1–80/029–b). Page 138.

[95] EPA. Effluent Guidelines Division. ''Development Document for Effluent Limitations Guidelines and Standards for the Steam Electric Point Source Category.'' September 1980. (EPA 440/1–80/029–b). Page 138.

[96] EPA. Effluent Guidelines Division. ''Development Document for Effluent Limitations Guidelines and Standards for the Steam Electric Point Source Category.'' September 1980. (EPA 440/1–80/029–b). Page 138.

treatment ponds, scrap yards, general refuse areas, locations of short and long term storage of general materials, and the location of stock pile areas. EPA believes this is appropriate since these areas may potentially be significant sources of pollutants to storm water. In addition, the site map must also indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls (e.g., storm water and air conditioner condensate). In order to increase the readability of the map, the inventory of the types of discharges contained in each outfall may be kept as an attachment to the site map.

b. Measures and Controls. Under the description of measures and controls in the storm water pollution prevention plan requirements, this section requires that all areas that may contribute pollutants to storm water discharges shall be maintained in a clean, orderly manner. This section also requires that the following 15 areas must be specifically addressed:

(1) Fugitive Dust Emissions. The plan must describe measures that prevent or minimize fugitive dust emissions from coal handling areas. The permittee shall consider establishing procedures to minimize offsite tracking of coal dust. To prevent offsite tracking the facility may consider specially designed tires, or washing vehicles in a designated area before they leave the site, and controlling the wash water.

(2) Delivery Vehicles. The plan must describe measures that prevent or minimize contamination of storm water runoff from delivery vehicles arriving on the plant site. At a minimum the permittee should consider the following:

(a) Develop procedures for the inspection of delivery vehicles arriving on the plant site, and ensure overall integrity of the body or container.

(b) Develop procedures to control leakage or spillage from vehicles or containers, and ensure that proper protective measures are available for personnel and environment.

(3) Fuel Oil Unloading Areas. The plan must describe measures that prevent or minimize contamination of storm water runoff from fuel oil unloading areas. At a minimum the facility operator must consider using the following measures or an equivalent:

(a) Use containment curbs in unloading areas.

(b) During deliveries station personnel familiar with spill prevention and response procedures must be present to ensure that any leaks or spills are immediately contained and cleaned up.

(c) Use spill and overflow protection (drip pans, drip diapers, and/or other containment devices shall be placed beneath fuel oil connectors to contain any spillage that may occur during deliveries or due to leaks at such connectors).

(4) Chemical Loading/Unloading Areas. The plan must describe measures that prevent or minimize the contamination of storm water runoff from chemical loading/unloading areas. At a minimum the permittee must consider using the following measures or an equivalent:

(a) Use containment curbs at chemical loading/unloading areas to contain spills.

(b) During deliveries station personnel familiar with spill prevention and response procedures must be present to ensure that any leaks or spills are immediately contained and cleaned up.

Where practicable chemical loading/unloading areas should be covered, and chemicals should be stored indoors.

(5) Miscellaneous Loading/Unloading Areas. The plan must describe measures that prevent or minimize the contamination of storm water runoff from loading and unloading areas. The facility may consider covering the loading area, minimizing storm water runon to the loading area by grading, berming, or curbing the area around the loading area to direct storm water away from the area, or locate the loading/unloading equipment and vehicles so that leaks can be controlled in existing containment and flow diversion systems.

(6) Liquid Storage Tanks. The plan must describe measures that prevent or minimize contamination of storm water runoff from above ground liquid storage tanks. At a minimum the facility operator must consider employing the following measures or an equivalent:

(a) Use protective guards around tanks.

(b) Use containment curbs.

(c) Use spill and overflow protection (drip pans, drip diapers, and/or other containment devices shall be placed beneath chemical connectors to contain any spillage that may occur during deliveries or due to leaks at such connectors).

(d) Use dry cleanup methods.

(7) Large Bulk Fuel Storage Tanks. The plan must describe measures that prevent or minimize contamination of storm water runoff from liquid storage tanks. At a minimum the facility operator must consider employing the following measures or an equivalent:

(a) Comply with applicable State and Federal laws, including Spill Prevention Control and Countermeasures (SPCC)

(b) Containment berms.

(8) The plan must describe measures to reduce the potential for an oil or chemical spill, or reference the appropriate section of their SPCC plan. At a minimum the structural integrity of all above ground tanks, pipelines, pumps and other related equipment shall be visually inspected on a weekly basis. All repairs deemed necessary based on the findings of the inspections shall be completed immediately to reduce the incidence of spills and leaks occurring from such faulty equipment.

(9) Oil Bearing Equipment in Switchyards. The plan must describe measures to reduce the potential for storm water contamination from oil bearing equipment in switchyard areas. The facility may consider level grades and gravel surfaces to retard flows and limit the spread of spills; collection of storm water runoff in perimeter ditches.

(10) Residue Hauling Vehicles. All residue hauling vehicles shall be inspected for proper covering over the load, adequate gate sealing and overall integrity of the body or container. Vehicles without load covers or adequate gate sealing, or with poor body or container conditions must be repaired as soon as practicable.

(11) Ash Loading Areas. Plant procedures shall be established to reduce and/or control the tracking of ash or residue from ash loading areas including, where practicable, requirements to clear the ash building floor and immediately adjacent roadways of spillage, debris and excess water before each loaded vehicle departs.

(12) Areas Adjacent to Disposal Ponds or Landfills. The plan must describe measures that prevent or minimize contamination of storm water runoff from areas adjacent to disposal ponds or landfills. The facility must develop procedures to:

(a) Reduce ash residue which may be tracked on to access roads traveled by residue trucks or residue handling vehicles.

(b) Reduce ash residue on exit roads leading into and out of residue handling areas.

(13) Landfills, Scrapyards, and General Refuse Sites. The plan must address landfills, scrapyards, and general refuse sites. The permittee is referred to Parts XI.L. and XI.N. of today's permit (Storm Water Discharges From Landfills and Land Application Sites and Scrap and Waste Material Processing and Recycling Facilities, respectively) for applicable Best Management Practices.

(14) Maintenance Activities. For vehicle maintenance activities

performed on the plant site, the permittee shall consider the applicable Best Management Practices outlined in Part XI.P. of today's permit (Storm Water Discharges From Vehicle Maintenance or Equipment Cleaning Operations at Motor Freight Transportation Facilities, Passenger Transportation Facilities, Petroleum Bulk Oil Stations and Terminals, or the United States Postal Service).

(15) Material Storage Areas. The plan must describe measures that prevent or minimize contamination of storm water from material storage areas (including areas used for temporary storage of miscellaneous products and construction materials stored in lay down areas). The facility operator may consider flat yard grades, runoff collection in graded swales or ditches, erosion protection measures at steep outfall sites (e.g., concrete chutes, riprap, stilling basins), covering lay down areas, storing the materials indoors, covering the material with a temporary covering made of polyethylene, polyurethane, polypropylene, or hypalon. Storm water runon may be minimized by constructing an enclosure or building a berm around the area.

Based on information provided in part 1 of the group application process, the management practices applicable to the 15 areas listed above are commonly used at many steam electric power generating facilities. EPA believes that the incorporation of management practices to accomplish the objectives described above, in conjunction with the baseline requirements, will substantially reduce the potential for these activities and areas to significantly contribute to the pollution of storm water discharges. EPA believes that these requirements provide the necessary flexibility to address the variable risk for pollutants in storm water discharges associated with different facilities.

(c) Inspections. Under the inspection requirements of the storm water pollution prevention plan elements, this section requires that in addition to the comprehensive site evaluation required under Part VIII.C.4. of today's permit, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility on a monthly basis. The following areas shall be included in the inspection: coal handling areas, fueling areas, loading/unloading areas, switchyards, bulk storage areas, ash handling areas, areas adjacent to disposal ponds and landfills, maintenance areas, liquid storage tanks and long term and short term material storage areas. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained onsite.

The purpose of the inspections is to check on the implementation of the storm water pollution prevention plan. The inspections allow facility personnel to monitor the success or failure of elements of the plan on a regular basis.

d. Employee Training. Steam electric power generating facilities are required to identify periodic training dates in the pollution prevention plan, but in all cases training must be held at least annually. EPA believes that such a frequency is necessary due to the many areas with a high potential for contamination of storm water.

5. Numeric Effluent Limitations

Coal pile runoff is subject to the effluent guidelines described in Part V.B of today's permit. However, steam electric generating facilities must comply with the requirement of Part V.B immediately upon permit issuance. Steam electric generating facilities are not permitted to take 3 years to meet this requirement.

6. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. EPA believes that steam electric power generating facilities may reduce the level of pollutants in storm water runoff from their sites through the development and proper implementation of the storm water pollution prevention plan requirements discussed in today's permit. In order to provide a tool for evaluating the effectiveness of the pollution prevention plan and to characterize the discharge for potential environmental impacts, the permit requires steam electric power generating facilities to collect and analyze samples of their storm water discharges for the pollutant listed in Table O–3. The pollutant listed in Table O–3 was found to be above levels of concern for a significant portion of steam electric power generating facilities that submitted quantitative data in the group application process. Because this pollutant has been reported at or above levels of concern from steam electric power generating facilities, EPA is requiring monitoring after the pollution prevention plan has been implemented to assess the effectiveness of the pollution prevention plan and to help ensure that a reduction of pollutants is realized.

Under the Storm Water Regulations at 40 CFR 122.26(b)(14), EPA defined ''storm water discharge associated with industrial activity''. The focus of today's permit is to address the presence of pollutants that are associated with the industrial activities identified in this definition and that might be found in storm water discharges. Under the methodology for determining analytical monitoring requirements, described in section VI.E.1 of this fact sheet, zinc is above the bench mark concentrations for the steam electric generating facilities sector. After a review of the nature of industrial activities and the significant materials exposed to storm water described by facilities in this sector, EPA has determined that the higher concentrations of zinc are not likely to be caused by the industrial activity, but may be primarily due to non-industrial activities on-site. Today's permit does not require steam electric generating facilities to conduct analytical monitoring for this parameter.

At a minimum, storm water discharges from steam electric power generating facilities must be monitored quarterly during the second year of permit coverage. Samples must be collected at least once in each of the following periods: January through March; April through June; July through September; and October through December. At the end of the second year of permit coverage, a facility must calculate the average concentration for each parameter listed in Table O–3. If the permittee collects more than four samples in this period, then they must calculate an average concentration for each pollutant of concern for all samples analyzed.

TABLE O–3.—MONITORING REQUIREMENTS FOR STEAM ELECTRIC POWER GENERATING FACILITIES

Pollutant of concern	Cut-Off concentration
Total Recoverable Iron ...	1.0 mg/L

If the average concentration for a parameter is less than or equal to the value listed in Table O–3, then the permittee is not required to conduct quantitative analysis for that parameter during the fourth year of the permit. If, however, the average concentration for a parameter is greater than the cut-off concentration listed in Table O–3, then the permittee is required to conduct quarterly monitoring for that parameter during the fourth year of permit coverage. Monitoring is not required during the first, third, and fifth year of the permit. The exclusion from monitoring in the fourth year of the permit is conditional on the facility maintaining industrial operations and BMPs that will ensure a quality of storm water discharges consistent with the average concentrations recorded during the second year of the permit.

TABLE O–5.—Schedule of Monitoring

2nd Year of Permit Coverage	• conduct quarterly monitoring. • calculate the average concentration for all parameters analyzed during this period. • if average concentration is greater than the value listed in Table O–3, then quarterly sampling is required during the fourth year of the permit. • if average concentration is less than or equal to the value listed in Table O–3, then no further sampling is required for that parameter.
4th Year of Permit Coverage	• conduct quarterly monitoring for any parameter where the average concentration in year two of the permit is greater than the value listed in Table O–3. • if industrial activities or the pollution prevention plan have been altered such that storm water discharges may be adversely affected, quarterly monitoring is required for all parameters of concern.

In cases where the average concentration of a parameter exceeds the cut-off concentration, EPA expects permittees to place special emphasis on methods for reducing the presence of those parameters in storm water discharges. Quarterly monitoring in the fourth year of the permit will reassess the effectiveness of the adjusted pollution prevention plan.

The monitoring cut off concentrations listed in Table O–3 are not numerical effluent limitations. These values represent a level of pollutant discharge which facilities may achieve through the implementation of pollution prevention plans. At least half of the facilities which submitted Part 2 data, reported concentrations greater than or equal to the values listed in Table O–3. Facilities which achieve average discharge concentrations which are less than or equal to the values in Table O–3 are not relieved from the pollution prevention plan requirements or any other requirements of the permit.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly chemical sampling.

b. Alternative Certification. Throughout today's permit, EPA has included monitoring requirements for facilities which the Agency believes have the potential for contributing significant levels of pollutants to storm water discharges. The alternative described below is necessary to ensure that monitoring requirements are only imposed on those facilities which do, in fact, have storm water discharges containing pollutants at concentrations of concern. EPA has determined that if materials and activities are not exposed to storm water at the site then the potential for pollutants to contaminate storm water discharges does not warrant monitoring.

Therefore, a discharger is not subject to the monitoring requirements of this Part provided the discharger makes a certification for a given outfall, or on a pollutant-by-pollutant basis in lieu of the monitoring reports required under paragraph c. below, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, significant materials from past industrial activity that are located in areas of the facility that are within the drainage area of the outfall are not presently exposed to storm water and will not be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan, and submitted to EPA in accordance with Part VI.C. of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph c. below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations. EPA does not expect facilities to be able to exercise this certification for indicator parameters, such as TSS and BOD.

c. Reporting Requirements. Permittees are required to submit all monitoring results obtained during the second and fourth year of permit coverage within three months of the conclusion of each year. For each outfall, one signed Discharge Monitoring Report form must be submitted to the Director per storm event sampled. For facilities conducting monitoring beyond the minimum requirements an additional Discharge Monitoring Report Form must be filed for each analysis.

d. Sample Type. All discharge data shall be reported for grab samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first thirty minutes of the discharge. If the collection of a grab sample during the first thirty minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first thirty minutes was impracticable.

If storm water discharges associated with industrial activity commingle with process or non-process water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

e. Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfalls provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explaining in detail why the outfalls are expected to discharge substantially identical effluent. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area (e.g., low (under 40 percent), medium (40 to 65 percent) or high (above 65 percent)) shall be provided in the plan.

f. Compliance Monitoring Requirements. Today's permit requires permittees with coal pile runoff associated with steam electric power generation to monitor for the presence of total suspended solids and pH at least annually. These monitoring requirements are necessary to evaluate compliance with the numeric effluent limitation imposed on these discharges. Monitoring shall be performed upon a minimum of one grab sample. All samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. Monitoring results shall be submitted on Discharge Monitoring Report Form(s) postmarked no later than the last day of the month following collection of the sample. For each outfall, one Discharge Monitoring Report from must be submitted per storm event sampled. Facilities which discharge through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must also submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system. Alternative Certification provisions described in Section XI.O.5 do not apply to facilities subject to compliance monitoring requirements in this section. Compliance monitoring is required at least annually for discharges subject to effluent limitations. Therefore, EPA cannot permit a facility to waive compliance monitoring.

g. Quarterly Visual Examination of Storm Water Quality. Quarterly visual examinations of storm water discharges from each outfall are required at steam electric generating facilities. The examination must be of a grab sample collected from each storm water outfall. The examination of storm water grab samples shall include any observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, or other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on these samples.

The examination must be made at least once in each quarter of the permit during daylight unless there is insufficient rainfall or snow-melt to runoff. Where practicable, the same individual should carry out the collection and examination of discharges throughout the life of the permit to ensure the greatest degree of consistency possible. Grab samples shall be collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 60 minutes) of when the runoff begins discharging. Reports of the visual examination include: the examination date and time, examination personnel, visual quality of the storm water discharge, and probable sources of any observed storm water contamination. The visual examination reports must be maintained onsite with the pollution prevention plan.

EPA believes that this quick and simple assessment will allow the permittee to approximate the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examinations. The visual examination is intended to be performed by members of the pollution prevention team. This hands on examination will enhance the staff's understanding of the storm water problems on that site and effects on the management practices that are included in the plan.

When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

P. Storm Water Discharges Associated With Industrial Activity From Motor Freight Transportation Facilities, Passenger Transportation Facilities, Petroleum Bulk Oil Stations and Terminals, Rail Transportation Facilities, and United States Postal Service Transportation Facilities

1. Discharges Covered Under This Section

Special conditions have been developed for ground transportation facilities and rail transportation facilities that have vehicle and equipment maintenance shops (vehicle and equipment rehabilitation, mechanical repairs, painting, fueling and lubrication) and equipment cleaning operations. Vehicle and equipment maintenance is a broad term used to include the following activities: vehicle and equipment fluid changes, mechanical repairs, parts cleaning, sanding, refinishing, painting, fueling, locomotive sanding (loading sand for traction), storage of vehicles and equipment waiting for repair or maintenance, and storage of the related materials and waste materials, such as oil, fuel, batteries, tires, or oil filters. Equipment cleaning operations include areas where the following types of activities take place: vehicle exterior wash down, interior trailer washouts, tank washouts, and rinsing of transfer equipment. Any storm water discharges from facilities where such activities take place are subject to the special conditions described in Part XI.P. of today's permit.

The conditions in this section apply to storm water discharges from vehicle and equipment maintenance shops or cleaning operations located on any of the industrial facilities covered under the storm water application regulations (40 CFR 122.26) and applying for coverage under this permit.

As background, the storm water application regulations define storm water discharge associated with industrial activity at 40 CFR 122.26(b)(14). Category (viii) of this definition includes transportation facilities classified as Standard Industrial Classification (SIC) codes 40, 41, 42 (except 4221–25), 43, 44, 45, and 5171 that have vehicle and equipment maintenance shops, equipment cleaning operations, or airport deicing operations. The category further states that only those portions of the facility that are either involved in vehicle and equipment maintenance (including vehicle and equipment rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, or airport deicing operations are associated with industrial activity. The facilities that would potentially be covered by this section of today's permit are transportation facilities (commonly assigned SIC codes 40, 41, 42, 43, and 5171).

This sector includes facilities primarily engaged in furnishing transportation by line-haul railroad, and switching and terminal establishments (SIC code 40). The following are examples of these types of facilities: electric railroad line-haul operation, railroad line-haul operation, interurban railways, beltline railroads, logging railroads, railroad terminals, and stations operated by railroad terminal companies.

Facilities primarily engaged in furnishing local and suburban transportation (SIC code 41), such as those providing transportation in and around a municipality by bus, rail, or subway are also covered under this section. Examples include: bus line operation, airport transportation service (road or rail), cable car operation, subway operation, ambulance service, sightseeing buses, van pool operation, limousine rental with drivers, taxicab operation, and school buses not operated by the educational institution.

In addition, facilities providing local or long-distance trucking, transfer, and/or storage services (SIC code 42) are included in this sector. The following are examples of such facilities: hauling by dump truck, trucking timber, contract mail carriers, furniture moving, garbage collection without disposal, over-the-road trucking, long distance trucking, and freight trucking terminal.

All establishments of the United States Postal Service (SIC code 43) and establishments engaged in the wholesale distribution of crude petroleum and petroleum products from bulk liquid storage facilities (SIC code 5171) are also covered under this sector.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Pollutants Found in Storm Water Discharges From Vehicle and Equipment Maintenance and Cleaning Operations

The following table lists potential pollutant source activities that commonly take place at vehicle and equipment maintenance and equipment cleaning operations.

TABLE P–1.—POTENTIAL POLLUTANT SOURCE ACTIVITIES AT VEHICLE AND EQUIPMENT MAINTENANCE AND EQUIPMENT CLEANING OPERATIONS

Activity	Pollutant source	Pollutant
Fueling	Spills and leaks during fuel delivery	Fuel, oil, heavy metals.
	Spills caused by "topping off" fuel tanks	Fuel, oil, heavy metals.
	Rainfall falling on the fuel area or storm water running onto the fuel area.	Fuel, oil, heavy metals.
	Hosing or washing down fuel area	Fuel, oil, heavy metals.
	Leaking storage tanks	Fuel, oil, heavy metals.
Vehicle and equipment maintenance.	Parts cleaning	Chlorinated solvents, oil, heavy metals, acid/alkaline wastes.
	Waste disposal of greasy rags, oil filters, air filters, batteries, hydraulic fluids, transmission fluid, radiator fluids, degreasers.	Oil, heavy metals, chlorinated solvents, acid/alkaline wastes, ethylene glycol.
	Spills of oil, degreasers, hydraulic fluids, transmission fluid, radiator fluids.	Oil, arsenic, heavy metals, organics, chlorinated solvents, ethylene glycol.
	Fluids replacement, including oil, hydraulic fluids, transmission fluid, radiator fluids.	Oil, arsenic, heavy metals, organics, chlorinated solvents, ethylene glycol.
Outdoor vehicle and equipment storage and parking.	Leaking vehicle fluids including hydraulic lines and radiators, leaking or improperly maintained locomotive on-board drip collection systems, brake dust..	Oil, hydraulic fluids, arsenic, heavy metals, organics, fuel.
Painting areas	Paint and paint thinner spills	Paint, spent chlorinated solvents, heavy metals.
	Spray painting	Paint solids, heavy metals.
	Sanding or paint stripping	Dust, paint solids, heavy metals.
	Paint clean-up	Paint, spent chlorinated solvents, heavy metals.
Railroad locomotive sanding	Loading traction sand on locomotives	Sediment.
Vehicle or equipment washing areas.	Washing or steam cleaning	Oil, detergents, heavy metals, chlorinated solvents, phosphorus, salts, suspended solids.
Liquid storage in above ground storage.	External corrosion and structural failure	Fuel, oil, heavy metals, materials being stored.
	Installation problems	Fuel, oil, heavy metals, materials being stored.
	Spills and overfills due to operator error	Fuel, oil, heavy metals, materials being stored.
	Failure of piping systems (pipes, pumps, flanges, couplings, hoses, and valves).	Fuel, oil, heavy metals, materials being stored

TABLE P–1.—POTENTIAL POLLUTANT SOURCE ACTIVITIES AT VEHICLE AND EQUIPMENT MAINTENANCE AND EQUIPMENT CLEANING OPERATIONS—Continued

Activity	Pollutant source	Pollutant
	Leaks or spills during pumping of liquids from barges, trucks, or rail cars to a storage facility.	Fuel, oil, heavy metals, materials being stored.
Cold weather activities	Salt application	Sodium chloride.
	Dirt/ash application	Suspended solids, heavy metals
Improper connections to storm sewer.	Process wastewater	Dependent on operations.
	Sanitary water	Bacteria, biochemical oxygen demand (BOD), suspended solids.
	Floor drains	Oil, heavy metals, chlorinated solvents, fuel, ethylene glycol.
	Vehicle washwaters	Oil, detergents, metals, chlorinated solvents, phosphorus, suspended solids.
	Radiator flushing wastewater	Ethylene glycol.
	Leaky underground storage tanks	Materials stored or previously stored.

Sources: EPA, Office of Research and Development. October 1991. ''Guides to Pollution Prevention—The Automotive Refinishing Industry.'' EPA/625/7–91/016.
EPA, Office of Research and Development. October 1991. ''Guides to Pollution Prevention—The Automotive Repair Industry.'' EPA/625/7–91/013.
EPA, Office of Research and Development. May 1992. ''Facility Pollution Prevention Guide.'' EPA/600/R–92/088.
EPA, Office of Water. September 1992. ''Storm Water Management for Industrial Activities—Developing Pollution Prevention Plans and Best Management Practices.'' EPA 832–R–92–006.
U.S. Postal Service. May 1992. ''NPDES/Storm Water Guide.'' AS–554.

Based on the wide variety of industrial activities and significant materials at the facilities included in this sector, EPA believes it is appropriate to divide the land transportation industry into subsectors to properly analyze sampling data and determine monitoring requirements. As a result, this sector has been divided into the following subsectors: railroad transportation; local and highway passenger transportation; motor freight transportation and warehousing; United States Postal Service; and petroleum bulk stations and terminals. The tables below include data for the eight pollutants that all facilities were required to monitor for under Form 2F. The tables also list those parameters that EPA has determined may merit further monitoring.

TABLE P–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY RAILROAD TRANSPORTATION FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant, Sample	# of Facilities		# of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	100	89	141	126	17.3	9.6	0.0	0.0	310.0	155.0	7.0	6.0	51.8	26.8	102.8	44.8
COD	102	89	143	124	320.0	179.8	0.0	0.0	11800	5470.0	145.0	89.0	879.3	475.3	1848.1	927.8
Nitrate + Nitrite Nitrogen	103	89	144	124	1.57	1.32	0.00	0.00	19.50	19.00	0.92	0.78	5.66	3.68	12.01	6.76
Total Kjeldahl Nitrogen	103	89	144	124	4.35	3.00	0.00	0.00	72.00	58.00	1.90	1.50	13.63	8.79	29.13	17.39
Oil & Grease	104	N/A	144	N/A	33.7	N/A	0.0	N/A	3340.0	N/A	0.0	N/A	46.92	N/A	140.26	N/A
pH	95	N/A	133	N/A	N/A	N/A	3.6	N/A	10.2	N/A	7.3	N/A	9.2	N/A	10.2	N/A
Total Phosphorus	103	89	144	124	2.85	1.02	0.00	0.00	180.00	23.00	0.55	0.44	7.05	3.51	19.63	8.19
Total Suspended Solids	103	89	144	124	474	221	0	0	4680	2620	176	77	2717	1000	9367	2853
Lead, Total	3	4	4	6	0.088	0.048	0.042	0.012	0.130	0.070	0.09	0.06	0.208	0.151	0.313	0.268
Zinc, Total	3	4	3	5	0.487	0.337	0.140	0.160	0.920	0.510	0.40	0.28	1.756	0.704	3.341	0.995

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE P–3.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY LOCAL AND HIGHWAY PASSENGER TRANSPORTATION FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant, Sample	# of Facilities		# of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	46	45	50	50	15.9	12.3	0.0	0.0	235.3	104.8	8.5	6.3	46.4	41.3	91.6	85.4
COD	47	45	51	50	51.4	39.2	0.0	0.0	376.0	216.0	18.5	18.4	186.2	123.8	411.4	228.8
Nitrate + Nitrite Nitrogen	46	43	50	48	14.39	7.66	0.00	0.10	181.40	104.00	1.79	1.30	66.44	28.71	265.35	96.75
Total Kjeldahl Nitrogen	45	44	49	49	4.22	2.37	0.00	0.00	81.26	15.74	1.82	1.20	11.84	8.23	24.12	16.53
Oil & Grease	53	N/A	59	N/A	47.1	N/A	0.0	N/A	771.0	N/A	6.0	N/A	183.0	N/A	621.6	N/A
pH	52	N/A	58	N/A	N/A	N/A	4.7	N/A	9.4	N/A	7.0	N/A	8.8	N/A	9.7	N/A
Total Phosphorus	47	45	52	50	0.92	0.65	0.00	0.00	7.50	7.00	0.33	0.33	3.40	2.32	8.20	5.12
Total Suspended Solids	46	46	50	51	246	134	0	0	2320	802	70	41	1319	725	4590	2397

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE P–4.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY MOTOR FREIGHT TRANSPORTATION AND WAREHOUSING FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant, Sample	# of Facilities		# of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	183	159	237	212	16.5	9.1	0.0	0.0	510.0	66.0	7.0	5.5	48.9	27.4	100.2	49.6
COD	185	158	242	210	146.1	82.0	0.0	0.0	1800.0	600.0	79.0	50.5	475.6	253.8	968.6	479.8
Nitrate + Nitrite Nitrogen	179	159	234	210	1.47	1.30	0.00	0.00	90.80	60.50	0.61	0.49	3.86	3.63	8.21	8.16
Total Kjeldahl Nitrogen	185	159	242	211	2.25	1.46	0.00	0.00	24.00	15.00	1.40	1.10	6.73	4.23	12.70	7.39
Oil & Grease	188	N/A	245	N/A	14.0	N/A	0.0	N/A	1340.0	N/A	2.8	N/A	37.8	N/A	95.1	N/A
pH	161	N/A	215	N/A	N/A	N/A	2.6	N/A	9.5	N/A	7.3	N/A	9.6	N/A	11	N/A
Total Phosphorus	184	157	238	208	1.09	0.61	0.00	0.00	37.40	6.80	0.32	0.29	3.64	2.16	9.30	4.72
Total Suspended Solids	185	158	242	210	466	360	0	0	4700	20900	159	90	2638	1448	9012	4615
Zinc, Total	7	5	7	5	0.294	0.159	0.031	0.020	1.100	0.370	0.17	0.08	1.111	0.680	2.434	1.496

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE P–5.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY UNITED STATES POSTAL SERVICE FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant, Sample	# of Facilities		# of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	16	16	22	22	8.1	9.2	0.0	0.0	25.0	62.0	5.5	4.8	22.6	25.2	38.0	44.5
COD	16	16	22	22	51.4	33.8	5.6	0.0	350.0	190.0	26.5	19.5	148.2	95.5	291.5	167.6
Nitrate + Nitrite Nitrogen	16	16	22	22	0.52	0.75	0.11	0.07	1.30	1.80	0.40	0.61	1.47	2.51	2.57	4.81
Total Kjeldahl Nitrogen	16	16	22	22	1.80	1.91	0.00	0.00	11.00	11.00	1.05	0.97	5.01	6.08	8.98	12.22
Oil & Grease	16	N/A	22	N/A	5.4	N/A	0.0	N/A	21.0	N/A	4.4	N/A	16.0	N/A	27.3	N/A
pH	16	N/A	22	N/A	N/A	N/A	0.1	N/A	8.4	N/A	6.7	N/A		N/A		N/A
Total Phosphorus	16	16	22	22	0.46	0.47	0.00	0.00	2.50	3.40	0.28	0.20	1.41	1.79	2.77	4.48
Total Suspended Solids	15	16	21	22	16	13	0	0	77	86	4	1	88	77	210	254
Zinc, Total	14	15	18	18	0.228	0.175	0.000	0.000	1.400	0.660	0.11	0.11	1.870	1.069	6.335	2.896

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE P–6.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY PETROLEUM BULK STATIONS AND TERMINALS SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant, Sample	# of Facilities		# of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	11	10	11	10	27.7	10.2	1.3	0.0	120.0	31.0	8.0	9.0	111.5	26.0	303.4	40.6
COD	11	10	11	10	118.3	75.9	15.0	9.3	390.0	200.0	94.0	60.5	432.7	232.4	900.6	412.4
Nitrate + Nitrite Nitrogen	11	10	11	10	1.07	0.74	0.00	0.00	5.10	2.90	0.35	0.39	4.83	3.20	13.44	7.51
Total Kjeldahl Nitrogen	10	9	10	9	2.60	2.02	0.00	0.00	5.80	4.60	2.80	2.00	7.14	4.39	11.47	6.11
Oil & Grease	11	N/A	11	N/A	8.8	N/A	0.0	N/A	28.0	N/A	5.4	N/A	36.7	N/A	78.5	N/A
pH	10	N/A	10	N/A	N/A	N/A	6.0	N/A	9.3	N/A	7.8	N/A	9.6	N/A	10.5	N/A
Total Phosphorus	11	10	11	10	0.61	0.45	0.00	0.04	4.60	2.0	0.12	0.27	1.90	1.71	4.82	3.92
Total Suspended Solids	11	10	11	10	253	151	6	0	1090	560	106	93	1612	633	5567	1387

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

3. Options for Controlling Pollutants

The measures commonly implemented to reduce pollutants in storm water associated with vehicle and equipment maintenance and equipment cleaning operations are generally uncomplicated practices. The following table identifies best management practices (BMPs) associated with different activities that routinely take place at vehicle and equipment maintenance and equipment cleaning operations.

TABLE P–7.—COMMON STORM WATER MANAGEMENT CONTROLS FOR ACTIVITIES AT VEHICLE AND EQUIPMENT MAINTENANCE SHOPS

Activity	BMPs
Fueling	Use spill and overflow protection. Minimize runon of storm water into the fueling area by grading the area such that storm water only runs off. Reduce exposure of the fuel area to storm water by covering the area. Use dry cleanup methods for fuel area rather than hosing the fuel area down. Use proper petroleum spill control. Perform preventive maintenance on storage tanks to detect potential leaks before they occur. Inspect the fueling area to detect problems before they occur. Train employees on proper fueling techniques.
Vehicle and equipment maintenance	Maintain an organized inventory of materials used in the maintenance shop. Dispose of greasy rags, oil filters, air filters, batteries, spent coolant, and degreasers properly. Label and track the recycling of waste material (e.g., used oil, spent solvents, batteries).

TABLE P–7.—COMMON STORM WATER MANAGEMENT CONTROLS FOR ACTIVITIES AT VEHICLE AND EQUIPMENT MAINTENANCE SHOPS—Continued

Activity	BMPs
	Drain oil filters before disposal or recycling. Drain and contain all fluids from wrecked vehicles and ''parts'' cars. Store cracked batteries in a nonleaking secondary container. Promptly transfer used fluids to the proper container; do not leave full drip pans or other open containers around the shop. Empty and clean drip pans and containers. Do not pour liquid waste down floor drains, sinks, or outdoor storm drain inlets. Plug floor drains that are connected to the storm or sanitary sewer; if necessary, install a sump that is pumped regularly. Inspect the maintenance area regularly for proper implementation of control measures. Train employees on proper waste control and disposal procedures.
Outdoor vehicle and equipment storage and parking.	Use drip pans under all vehicles and equipment waiting for maintenance. Cover the storage area with a roof. Inspect the storage yard for filling drip pans and other problems regularly. Train employees on procedures for storage and inspection items.
Locomotive sanding areas	Cover sand storage piles. Install sediment traps. Install curbs or dikes around storage piles to minimize storm water runon.
Painting areas	Keep paint and paint thinner away from traffic areas to avoid spills. Spray paint in an Occupational Safety and Health Act (OSHA) approved hood. Use effective spray equipment that delivers more paint to the target and less over-spray. Avoid sanding in windy weather and collect and dispose of waste properly. Recycle paint, paint thinner, and solvents. Inspect painting procedures to ensure that they are conducted properly. Train employees on proper sanding, painting, and spraying techniques.
Vehicle or equipment washing areas	Avoid washing parts or equipment outside. Use phosphate-free biodegradable detergents. Designate an area for cleaning activities. Contain and recycle washwaters. Ensure that washwaters drain well. Inspect cleaning area regularly. Train employees on proper washing procedures.
Liquid storage in above ground storage	Maintain good integrity of all storage containers. Install safeguards (such as diking or berming) against accidental releases at the storage area. Inspect storage tanks to detect potential leaks and perform preventive maintenance. Inspect piping systems (pipes, pumps, flanges, couplings, hoses, and valves) for failures or leaks. Train employees on proper filling and transfer procedures.
Cold weather activities	Minimize salt application. Use uncontaminated dirt or ash, if use is necessary. Train employees on proper salt, dirt, sand, or ash application
Improper connections to storm sewer	Plug all floor drains connected to sanitary or storm sewer or if connection is unknown. Alternatively, install a sump that is pumped regularly. Perform smoke or dye testing to determine if interconnections exist between sanitary water system and storm sewer system. Update facility schematics to accurately reflect all plumbing connections. Install a safeguard against vehicle washwaters entering the storm sewer unless permitted. Maintain and inspect the integrity of all underground storage tanks; replace when necessary. Train employees on proper disposal practices for all materials.

Sources: NPDES Storm Water Group Applications—Part 1. Received by EPA March 18, 1991, through December 31, 1992.

EPA, Office of Research and Development. October 1991. ''Guides to Pollution Prevention—The Automotive Refinishing Industry.'' EPA/625/7–91/016.

EPA, Office of Research and Development. October 1991. ''Guides to Pollution Prevention—The Automotive Repair Industry.'' EPA/625/7–91/013.

EPA, Office of Research and Development. May 1992. ''Facility Pollution Prevention Guide.'' EPA/600/R–92/088.

EPA, Office of Water. September 1992. ''Storm Water Management for Industrial Activities—Developing Pollution Prevention Plans and Best Management Practices.'' EPA 832–R–92–006.

U.S. Postal Service. May 1992. ''NPDES/Storm Water Guide.'' AS–554.

4. Pollutant Control Measures Required Through Other EPA Programs

EPA recognizes that other programs address the operation of vehicle and equipment maintenance and equipment cleaning operations. In particular, as described below, the Resource Conservation and Recovery Act (RCRA) and the Underground Storage Tank (UST) programs require careful management of materials used onsite which decreases the probability that storm water from such areas will be contaminated by these materials.

Under the RCRA program, on September 10, 1992, EPA promulgated standards in 40 CFR Part 279 for the management of used oils that are recycled (57 FR 41566). These standards include requirements for used oil generators, transporters, processors/re-refiners, and burners. The standards for used oil generators apply to all generators, regardless of the amount of used oil they generate. Do-it-yourself (DIY) generators which generate used oil from the maintenance of their personal vehicles, however, are not subject to the management standards (Section 279.20(a)(1)).

The requirements for used oil generators were designed to impose a minimal burden on generators while protecting human health and the environment from the risks associated with managing used oil. Under Subpart C of 40 CFR Part 279, used oil generators must not store used oil in units other than tanks, containers, or units subject to regulation under Part 264 or 265 of 40 CFR (Section 279.22(a)). In other words, generators may store used oil in tanks or containers that are not subject to Subpart J (Hazardous Waste Tanks) or Subpart I (Containers) of Parts 264/265, as long as such tanks or containers are maintained in compliance with the used oil management standards. This does not preclude generators from storing used oil in Subpart J tanks or Subpart I containers or other units, such as surface impoundments (Subpart K), that are subject to regulation under Part 264 or 265.

Storage units at generator facilities must be maintained in good condition and labeled with the words ''used oil.'' Upon detection of a release of used oil to the environment, a generator must take steps to stop the release, contain the released used oil, and properly manage the released used oil and other materials (Sections 279.22(b) to (d)). Generators storing used oil in underground storage tanks are subject to the UST regulations in 40 CFR Part 280.

If used oil generators ship used oil offsite for recycling, they must use a transporter who has notified EPA and obtained an EPA identification number (Section 279.24).

The technical standards for USTs at 40 CFR Part 280 require that new UST systems (defined as systems for which installation commenced after December 12, 1988) use overfill prevention equipment that will: 1) automatically shut off flow into the tank when the tank is no more than 95 percent full; or 2) alert the transfer operator when the tank is no more than 90 percent full by restricting the flow into the tank or triggering a high level alarm. The preceding requirements do not apply to systems that are filled by transfers of no more than 25 gallons at one time. Existing UST systems (defined as systems for which installation has commenced on or before December 12, 1988) are required to have installed the described overfill prevention equipment by December 12, 1998.

5. Special Conditions

The permit conditions that apply to ground transportation facilities build upon the requirements set forth in the common permit conditions for storm water discharges from industrial activities described in the front of this fact sheet. The discussion that follows, therefore, only addresses conditions that differ from those required in that section.

Due to concern that many non-storm water discharges may be present at vehicle and equipment cleaning and maintenance facilities, EPA is requiring that all facilities provide proof that these discharges are not commingled and are appropriately controlled so as to protect all receiving waters.

Today's permit clarifies in Part III.A.2. (Prohibition of Non-storm Water Discharges) that non-storm water discharges, including vehicle and equipment washwaters, are not authorized by this permit. The operators of such non-storm water discharges must obtain coverage under a separate NPDES permit if discharged to waters of the U.S. or through a municipal separate storm sewer system or comply with applicable industrial pretreatment requirements if discharged to a municipal sanitary sewer system. In a related requirement under the storm water pollution prevention plan requirements, the permittee is required to attach a copy of the NPDES permit issued for vehicle washwaters or, if an NPDES permit has not yet been issued, a copy of pending application to the plan. For facilities that discharge vehicle and equipment washwaters to the sanitary sewer system, the operator of the sanitary system and associated treatment plant must be notified. A copy of the notification letter must be attached to the plan. If an industrial user permit is issued under a pretreatment program, a copy of that permit must be attached in the plan as does any other permit to which the facility is subject. Some facilities may use other methods of disposal, such as collecting and hauling the wash water offsite. In these cases, the facility must document how the wash water is disposed and attach all pertinent documentation of that disposal practice to the plan.

6. Storm Water Pollution Prevention Plan Requirements

a. Description of Potential Pollutant Sources. Under the description of potential pollutant sources in the storm water pollution prevention plan requirements, permittees are required to include storage areas for vehicles and equipment awaiting maintenance on their facility site map. EPA believes that this is appropriate since this area may potentially be a significant source of pollutants to storm water.

b. Measures and Controls. Under the description of measures and controls in the storm water pollution prevention plan requirements, this section requires that all areas that may contribute pollutants to storm waters discharges shall be maintained in a clean, orderly manner. This section also requires that the following areas must be specifically addressed:

(1) Vehicle and Equipment Storage Areas. The storage of vehicles and equipment with actual or potential fluid leaks must be confined to designated areas (delineated on the site map). The plan must describe measures that prevent or minimize contamination of the storm water runoff from these areas. The facility shall consider the use of drip pans under vehicles and equipment, indoor storage of the vehicles and equipment, installation of berming and diking of this area, use of absorbents, roofing or covering storage areas, cleaning pavement surface to remove oil and grease, or other equivalent methods.

(2) Fueling Areas. The plan must describe measures that prevent or minimize contamination of the storm water runoff from fueling areas. The facility shall consider covering the fueling area, using spill and overflow protection and cleanup equipment, minimizing runon of storm water to the fueling area, using dry cleanup methods, collecting the storm water runoff and providing treatment or recycling, or other equivalent measures.

(3) Material Storage Areas. Storage units of all materials (e.g., used oil, used oil filters, spent solvents, paint wastes, radiator fluids, transmission fluids, hydraulic fluids) must be maintained in good condition, so as to prevent contamination of storm water, and plainly labeled (e.g., ''used oil,'' ''spent solvents,'' etc.). The plan must describe measures that prevent or minimize contamination of the storm water runoff from such storage areas. The facility shall consider indoor storage of the materials, installation of berming and diking of the area or other equivalent methods.

(4) Vehicle and Equipment Cleaning Areas. The plan must describe measures that prevent or minimize contamination of the storm water runoff from all areas used for vehicle and equipment cleaning. The facility shall consider performing all cleaning operations indoors, covering the cleaning operation, ensuring that all washwaters drain to the intended collection system (i.e., not the storm water drainage system unless NPDES permitted), collecting the storm water runoff from the cleaning area and providing treatment or recycling, or other equivalent measures. The discharge of vehicle and equipment wash waters, including tank cleaning operations, are

not authorized by this section and must be covered under a separate NPDES permit or discharged to a sanitary sewer in accordance with applicable industrial pretreatment requirements.

(5) Vehicle and Equipment Maintenance Areas. The plan must describe measures that prevent or minimize contamination of the storm water runoff from all areas used for vehicle and equipment maintenance. The facility shall consider performing all maintenance activities indoors, using drip pans, maintaining an organized inventory of materials used in the shop, draining all parts of fluids prior to disposal, prohibiting the practice of hosing down the shop floor where the practice would result in the exposure of pollutants to storm water, using dry cleanup methods, collecting the storm water runoff from the maintenance area and providing treatment or recycling, or other equivalent measures.

(6) Locomotive Sanding (Loading Sand for Traction) Areas. The plan must describe measures that prevent or minimize contamination of the storm water runoff from areas used for locomotive sanding (including locomotive sanding). The facility shall consider covering sanding areas, minimizing storm water runon/runoff, appropriate sediment removal practices to minimize the offsite transport of sanding material by storm water, or other equivalent measures.

As documented earlier, these six areas are the common sources of pollutants in storm water from vehicle and equipment cleaning and maintenance activities. Based upon the information provided in part 1 of the group application process, the suggested management measures are commonly used at ground transportation facilities. EPA believes that the incorporation of management practices such as those suggested, in conjunction with the baseline requirements, will substantially reduce the potential that these activities and areas will significantly contribute to the pollution of storm water discharges. In addition, EPA believes that these requirements continue to provide the necessary flexibility to address the variable risk for pollutants in storm water discharges associated with different facilities. Further, many facilities will find that management measures that they have already incorporated into the facility's operation, such as the installation of overfill protection equipment and labelling and maintenance of used oil storage units, that are already required under existing EPA programs will meet the requirements of this section.

Under the inspection requirements of the storm water pollution prevention plan elements, this section requires that in addition to the comprehensive site evaluation required under Part XI of today's permit, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility, at a minimum, on a quarterly basis. The following areas shall be included in all inspections: storage areas for vehicles and equipment awaiting maintenance, fueling areas, vehicle and equipment maintenance areas (both indoors and outdoors), material storage areas, vehicle and equipment cleaning areas, and loading and unloading areas. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of all inspections shall be maintained.

The purpose of the inspections is to check on the implementation of the storm water pollution prevention plan. The inspections allow facility personnel to monitor the success or failure of elements of the plan on a regular basis. The discharger is encouraged to coordinate these quarterly inspections with the quarterly visual examinations of storm water discharges required under the monitoring section of the permit. The use of an inspection checklist is recommended. The checklist will ensure that all required areas are inspected, as well as help to meet the recordkeeping requirements.

Under the employee training component of the storm water pollution prevention plan requirements, the permittee is required to identify annual (once per year) dates for such training. Employee training must, at a minimum, address the following areas when applicable to a facility: used oil management; spent solvent management; spill prevention and control; fueling procedures; general good housekeeping practices; proper painting procedures; and used battery management. Unlike some industrial operations, the industrial activities associated with vehicle and equipment maintenance that may affect storm water quality require the cooperation of many employees, not just one or two people. EPA, therefore, is requiring that employee training take place at least once a year to serve as: (1) training for new employees that may be involved in storm water pollution prevention; (2) a refresher course for existing employees involved in storm water pollution prevention; and (3) training for all affected employees on any storm water pollution prevention techniques recently incorporated into the plan.

7. Monitoring and Reporting Requirements

a. Monitoring Requirements. The regulatory modifications at 40 CFR 122.44(i)(2) established on April 2, 1992, grant permit writers the flexibility to reduce monitoring requirements in storm water discharge permits. EPA has determined that the potential for storm water discharges to contain pollutants above benchmark levels, because of the industrial activities and materials exposed to precipitation, does not support sampling at facilities in this section of today's permit. Based on a consideration of the BMPs typically used at these facilities, and generally low pollutant values from the application data, EPA believes that the pollution prevention plan with visual observations of storm water discharges will help to ensure storm water contamination is minimized. Because permittees are not required to conduct sampling, they will be able to focus their resources on developing and implementing the pollution prevention plan.

Under the Storm Water Regulations at 40 CFR 122.26(b)(14), EPA defined "storm water discharge associated with industrial activity". The focus of today's permit is to address the presence of pollutants that are associated with the industrial activities identified in this definition and that might be found in storm water discharges. Under the methodology for determining analytical monitoring requirements, described in section VI.E.1 of this fact sheet, nitrate plus nitrite nitrogen, lead and/or zinc are above the bench mark concentrations for the railroad transportation, local and highway passenger transportation, motor freight transportation and warehousing, and United States Postal services subsectors. After a review of the nature of industrial activities and the significant materials exposed to storm water described by facilities in these subsectors, EPA has determined that the higher concentrations of nitrate plus nitrite nitrogen, lead and/or zinc are not likely to be caused by the industrial activity, but may be primarily due to non-industrial activities on-site. Today's permit does not require railroad transportation, local and highway passenger transportation, motor freight transportation and warehousing, and United States Postal services facilities to conduct analytical monitoring for these parameters.

Quarterly visual examinations of a storm water discharge from each outfall are required at ground transportation facilities. The examination must be of a grab sample collected from each storm water outfall. The examination of storm water grab samples shall include any observations of color, odor, turbidity, floating solids, foam, oil sheen, or other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on these samples.

The examination must be made at least once in each designated period during facility operation in the daylight hours unless there is insufficient rainfall or snow-melt to runoff. EPA expects that, whenever practicable, the same individual should carry out the collection and examination of discharges throughout the life of the permit to ensure the greatest degree of consistency possible. Examinations shall be conducted in each of the following periods for the purposes of inspecting storm water quality associated with storm water runoff and snow melt: January through March; April through June; July through September; October through December. Grab samples shall be collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 60 minutes) of when the runoff begins discharging. Reports of the visual examination include: the examination date and time, examination personnel, visual quality of the storm water discharge, and probable sources of any observed storm water contamination. The visual examination reports must be maintained onsite with the pollution prevention plan.

EPA believes that this quick and simple assessment will help the permittee to determine the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examinations. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and the effects of the management practices that are included in the plan.

When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the results of the visual examinations. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

As discussed above, EPA does not believe that chemical monitoring is necessary for facilities in this section of today's permit. EPA believes that between quarterly inspections, quarterly visual examinations, and site compliance evaluations potential sources of contaminants can be recognized, addressed, and then controlled with BMPs. In determining the monitoring requirements, EPA considered the nature of the industrial activities and significant materials exposed at these sites, and performed a review of data provided in Part 2 group applications.

Q. Storm Water Discharges Associated With Industrial Activity From Water Transportation Facilities That Have Vehicle Maintenance Shops and/or Equipment Cleaning Operations

1. Discharges Covered Under This Section

Special conditions have been developed for water transportation facilities that have vehicle and equipment maintenance shops (vehicle and equipment rehabilitation, mechanical repairs, painting, fueling, and lubrication) and equipment cleaning operations. Vehicle and equipment maintenance is a broad term used to include the following activities: vessel and equipment fluid changes, mechanical repairs, parts cleaning, sanding, blasting, welding, refinishing, painting, fueling, and storage of the related materials and waste materials, such as oil, fuel, batteries, or oil filters. Equipment cleaning operations include areas where vessel and vehicle exterior washdown takes place. The conditions in this section apply to storm water discharges from vehicle and equipment maintenance shops or cleaning operations located at water transportation facilities covered under the storm water application regulations (40 CFR 122.26) and applying for coverage under today's permit.

The storm water application regulations define storm water discharges associated with industrial activity at 40 CFR 122.26(b)(14). Category (viii) of this definition includes transportation facilities classified as Standard Industrial Classification (SIC) codes 40, 41, 42 (except 4221–25), 43, 44, 45, and 5171 that have vehicle and equipment maintenance shops, equipment cleaning operations, or airport deicing operations. The category further states that only those portions of the facility that are either involved in vehicle and equipment maintenance (including vehicle and equipment rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, or airport deicing operations are associated with industrial activity. The conditions in this section only apply to water transportation facilities.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

Facilities covered by this section of today's permit are commonly identified by SIC code major group 44.

SIC code 44 includes facilities primarily engaged in furnishing water transportation services. The following types of facilities are examples of those covered under SIC code 44:

a. Deep Sea Foreign Transportation of Freight (SIC 4412).

b. Deep Sea Domestic Transportation of Freight (SIC 4424).

c. Freight Transportation on the Great Lakes—St. Lawrence Seaway (SIC 4432).

d. Water Transportation of Freight, Not Elsewhere Classified (SIC 4449). Including: canal barge operations; canal freight transportation; intracoastal freight transportation lake freight transportation, except on the Great Lakes; log rafting and towing; river freight transportation, except on the St. Lawrence Seaway; and transportation of freight on bays and sounds of the oceans.

e. Deep Sea Transportation of Passengers, Except by Ferry (SIC 4481).

f. Ferries (SIC 4482). Including: car lighters (ferries); and railroad ferries.

g. Water Transportation of Passengers, Not Elsewhere Classified (SIC 4489). Including: airboats (swamp buggy rides); excursion boat operations; passenger water transportation on rivers and canals; sightseeing boats; and water taxis.

h. Marine Cargo Handling (SIC 4491). Including: docks, including buildings and facilities; loading vessels; marine cargo handling; piers, including buildings and facilities; ship hold cleaning; stevedoring; unloading vessels; and waterfront terminal operation.

i. Towing and Tugboat Services (SIC 4492). Including: docking of ocean vessels; shifting of floating equipment within harbors; towing services, marine; tugboat service; and undocking of ocean vessels.

j. Marinas (SIC 4493).[97] Including: boat yards, storage and incidental repair; and yacht basins.

k. Water Transportation Services, Not Elsewhere Classified (SIC 4499). Including: boat cleaning; boat hiring, except pleasure; boat livery, except pleasure; boat rental, commercial; canal operation; cargo salvaging, from distressed vessels; chartering of commercial boats; dismantling ships; lighterage; marine railways for drydocks; marine salvaging; marine surveyors, except cargo; marine wrecking, ships for scrap; piloting vessels in and out of harbors; ship cleaning, except hold cleaning; ship registers: survey and classification of ships and marine equipment; and steamship leasing.

2. Pollutants Found in Storm Water Discharges

Table Q–1 lists potential pollutant source activities that commonly take place at water transportation vehicle maintenance and equipment cleaning operations.

TABLE Q–1.—INDUSTRIAL ACTIVITIES, POLLUTANT SOURCES, AND POLLUTANTS

Activity	Pollutant source	Pollutant
Pressure Washing	Wash water	Paint solids, heavy metals, suspended solids.
Surface Preparation Paint Removal Sanding	Sanding; mechanical grinding; abrasive blasting; paint stripping.	Spent abrasives, paint solids, heavy metals, solvents, dust.
Painting	Paint and paint thinner spills; spray painting; paint stripping; sanding; paint cleanup.	Paint solids, spent solvents, heavy metals, dust.
Engine Maintenance and Repairs	Parts cleaning; waste disposal of greasy rags, used fluids, and batteries; use of cleaners & degreasers; fluid spills; fluid replacement.	Spent solvents, oil, heavy metals, ethylene glycol, acid/alkaline wastes, detergents.
Material Handling: Transfer Storage Disposal	Fueling: spills; leaks; and hosing area	Fuel, oil, heavy metals.
	Liquid Storage in Above Ground Storage: spills and overfills; external corrosion; failure of piping systems.	Fuel, oil, heavy metals, material being stored.
	Waste Material Storage and Disposal: paint solids; solvents; trash; spent abrasives, petroleum products.	Paint solids, heavy metals, spent solvents, oil.
Shipboard Processes improperly discharged to storm sewer or into receiving water.	Process & cooling water; sanitary waste; bilge & ballast water.	Biochemical oxygen demand (BOD), bacteria, suspended solids, oil, fuel.

Sources: EPA, Office of Water and Hazardous Materials. December 1979. ''Draft Development Document for Proposed Effluent Limitations Guidelines and Standards for the Shipbuilding and Repair Industry.'' EPA/440/1–79/076–b.

University of South Alabama, College of Engineering. September 1992. ''Best Management Practices for the Shipbuilding and Repair Industry and for Bridge Maintenance Activities.'' College of Engineering Report No. 92–2.

NPDES Storm Water Group Applications—Part 1. Received by EPA March 18, 1991, through December 31, 1992.

EPA, Office of Research and Development. October 1991. ''Guides to Pollution Prevention—The Automotive Refinishing Industry.'' EPA/625/7–91/016.

EPA, Office of Research and Development. October 1991. ''Guides to Pollution Prevention—The Automotive Repair Industry.'' EPA/625/7–91/013.

EPA, Office of Research and Development. May 1992. ''Facility Pollution Prevention Guide.'' EPA/600/R–92/088.

EPA, Office of Water. September 1992. ''Storm Water Management for Industrial Activities—Developing Pollution Prevention Plans and Best Management Practices.'' EPA 832–R–92–006.

U.S. Postal Service. May 1992. ''NPDES/Storm Water Guide.'' AS–554.

Based on the similarities of the facilities included in this sector in terms of industrial activities and significant materials, EPA believes it is appropriate to discuss the potential pollutants at water transportation facilities having vehicle maintenance and/or equipment cleaning operations as a whole and not subdivide this sector. Therefore, Table Q–2 lists data for selected parameters from facilities in the water transportation sector. These data include the eight pollutants that all facilities were required to monitor for under Form 2F, as well as the pollutants that EPA determined merit further monitoring.

[97] ''Guidelines for the Determination of Regulatory Status of Marinas and Related Operations.'' Facilities that are ''primarily engaged'' in operating marinas are best classified as SIC 4493—marinas. These facilities rent boat skips, store boats and generally perform a range of other marine services including boat cleaning and incidental boat repair. They frequently sell food, fuel, fishing supplies and may sell boats. For facilities classified as 4493 that are involved in vehicle (vessel) maintenance activities (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication) or equipment cleaning operations, those portions of the facility that are involved in such vehicle maintenance activities are considered to be associated with industrial activity and are covered under the storm water regulations.

Facilities classified as 4493 that are not involved in equipment cleaning or vessel maintenance activities (including vehicle rehabilitation, mechanical repairs, painting, and lubrication) are not intended to be covered under 40 CFR Section 122.26(b)(14)(viii) of the storm water permit application regulations. The retail sale of fuel alone at marinas, without any other vessel maintenance or equipment cleaning operations, is not considered to be grounds for coverage under the storm water regulations.

TABLE Q–2.—STATISTICS FOR CONVENTIONAL POLLUTANTS AND STORM WATER [i] (IN mg/L UNLESS OTHERWISE INDICATED)

Pollutant Sample type	No. of Facilities		No. of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	15	14	15	14	8.6	6.0	0.0	0.0	39.0	11.0	7.0	6.0	36.3	13.4	76.3	18.7
COD	15	14	15	14	130.9	75.8	0.0	10.0	500.0	203.0	93.0	50.5	588	254.8	1327.6	496.8
Nitrate + Nitrite Nitrogen	15	14	15	14	4.23	0.66	0.00	0.00	54.00	1.61	0.60	0.65	8.61	1.89	23.9	3.07
Total Kjeldahl Nitrogen	15	14	15	14	2.64	9.41	0.00	0.00	16.00	118.00	1.60	0.75	9.72	16.96	20.67	51.31
Oil & Grease	15	N/A	15	N/A	11.9	N/A	0.0	N/A	96.0	N/A	2.0	N/A	40.9	N/A	109.9	N/A
pH (s.u)	15	11	15	N/A	N/A	N/A	4.1	N/A	8.8	N/A	7.0	N/A	9.5	N/A	10.8	N/A
Total Phosphorus	15	14	15	14	0.27	0.15	0.00	0.00	1.20	0.32	0.10	0.17	1.32	0.51	3.19	.90
Total Suspended Solids	15	14	15	14	634	224	3	5	4330	944	135	68	3906	1116	1635.2	3351
Aluminum	4	3	4	3	3.1	2.2	0.2	0.2	6.3	5.4	3.0	1.0	24.4	14.2	81.2	40.9
Iron	4	3	4	3	26.7	5.0	0.2	0.4	94.0	8.9	6.3	5.7	N/A	40.6	40.9	122.8
Lead	4	3	4	3	0.2	0.1	0.0	0.0	0.7	0.1	0.1	0.1	N/A	.1	N/A	0.2
Zinc	4	3	4	3	0.7	0.4	0.1	0.2	2.2	0.9	0.2	0.2	N/A	1.3	N/A	2.4

[i] Mean, Maximum, Minimum, Median, and Percentiles include all detects and nondetects.
[ii] Composite samples.
Note: There is no information for 95th percentile columns.

3. Options for Controlling Pollutants

The measures commonly implemented to reduce pollutants in storm water associated with water transportation vehicle maintenance and/or equipment cleaning operations are generally simple to implement and are uncomplicated practices. Table Q–3 identifies Best Management Practices (BMPs) associated with different activities that routinely take place at water transportation facilities with vehicle maintenance and equipment cleaning operations.

TABLE Q–3.—INDUSTRIAL ACTIVITIES AND POTENTIAL BEST MANAGEMENT PRACTICES

Activity	BMPs
Pressure washing	Collect discharge water and remove all visible solids before discharging to a sewer system, or where permitted, to a drainage system, or receiving water. Perform pressure washing only in designated areas where wash water containment can be effectively achieved. Use no detergents or additives in the pressure wash water. Direct deck drainage to a collection system sump for settling and/or additional treatment. Implement diagonal trenches or berms and sumps to contain and collect wash water at marine railways. Use solid decking, gutters, and sumps at lift platforms to contain and collect wash water for possible reuse.
Surface preparation, sanding, and paint removal.	Enclose, cover, or contain blasting and sanding activities to the extent practical to prevent abrasives, dust, and paint chips from reaching storm sewers or receiving water. Where feasible, cover drains, trenches, and drainage channels to prevent entry of blasting debris to the system. Prohibit uncontained blasting or sanding activities performed over open water. Prohibit blasting or sanding activities performed during windy conditions which render containment ineffective. Inspect and clean sediment traps to ensure the interception and retention of solids prior to entering the drainage system. Sweep accessible areas of the drydock to remove debris and spent sandblasting material prior to flooding. Collect spent abrasives routinely and store under a cover to await proper disposal.
Painting	Enclose, cover, or contain painting activities to the maximum extent practical to prevent overspray from reaching the receiving water. Prohibit uncontained spray painting activities over open water. Prohibit spray painting activities during windy conditions which render containment ineffective. Mix paints and solvents in designated areas away from drains, ditches, piers, and surface waters, preferably indoors or under cover. Have absorbent and other cleanup items readily available for immediate cleanup of spills. Allow empty paint cans to dry before disposal. Keep paint and paint thinner away from traffic areas to avoid spills. Recycle paint, paint thinner, and solvents. Train employees on proper painting and spraying techniques, and use effective spray equipment that delivers more paint to the target and less overspray.
Drydock maintenance	Clean and maintain drydock on a regular basis to minimize the potential for pollutants in the storm water runoff. Sweep accessible areas of the drydock to remove debris and spent sandblasting material prior to flooding. If hosing must be used as a removal method, collect wash water to remove solids and potential metals. Clean the remaining areas of the dock after a vessel has been removed and the dock raised. Remove and properly dispose of floatable and other low-density waste (wood, plastic, insulation, etc.).
Drydocking	Use plastic barriers beneath the hull, between the hull and drydock walls for containment. Use plastic barriers hung from the flying bridge of the drydock, from the bow or stern of the vessel, or from temporary structures for containment.

TABLE Q–3.—INDUSTRIAL ACTIVITIES AND POTENTIAL BEST MANAGEMENT PRACTICES—Continued

Activity	BMPs
	Weight the bottom edge of the containment tarpaulins or plastic sheeting during a light breeze. Use plywood and/or plastic sheeting to cover open areas between decks when sandblasting (scuppers, railings, freeing ports, ladders, and doorways). Install tie rings or cleats, cable suspension systems, or scaffolding to make implementation containment easier.
Nondrydock containment	Hang tarpaulin from the boat, fixed, or floating platforms to reduce pollutants transported by wind. Pave or tarp surfaces under marine railways. Clean railways before the incoming tide. Haul vessels beyond the high tide zone before work commences or halt work during high tide. Place plastic sheeting or tarpaulin underneath boats to contain and collect waste and spent materials and clean and sweep regularly to remove debris. Use fixed or floating platforms with appropriate plastic or tarpaulin barriers as work surfaces and for containment when work is performed on a vessel in the water to prevent blast material or paint overspray from contacting storm water or the receiving water. Sweep, rather than hose, debris present on the dock.
Engine maintenance and repairs	Maintain an organized inventory of materials used in the maintenance shop. Dispose of greasy rag, oil filters, air filters, batteries, spent coolant, and degreasers properly. Label and track the recycling of waste material (i.e., used oil, spent solvents, batteries). Drain oil filters before disposal or recycling. Store cracked batteries in a nonleaking secondary container. Promptly transfer used fluids to the proper container; do not leave full drip pans or other open containers around the shop. Empty and clean drip pans and containers. Do not pour liquid waste down floor drains, sinks, or outdoor storm drain inlets. Plug floor drains that are connected to the storm or sanitary sewer; if necessary, install a sump that is pumped regularly. Inspect the maintenance area regularly for proper implementation of control measures. Train employees on proper waste control and disposal procedures.
Material Handling: Bulk liquid storage and containment.	Store permanent tanks in a paved area surrounded by a dike system which provides sufficient containment for the larger of either 10 percent of the volume of all containers or 110 percent of the volume of the largest tank. Maintain good integrity of all storage tanks. Inspect storage tanks to detect potential leaks and perform preventive maintenance. Inspect piping systems (pipes, pumps, flanges, couplings, hoses, valves) for failures or leaks. Train employees on proper filling and transfer procedures.
Material Handling: Containerized material storage.	Store containerized materials (fuels, paints, solvents, etc.) in a protected, secure location and away from drains. Store reactive, ignitable, or flammable liquids in compliance with the local fire code. Identify potentially hazardous materials, their characteristics, and use. Control excessive purchasing, storage, and handling of potentially hazardous materials. Keep records to identify quantity, receipt date, service life, users, and disposal routes. Secure and carefully monitor hazardous materials to prevent theft, vandalism, and misuse of materials. Educate personnel for proper storage, use, cleanup, and disposal of materials. Provide sufficient containment for outdoor storage areas for the larger of either 10 percent of the volume of all containers or 110 percent of the volume of the largest tank. Use temporary containment where required by portable drip pans. Use spill troughs for drums with taps.
Material Handling	Mix paints and solvents in designated areas away from drains, ditches, piers, and surface waters. Locate designated areas preferably indoors or under a shed.
Designated material mixing areas	If spills occur, • Stop the source of the spill immediately. • Contain the liquid until cleanup is complete. • Deploy oil containment booms if the spill may reach the water. • Cover the spill with absorbent material. • Keep the area well ventilated. • Dispose of cleanup materials properly. • Do not use emulsifier or dispersant.
Shipboard process water handling	Keep process and cooling water used aboard ships separate from sanitary wastes to minimize disposal costs for the sanitary wastes. Keep process and cooling water from contact with spent abrasives and paint to avoid discharging these pollutants. Inspect connecting hoses for leaks.
Shipboard sanitary waste disposal	Discharge sanitary wastes from the ship being repaired to the yard's sanitary system or dispose of by a commercial waste disposal company. Use appropriate material transfer procedures, including spill prevention and containment activities.
Bilge and Ballast water	Collect and dispose of bilge and ballast waters which contain oils, solvents, detergents, or other additives to a licensed waste disposal company.

Sources: University of South Alabama, College of Engineering. September 1992. ''Best Management Practices for the Shipbuilding and Repair Industry and for Bridge Maintenance Activities.'' College of Engineering Report No. 92–2.

NPDES Storm Water Group Applications—Part 1. Received by EPA March 18, 1991 through December 31, 1992.
EPA, Office of Water. January 1993. ''Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters.'' 840–B–92–002.

4. Pollutant Control Measures Required Through Other EPA Programs

EPA recognizes that the Resource Conservation and Recovery Act (RCRA) and the Underground Storage Tank (UST) programs require careful management of materials used at Water Transportation Facilities and Boat Building & Repairing Facilities.

Under the RCRA program, on September 10, 1992, EPA promulgated standards in 40 CFR Part 279 for the management of used oils that are recycled (57 FR 41566). These standards include requirements for used oil generators, transporters, processors/re-refiners, and burners. The standards for used oil generators apply to all generators, regardless of the amount of used oil they generate. Do-it-yourself (DIY) generators which generate used oil from the maintenance of their personal vehicles, however, are not subject to the management standards (Section 279.20(a)(1)).

The requirements for used oil generators were designed to impose a minimal burden on generators while protecting human health and the environment from the risks associated with managing used oil. Under Subpart C of 40 CFR Part 279, used oil generators must not store used oil in units other than tanks, containers, or units subject to regulation under Part 264 or 265 of 40 CFR (Section 279.22(a)). In other words, generators may store used oil in tanks or containers that are not subject to Subpart J (Hazardous Waste Tanks) or Subpart I (Containers) of Parts 264/265, as long as such tanks or containers are maintained in compliance with the used oil management standards. This does not preclude generators from storing used oil in Subpart J tanks or Subpart I containers or other units, such as surface impoundments (Subpart K), that are subject to regulation under Part 264 or 265.

Storage units at generator facilities must be maintained in good condition and labeled with the words ''used oil.'' Upon detection of a release of used oil to the environment, a generator must take steps to stop the release, contain the released used oil, and properly manage the released used oil and other materials (Section 279.22(b) to (d)). Generators storing used oil in underground storage tanks are subject to the UST regulations (40 CFR Part 280).

If used oil generators ship used oil offsite for recycling, they must use a transporter who has notified EPA and obtained an EPA identification number (Section 279.24).

The technical standards for USTs at 40 CFR Part 280 require that new UST systems (defined as systems for which installation commenced after December 12, 1988) use overfill prevention equipment that will: (1) Automatically shut off flow into the tank when the tank is no more than 95 percent full; or (2) alert the transfer operator when the tank is no more than 90 percent full by restricting the flow into the tank or triggering a high level alarm. The preceding requirements do no apply to systems that are filled by transfers of no more than 25 gallons at one time. Existing UST systems (defined as systems for which installation has commenced on or before December 12, 1988) are required to have installed the described overfill prevention equipment by December 12, 1998.

5. Special Conditions

a. Prohibition of Non-storm Water Discharges. In addition to the non-storm water discharges prohibited in part III.A of the permit, this section specifically prohibits the following: bilge and ballast water, pressure wash water, sanitary wastes, and cooling water originating from vessels are not authorized by this section. The operators of such discharges must obtain coverage under a separate NPDES permit if discharged to waters of the U.S. or through a municipal separate storm sewer system. Certain non-storm water discharges, however, may be authorized by this permit. Part III.A.2 of today's permit lists these discharges.

This section does not authorize the non-storm water discharge of pressure wash water. Pressure washing is used to remove marine growth from vessels. EPA has found that unpermitted releases of pressure wash water is a habitual problem at water transportation facilities. Marine growths and paint debris found in the wash water can contain significant quantities of heavy metals, and this water cannot be discharged.

6. Storm Water Pollution Prevention Plan Requirements

The conditions that apply to water transportation facilities with vehicle maintenance and/or equipment cleaning operations build upon the requirements set forth in the baseline conditions permit for storm water discharges from industrial activities discussed previously.

a. Contents of the Plan.

(1) Description of Potential Pollutant Sources.

Under the description of potential pollutant sources in the storm water pollution prevention plan requirements, permittees are required to include the location(s) on their facility site map where engine maintenance and repair work, vessel maintenance and repair work, and pressure washing are performed. This requirement is the same as the permit conditions listed in the front section of this factsheet, which are based on the baseline general permit of September 9, 1992 Here it is expressed in more appropriate terms for the water transportation industry. The baseline general permit includes ''vehicle and equipment maintenance and/or cleaning areas.'' The language ''processing areas'', as described under the baseline general permit, has been specified to include painting, blasting, welding, and metal fabrication for this section. EPA believes that this specificity is appropriate for the water transportation industry and that these areas may potentially be a significant source of pollutants to storm water. Rather than requiring the location of ''storage areas'' as in the baseline general permit, this storm water pollution prevention plan specifies that the location of liquid storage areas (i.e., paint, solvents, resins) and material storage areas (i.e., blasting media, aluminum, steel) be shown. This again is the same requirement, but it is expressed in more specific terms for this industry. In addition, the site map must also indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls (e.g. storm water and air conditioner condensate). In order to increase the readability of the map, the inventory of the types of discharges contained in each outfall may be kept as an attachment to the site map.

(2) Measures and Controls.

Under the description of measures and controls in the storm water pollution prevention plan requirements, this section requires that all areas that may contribute pollutants to storm waters discharges shall be maintained in a clean, orderly manner. This section also requires that the following areas must be specifically addressed:

(a) Pressure Washing Area—When pressure washing is used to remove

marine growth from vessels, the discharge water must be permitted by an NPDES permit. The plan must describe the measures to collect or contain the discharge from the pressure washing area, detail the method for the removal of the visible solids, describe the method of disposal of the collected solids, and identify where the discharge will be released (i.e., the receiving waterbody, storm sewer system, sanitary sewer system).

(b) Blasting and Painting Areas—The facility must consider containing all blasting and painting activities to prevent abrasives, paint chips, and overspray from reaching the receiving water or the storm sewer system. The plan must describe measures taken at the facility to prevent or minimize the discharge of spent abrasive, paint chips, and paint into the receiving waterbody and storm sewer system. The facility may consider hanging plastic barriers or tarpaulins during blasting or painting operations to contain debris. Where required, a schedule for cleaning storm systems to remove deposits of abrasive blasting debris and paint chips should be addressed within the plan. The plan should include any standard operating practices with regard to blasting and painting activities. Such included items may be the prohibition of performing uncontained blasting and painting over open water or blasting and painting during windy conditions which can render containment ineffective.

(3) Material Storage Areas—All stored and containerized materials (fuels, paints, solvents, waste oil, antifreeze, batteries) must be stored in a protected, secure location away from drains and plainly labeled. The plan must describe measures that prevent or minimize contamination of the storm water runoff from such storage areas. The facility must specify which materials are stored indoors and consider containment or enclosure for materials that are stored outdoors. Above ground storage tanks, drums, and barrels permanently stored outside must be delineated on the site map with a description of the containment measures in place to prevent leaks and spills. The facility must consider implementing an inventory control plan to prevent excessive purchasing, storage, and handling of potentially hazardous materials. Those facilities where abrasive blasting is performed must specifically include a discussion on the storage and disposal of spent abrasive materials generated at the facility.

(d) Engine Maintenance and Repair Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from all areas used for engine maintenance and repair. The facility may consider performing all maintenance activities indoors, maintaining an organized inventory of materials used in the shop, draining all parts of fluids prior to disposal, prohibiting the practice of hosing down the shop floor, using dry cleanup methods, and/or collecting the storm water runoff from the maintenance area and providing treatment or recycling.

(e) Material Handling Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from material handling operations and areas (i.e., fueling, paint & solvent mixing, disposal of process wastewater streams from vessels). The facility may consider covering fueling areas; using spill and overflow protection; mixing paints and solvents in a designated area, preferably indoors or under a shed; and minimizing runon of storm water to material handling areas. Where applicable, the plan must address the replacement or repair of leaking connections, valves, pipes, hoses, and soil chutes carrying wastewater from vessels.

(f) Drydock Activities—The plan must address the routine maintenance and cleaning of the drydock to minimize the potential for pollutants in the storm water runoff. The plan must describe the procedures for cleaning the accessible areas of the drydock prior to flooding and final cleanup after the vessel is removed and the dock is raised. Cleanup procedures for oil, grease, or fuel spills occurring on the drydock must also be included within the plan. The facility should consider items such as sweeping rather than hosing off debris and spent blasting material from the accessible areas of the drydock prior to flooding and having absorbent materials and oil containment booms readily available to contain and cleanup any spills.

(g) General Yard Area—The plan must include a schedule for routine yard maintenance and cleanup. Scrap metal, wood, plastic, miscellaneous trash, paper, glass, industrial scrap, insulation, welding rods, packaging, etc., must be routinely removed from the general yard area. The facility may consider such measures as providing covered trash receptacles in each yard, on each pier, and on board each vessel being repaired.

These seven areas are the common sources of pollutants in storm water runoff from water transportation facilities which have vehicle maintenance and/or equipment cleaning activities. Based upon the September 1992 ''Best Management Practices for the Shipbuilding and Repair Industry and for Bridge Maintenance Activities'' prepared by the College of Engineering at the University of South Alabama, the suggested management measures are commonly used at water transportation facilities. EPA believes that the incorporation of management practices such as those suggested will substantially reduce the potential that these activities and areas will significantly contribute to the pollution of storm water discharges. In addition, EPA believes that these requirements continue to provide the necessary flexibility to address the variable risk for pollutants in storm water discharges associated with different facilities. Further, many facilities will find that management measures that they have already incorporated into the facility's operation, such as the installation of overfill protection equipment and labelling and maintenance of used oil storage units, that are already required under existing EPA programs will meet the requirements of this section.

Under the preventive maintenance requirements of the storm water pollution prevention plan elements, the plan specifically includes the routine inspection of sediment traps to ensure that spent abrasives, paint chips, and solids will be intercepted and retained prior to entering the storm drainage system. Because of the nature of operations such as abrasive blasting which occur at water transportation facilities, specific routine attention needs to be placed on the collection and proper disposal of spent abrasive materials, paint chips, and other solids.

Under the inspection requirements of the storm water pollution prevention plan elements, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility, at a minimum, on a monthly basis. The following areas shall be included in all inspections: pressure washing area, blasting and painting areas, material storage areas, engine maintenance and repair areas, material handling areas, drydock area, and general yard area. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records shall be maintained.

The purpose of the inspections is to check on the implementation of the storm water pollution prevention plan. The inspections allow facility personnel to monitor the success or failure of elements of the plan on a regular basis. The use of an inspection checklist is highly encouraged. The checklist will ensure that all required areas are inspected, as well as help to meet the record keeping requirements.

Under the employee training component of the storm water pollution prevention plan requirements, the permittee is required to identify at least annual (once per year) dates for such training. Employee training must, at a minimum address the following areas when applicable to a facility: used oil management; spent solvent management; proper disposal of spent abrasives; proper disposal of vessel wastewaters, spill prevention and control; fueling procedures; general good housekeeping practices; proper painting and blasting procedures; and used battery management. Employees, independent contractors, and customers must be informed about BMPs and be required to perform in accordance with these practices. The facility must consider posting easy to read descriptions or graphic depictions of BMPs and emergency phone numbers in the work areas. Unlike some industrial operations, the industrial activities associated with water transportation facilities that may affect storm water quality require the cooperation of all employees. EPA, therefore, is requiring that employee training take place at least once a year to serve as: (1) Training for new employees; (2) a refresher course for existing employees; (3) training for all employees on any storm water pollution prevention techniques recently incorporated into the plan; and (4) a forum for the facility to invite independent contractors and customers to inform them on pollution prevention procedures and requirements.

Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. Under the revised methodology for determining pollutants of concern for the various industrial sectors water transportation facilities must perform analytical monitoring. Facilities must collect and analyze samples of their storm water discharges for the pollutants listed in Table Q–4. The median levels of the pollutants listed in Table Q–4 were found to be above benchmark levels for water transportation facilities that submitted quantitative data in the group application process. EPA is requiring monitoring after the pollution prevention plan has been implemented to ensure that a reduction of pollutants is realized.

At a minimum, storm water discharges from water transportation facilities must be monitored quarterly during the second year of permit coverage. Samples must be collected at least once in each of the following periods: January through March; April through June; July through September; and October through December. At the end of the second year of permit coverage, a facility must calculate the average concentration for each parameter listed in Table Q–4. If the permittee collects more than four samples in this period, then they must calculate an average concentration for each pollutant of concern for all samples analyzed.

TABLE Q–4.—INDUSTRY MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Total Recoverable Aluminum	0.75 mg/L.
Total Recoverable Iron	1.0 mg/L.
Total Recoverable Lead	0.0816 mg/L.
Total Recoverable Zinc	0.065 mg/L.

If the average concentration for a parameter is less than or equal to the value listed in Table Q–4, then the permittee is not required to conduct quantitative analysis for that parameter during the fourth year of the permit. If, however, the average concentration for a parameter is greater than the cut-off concentration listed in Table Q–4, then the permittee is required to conduct quarterly monitoring for that parameter during the fourth year of permit coverage. Monitoring is not required during the first, third, and fifth year of the permit. The exclusion from monitoring in the fourth year of the permit is conditional on the facility maintaining industrial operations and BMPs that will ensure a quality of storm water discharges consistent with the average concentrations recorded during the second year of the permit. The schedule of monitoring is presented in Table Q–5.

TABLE Q–5.—SCHEDULE OF MONITORING

2nd Year of Permit Coverage	• Conduct quarterly monitoring. • Calculate the average concentration for all parameters analyzed during this period. • If average concentration is greater than the value listed in Table Q–5, then quarterly sampling is required during the fourth year of the permit. • If average concentration is less than or equal to the value listed in Table Q–5, then no further sampling is required for that parameter.
4th Year of Permit Coverage	• Conduct quarterly monitoring for any parameter where the average concentration in year 2 of the permit is greater than the value listed in Table Q–5. • If industrial activities or the pollution prevention plan have been altered such that storm water discharges may be adversely affected, quarterly monitoring is required for all parameters of concern.

In cases where the average concentration of a parameter exceeds the cut-off concentration, EPA expects permittees to place special emphasis on methods for reducing the presence of those parameters in storm water discharges. Quarterly monitoring in the fourth year of the permit will reassess the effectiveness of the adjusted pollution prevention plan.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly chemical sampling.

b. Alternative Certification. Throughout today's permit, EPA has included monitoring requirements for facilities which the Agency believes have the potential for contributing significant levels of pollutants to storm water discharges. The alternative described below is necessary to ensure that monitoring requirements are only imposed on those facilities that do, in fact, have storm water discharges containing pollutants at concentrations of concern. EPA has determined that if materials and activities are not exposed to storm water at the site, then the potential for pollutants to contaminate storm water discharges does not warrant monitoring.

Therefore, a discharger is not subject to the monitoring requirements of this Part provided the discharger makes a certification for a given outfall, on a pollutant-by-pollutant basis in lieu of monitoring reports required under paragraph *c* below under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, significant materials from past industrial activity, that are located in areas of the facility that are within the drainage area of the outfall are not presently exposed to storm water and will not be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan and submitted to EPA. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph (*c*) below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations. EPA does not expect facilities to be able to exercise this certification for indicator parameters, such as TSS and BOD.

c. Reporting Requirements. Permittees are required to submit all monitoring results obtained during the second and fourth year of permit coverage within 3 months of the conclusion of each year. For each outfall, one signed Discharge Monitoring Report Form must be submitted per storm event sampled. For facilities conducting monitoring beyond the minimum requirements an additional Discharge Monitoring Report Form must be filed for each analysis. The permittee must include a measurement or estimate of the total precipitation, volume of runoff, and peak flow rate of runoff for each storm event sampled.

d. Sample Type. All discharge data shall be reported for grab samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

e. Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluent. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

f. Quarterly Visual Examination of Storm Water Quality. Quarterly visual examinations of storm water discharges from each outfall are required at water transportation facilities. The examination must be of a grab sample collected from each storm water outfall. The examination of storm water grab samples shall include any observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, or other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on these samples.

The examination must be made at least once in each of the designated periods during daylight unless there is insufficient rainfall or snow-melt to runoff. Where practicable, the same individual should carry out the collection and examination of discharges throughout the life of the permit to ensure the greatest degree of consistency possible. Grab samples shall be collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 60 minutes) of when the runoff begins discharging. Reports of the visual examination include: the examination date and time, examination personnel, visual quality of the storm water discharge, and probable sources of any observed storm water contamination. The visual examination reports must be maintained onsite with the pollution prevention plan. The visual examination must be conducted in each of the following periods: January through March; April through June; July through September; and October through December.

When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain such documentation on-site with the results of the visual examinations. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

EPA believes that this quick and simple assessment will allow the permittee to approximate the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the inspections. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and the effects of the management practices that are included in the plan.

R. Storm Water Discharges Associated With Industrial Activity From Ship and Boat Building or Repairing Yards

1. Discharges Covered Under This Section

The storm water application regulations define storm water discharges associated with industrial activity at 40 CFR 122.26(b)(14). Category (ii) of this definition includes facilities commonly identified by Standard Industrial Classification (SIC) codes 24 (except 2434), 26 (except 265 and 267), 28 (except 283 and 285), 29, 311, 32 (except 323), 33, 3441, and 373. The conditions in this section apply to those facilities primarily engaged in ship and boat building and repairing services (SIC code 373). The following is a list of the types of facilities engaged in ship and boat building and repairing services:

a. Ship Building and Repairing (SIC code 3731)—These are establishments primarily engaged in building and repairing ships, barges, and lighters, whether self-propelled or towed by other crafts. The industry also includes the conversion and alteration of ships and the manufacture of off-shore oil and gas well drilling and production platforms (whether or not self-propelled). Examples include building and repairing of barges, cargo vessels, combat ships, crew boats, dredges, ferryboats, fishing vessels, lighthouse tenders, naval ships, offshore supply boats, passenger-cargo vessels, patrol boats, sailing vessels, towboats, trawlers, and tugboats.

b. Boat Building and Repairing (SIC code 3732)—These facilities are primarily engaged in building and repairing boats. Examples include building and repairing of fiberglass boats, motor-boats, sailboats, rowboats, canoes, dinghies, dories, small fishing boats, houseboats, kayaks, lifeboats, pontoons, and skiffs.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Pollutants Found in Storm Water Discharges

Special conditions have been developed for boat and ship building and repairing operations. Common activities at ship and boat yards include: vessel and equipment cleaning fluid changes, mechanical repairs, parts cleaning, sanding, blasting, welding, refinishing, painting, fueling, and storage of the related materials and waste materials, such as oil, fuel, batteries, or oil filters. All of these areas are potential sources of pollutants to storm water discharges. Table R–1 lists pollutants associated with activities that commonly take place at Ship Building and Repairing Facilities (SIC 3731) and Boat Building and Repairing Facilities (SIC 3732).

TABLE R–1.—COMMON POLLUTANT SOURCES AT SHIP AND BOAT BUILDING AND REPAIRING FACILITIES

Activity	Pollutant source	Pollutant
Pressure Washing	Wash water	Paint solids, heavy metals, suspended solids.
Surface Preparation, Paint Removal, Sanding	Sanding; mechanical grinding; abrasive blasting; paint stripping.	Spent abrasives, paint solids, heavy metals, solvents, dust.
Painting	Paint and paint thinner spills; spray painting; paint stripping; sanding; paint cleanup.	Paint solids, spent solvents, heavy metals, dust.
Engine Maintenance and Repairs	Parts cleaning; waste disposal of greasy rags, used fluids, and batteries; use of cleaners and degreasers; fluid spills; fluid replacement.	Spent solvents, oil, heavy metals, ethylene glycol, acid/alkaline wastes, detergents.
Material Handling: Transfer Storage Disposal	Fueling: spills; leaks; and hosing area	Fuel, oil, heavy metals.
	Liquid Storage in Above Ground Storage: spills and overfills; external corrosion; failure of piping systems.	Fuel, oil, heavy metals, material being stored.
	Waste Material Storage and Disposal: paint solids; solvents; trash; spent abrasives, petroleum products.	Paint solids, heavy metals, spent solvents, oil.
Shipboard Processes improperly discharged to storm sewer or into receiving water.	Process and cooling water; sanitary waste; bilge and ballast water.	Biochemical oxygen demand (BOD), bacteria, suspended solids, oil, fuel.

Sources: Executive Office of the President, Office of Management and Budget, 1987. Standard Industrial Classification Manual 1987. National Technical Information Service Order no. PB 87–100012.

NPDES Storm Water Group Applications—Part 1 and Part 2. Received by EPA March 18, 1991 through December 31, 1992.

EPA, Office of Research and Development. October 1991. ''Guides to Pollution Prevention the Automotive Refinishing Industry.'' EPA/625/7–91/016.

EPA, Office of Research and Development. October 1991. ''Guides to Pollution Prevention the Automotive Repair Industry.'' EPA/625/7–91/016.

EPA, Office of Research and Development. May 1992. ''Facility Pollution Prevention Guide.'' EPA/600/R–92/088.

EPA, Office of Water. September 1992. ''Storm Water Management for Industrial Activities—Developing Pollution Prevention Plans and Best Management Practices.'' EPA 832–R–92–006.

EPA, Office of Water and Hazardous Materials. December 1979. ''Draft Development Document for Proposed Effluent Limitations Guidelines and Standards for the Shipbuilding and Repair Industry.'' EPA/440/1–79/076-b.

University of South Alabama, College of Engineering. September 1992. ''Best Management Practices for the Shipbuilding and Repair Industry and for Bridge Maintenance Activities.'' College of Engineering Report No. 92–2.

Based on the similarities of the facilities included in this sector in terms of industrial activities and significant materials, EPA believes it is appropriate to discuss the potential pollutants at ship and boat building and repairing facilities as a whole and not subdivide this sector. Therefore, Table R–2 lists data for selected parameters from facilities in the ship and boat building and repairing sector. These data include the eight pollutants that all facilities were required to monitor for under Form 2F, as well as the pollutants that EPA determined may merit further monitoring.

TABLE R–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY SHIP AND BOAT BUILDING OR REPAIRING YARDS SUBMITTING PART II SAMPLING DATA [i] (mg/L)

Pollutant Sample Type	No. of Facilities		No. of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
	Grab	Comp [ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	29	28	51	48	4.4	6.3	0.0	0.0	23.0	138.0	2.3	0.8	17.1	25.5	32.6	67.4
COD	29	28	51	49	73.2	70.0	0.0	0.0	450.0	810.0	53.0	33.0	259.1	264.3	503.9	579.8
Nitrate + Nitrite Nitrogen	29	28	51	49	0.79	0.82	0.00	0.00	6.00	5.00	0.72	0.71	2.36	2.35	4.28	4.22
Total Kjeldahl Nitrogen	29	28	51	49	1.19	2.20	0.00	0.00	3.40	48.00	1.00	0.97	2.57	4.69	3.73	8.67
Oil & Grease	29	N/A	52	N/A	1.0	N/A	0.0	N/A	14.0	N/A	0.0	N/A	5.1	N/A	15.9	N/A
pH	23	N/A	43	N/A	N/A	N/A	4.7	N/A	8.7	N/A	7.3	N/A	8.8	N/A	9.6	N/A
Total Phosphorus	29	28	51	48	0.21	0.86	0.00	0.00	2.20	32.00	0.00	0.06	0.94	1.75	1.98	4.51
Total Suspended Solids	29	27	51	48	92	45	0	0	1200	300	17	10	525	366	2294	1537

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

3. Options for Controlling Pollutants

The measures commonly implemented to reduce pollutants in storm water discharges from boat and ship building and repairing facilities are generally uncomplicated and simple to implement. Table R–3 identifies Best Management Practices (BMPs) associated with various activities that routinely occur at boat and ship building and repair facilities.

TABLE R–3.—COMMON MANAGEMENT PRACTICES FOR STORM WATER POLLUTION PREVENTION AT SHIP AND BOAT BUILDING AND REPAIRING FACILITIES

Activity	BMPs
Pressure washing	Collect discharge water and remove all visible solids before discharging to a sewer system, or where permitted by an individual NPDES permit, to a drainage system, or receiving water.
	Perform pressure washing only in designated areas where wash water containment can be effectively achieved.
	Use no detergents or additives in the pressure wash water.
	Direct deck drainage to a collection system sump for settling and/or additional treatment.
	Implement diagonal trenches or berms and sumps to contain and collect wash water at marine railways.
	Use solid decking, gutters, and sumps at lift platforms to contain and collect wash water for possible reuse.
Surface preparation, sanding, and paint removal.	Enclose, cover, or contain blasting and sanding activities to the maximum extent practical to prevent abrasives, dust, and paint chips from reaching storm sewers or receiving water.
	Where feasible, cover drains, trenches, and drainage channels to prevent entry of blasting debris to the system.
	Prohibit uncontained blasting or sanding activities over open water.
	Prohibit blasting or sanding activities during windy conditions which render containment ineffective.
	Inspect and clean sediment traps to ensure the interception and retention of solids prior to entering the drainage system.
	Sweep accessible areas of the drydock to remove debris and spent sandblasting material prior to flooding.
	Collect spent abrasives routinely and store under a cover to await proper disposal.
Painting	Enclose, cover, or contain painting activities to the maximum extent practical to prevent overspray from reaching the receiving water.
	Prohibit uncontained spray painting activities over open water.
	Prohibit spray painting activities during windy conditions which render containment ineffective.
	Mix paints and solvents in designated areas away from drains, ditches, piers, and surface waters, preferably indoors or under a shed.
	Have absorbent and other cleanup items readily available for immediate cleanup of spills.
	Allow empty paint cans to dry before disposal.
	Keep paint and paint thinner away from traffic areas to avoid spills.
	Recycle paint, paint thinner, and solvents.
	Train employees on proper painting and spraying techniques, and use effective spray equipment that delivers more paint to the target and less overspray.
Drydock maintenance	Clean and maintain drydock on a regular basis to minimize the potential for pollutants in the storm water runoff.
	Sweep accessible areas of the drydock to remove debris and spent sandblasting material prior to flooding.

TABLE R–3.—COMMON MANAGEMENT PRACTICES FOR STORM WATER POLLUTION PREVENTION AT SHIP AND BOAT BUILDING AND REPAIRING FACILITIES—Continued

Activity	BMPs
	If hosing must be used as a removal method, collect wash water to remove solids and potential metals. Clean the remaining areas of the dock after a vessel has been removed and the dock raised. Remove and properly dispose of floatable and other low-density waste (wood, plastic, insulations, etc.).
Drydock activities	Use plastic barriers beneath the hull, between the hull and drydock walls for containment. Use plastic barriers hung from the flying bridge of the drydock, from the bow or stern of the vessel, or from temporary structures for containment. Weight the bottom edge of the containment tarpaulins or plastic sheeting during a light breeze. Use plywood and/or plastic sheeting to cover open areas between decks when sandblasting (scuppers, railings, freeing ports, ladders, and doorways). Install tie rings or cleats, cable suspension systems, or scaffolding to make implementation containment easier.
Nondrydock activities.	Hang tarpaulin from the boat, fixed, or floating platforms to reduce pollutants transported by wind. Pave or tarp surfaces under marine railways. Clean railways before the incoming tide. Haul vessels beyond the high tide zone before work commences or halt work during high tide. Place plastic sheeting or tarpaulin underneath boats to contain and collect waste and spent materials and clean and sweep regularly to remove debris. Use fixed or floating platforms with appropriate plastic or tarpaulin barriers as work surfaces and for containment when work is performed on a vessel in the water to prevent blast material or paint overspray from contacting storm water or the receiving water. Sweep rather than hose debris present on the dock.
Engine maintenance and repairs	Maintain an organized inventory of materials used in the maintenance shop. Dispose of greasy rag, oil filters, air filters, batteries, spent coolant, and degreasers properly. Label and track the recycling of waste material (i.e., used oil, spent solvents, batteries). Drain oil filters before disposal or recycling. Store cracked batteries in a nonleaking secondary container. Promptly transfer used fluids to the proper container; do not leave full drip pans or other open containers around the shop. Empty and clean drip pans and containers. Do not pour liquid waste down floor drains, sinks, or outdoor storm drain inlets. Plug floor drains that are connected to the storm or sanitary sewer; if necessary, install a sump that is pumped regularly. Inspect the maintenance area regularly for proper implementation of control measures. Train employees on proper waste control and disposal procedures.
Material Handling	Store permanent tanks in a paved area surrounded by a dike system which provides sufficient containment for the larger of either 10 percent of the volume of all containers or 110 percent of the volume of the largest tank.
Bulk liquid storage and containment	Maintain good integrity of all storage tanks. Inspect storage tanks to detect potential leaks and perform preventive maintenance. Inspect piping systems (pipes, pumps, flanges, couplings, hoses, valves) for failures or leaks. Train employees on proper filling and transfer procedures.
Material Handling	Store containerized materials (fuels, paints, solvents, etc.) in a protected, secure location and away from drains.
Containerized material storage	Store reactive, ignitable, or flammable liquids in compliance with the local fire code. Identify potentially hazardous materials, their characteristics, and use. Control excessive purchasing, storage, and handling of potentially hazardous materials. Keep records to identify quantity, receipt date, service life, users, and disposal routes. Secure and carefully monitor hazardous materials to prevent theft, vandalism, and misuse of materials. Educate personnel for proper storage, use, cleanup, and disposal of materials. Provide sufficient containment for outdoor storage areas for the larger of either 10 percent of the volume of all containers or 110 percent of the volume of the largest tank. Use temporary containment where required by portable drip pans. Use spill troughs for drums with taps.
Material Handling	Mix paints and solvents in designated areas away from drains, ditches, piers, and surface waters. Locate designated areas preferably indoors or under a shed.
Designated material mixing areas	If spills occur, Stop the source of the spill immediately. Contain the liquid until cleanup is complete. Deploy oil containment booms if the spill may reach the water. Cover the spill with absorbent material. Keep the area well ventilated. Dispose of cleanup materials properly. Do not use emulsifier or dispersant.
Shipboard process water handling	Keep process and cooling water used aboard ships separate from sanitary wastes to minimize disposal costs for the sanitary wastes. Keep process and cooling water from contact with spent abrasives and paint to avoid pollution of the receiving water. Inspect connecting hoses for leaks.

TABLE R–3.—COMMON MANAGEMENT PRACTICES FOR STORM WATER POLLUTION PREVENTION AT SHIP AND BOAT BUILDING AND REPAIRING FACILITIES—Continued

Activity	BMPs
Shipboard sanitary waste disposal	Discharge sanitary wastes from the ship being repaired to the yard's sanitary system or dispose of by a commercial waste disposal company.
	Use appropriate material transfer procedures, including spill prevention and containment activities.
Bilge and Ballast water	Collect and dispose of bilge and ballast waters which contain oils, solvents, detergents, or other additives to a licensed waste disposal company.

Sources: EPA, Office of Water. 1993. ''Guidance Specifying Management Measures for Survey of Nonpoint Pollution in Coastal Waters.'' 840–B–92–002.

University of South Alabama, College of Engineering. September 1992. Best Management Practices for the Shipbuilding and Repair Industry and for Bridge Maintenance Activities. College of Engineering Report No. 92–2.

NPDES Storm Water Group Applications—Part 1. Received by EPA March 18, 1991 through December 31, 1992.

4. Pollutant Control Measures Required Through Other EPA Programs

EPA recognizes that the Resource Conservation and Recovery Act (RCRA) and the Underground Storage Tank (UST) programs require careful management of materials used at Ship Building and Repairing Facilities and Boat Building and Repairing Facilities.

Under the RCRA program, on September 10, 1992, EPA promulgated standards in 40 CFR Part 279 for the management of used oils that are recycled (57 FR 41566). These standards include requirements for used oil generators, transporters, processors/re-refiners, and burners. The standards for used oil generators apply to all generators, regardless of the amount of used oil they generate. Do-it-yourself (DIY) generators which generate used oil from the maintenance of their personal vehicles, however, are not subject to the management standards (Subsection 279.20(a)(1)).

The requirements for used oil generators were designed to impose minimal burden on generators while protecting human health and the environment from the risks associated with managing used oil. Under Subpart C of 40 CFR Part 279, used oil generators must not store used oil in units other than tanks, containers, or units subject to regulation under Part 264 or 265 of 40 CFR 279.22(a). In other words, generators may store used oil in tanks or containers that are not subject to Subpart J (Hazardous Waste Tanks) or Subpart I (Containers) of Parts 264/265, as long as such tanks or containers are maintained in compliance with the used oil management standards. This does not preclude generators from storing used oil in Subpart J tanks or Subpart I containers or other units, such as surface impoundments (Subpart K), that are subject to regulation under Part 264 or 265.

Storage units at generator facilities must be maintained in good condition and labeled with the words ''used oil.'' Upon detection of a release of used oil to the environment, a generator must take steps to stop the release, contain the released used oil, and properly manage the released used oil and other materials (Sections 279.22(b)–(d)). Generators storing used oil in underground storage tanks are subject to the UST regulations (40 CFR Part 280).

If used oil generators ship used oil offsite for recycling, they must use a transporter who has notified EPA and obtained an EPA identification number (Section 279.24).

The technical standards for USTs at 40 CFR Part 280 require that new UST systems (defined as systems for which installation commenced after December 12, 1988) use overfill prevention equipment that will: (1) Automatically shut off flow into the tank when the tank is no more than 95 percent full; or (2) alert the transfer operator when the tank is no more than 90 percent full by restricting the flow into the tank or triggering a high level alarm. The preceding requirements do no apply to systems that are filled by transfers of no more than 25 gallons at one time. Existing UST systems (defined as systems for which installation has commenced on or before December 12, 1988) are required to have installed the described overfill prevention equipment by December 12, 1998.

5. Special Conditions

a. Prohibition of Non-storm Water Discharges. In addition to the prohibitions in part III.A., this section of today's permit does not authorize prohibited non-storm water discharges of wastewaters, such as bilge and ballast water, sanitary wastes, pressure washwater, and cooling water originating from vessels. The operators of such discharges must obtain coverage under a separate NPDES permit if discharged to waters of the U.S. or through a municipal separate storm sewer system. Part III.A.2 of today's permit does, however, authorize certain non-storm water discharges.

6. Storm Water Pollution Prevention Plan Requirements

The conditions that apply to ship and boat building and repairing facilities build upon the requirements set forth in the front of this fact sheet which are based on the requirements of the September 9, 1992 baseline general permit. The discussion which follows, therefore, only addresses conditions that differ from those baseline conditions.

a. Contents of the Plan

(1) Description of Potential Pollutant Sources. Under the description of potential pollutant sources in the storm water pollution prevention plan requirements, permittees are required to include the location(s) on their facility site map where engine maintenance and repair work, vessel maintenance and repair work, and pressure washing are performed. This requirement is the same as the baseline requirements presented in the front of this fact sheet, but here it is expressed in more appropriate terms for the ship and boat industry. Rather than requiring the location of ''storage areas'' as in the baseline general permit, this storm water pollution prevention plan specifies that the location of liquid storage areas (i.e., paint, solvents, resins) and material storage areas (i.e., blasting media, aluminum, steel) be shown. In addition, the site map must also indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls (e.g. storm water and air conditioner condensate). In order to increase the readability of the map, the inventory of the types of discharges contained in each outfall may be kept as an attachment to the site map.

(2) Measures and Controls. Under the description of measures and controls in the storm water pollution prevention plan requirements, this section requires

that all areas that may contribute pollutants to storm waters discharges shall be maintained in a clean and orderly manner. This section of today's permit also requires that the following areas be specifically addressed:

(a) Pressure Washing Area—When pressure washing is used to remove marine growth from vessels, the discharge water must be collected or contained and disposed of as required by the NPDES permit for this process water, if the discharge is to waters of the U.S. or through a municipal separate storm sewer. The plan must describe the measures to collect or contain the discharge from the pressure washing area, detail the method for the removal of the visible solids, describe the method of disposal of the collected solids, and identify where the discharge will be released (i.e., the receiving waterbody, storm sewer system, sanitary sewer system).

(b) Blasting and Painting Areas—The facility must consider containing all blasting and painting activities to prevent abrasives, paint chips, and overspray from reaching a receiving waterbody or storm sewer system. The plan must describe measures taken at the facility to prevent or minimize the discharge of spent abrasive, paint chips, and paint into the receiving waterbody and storm sewer system. The facility may consider hanging plastic barriers or tarpaulins during blasting or painting operations to contain debris. Where appropriate, a schedule for cleaning storm water conveyances to remove deposits of abrasive blasting debris and paint chips should be addressed within the plan. The plan should include any standard operating practices with regard to blasting and painting activities. Such items may include the prohibition of performing uncontained blasting and painting over open water or blasting and painting during windy conditions which can render containment ineffective.

(c) Material Storage Areas—All stored and containerized materials (fuels, paints, solvents, waste oil, antifreeze, batteries) must be stored in a protected, secure location away from drains and plainly labeled. The plan must describe measures that prevent or minimize contamination of the storm water runoff from such storage areas. The facility must specify which materials are stored indoors and consider containment or cover for materials that are stored outdoors. Above ground storage tanks, drums, and barrels permanently stored outside must be delineated on the site map with a description of the containment measures in place to prevent leaks and spills. The facility must consider implementing an inventory control plan to prevent excessive purchasing, storage, and handling of potentially hazardous materials. Those facilities where abrasive blasting is performed must specifically include within the plan discussion on the storage and proper disposal of spent abrasive generated at the facility.

(d) Engine Maintenance and Repair Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from all areas used for engine maintenance and repair. The facility must consider performing all maintenance activities indoors, maintaining an organized inventory of materials used in the shop, draining all parts of fluids prior to disposal, prohibiting the practice of hosing down the shop floor where the practice would result in the exposure of pollutants to storm water, using dry cleanup methods, and/or collecting the storm water runoff from the maintenance area and providing treatment or recycling.

(e) Material Handling Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from material handling operations and areas (i.e., fueling, paint and solvent mixing, disposal of process wastewater streams from vessels). The facility must consider covering fueling areas; using spill and overflow protection; mixing paints and solvents in a designated area, preferably indoors or under a shed; and minimizing runon of storm water to material handling areas. Where applicable, the plan must address the replacement or repair of leaking connections, valves, pipes, hoses, and soil chutes carrying wastewater from vessels.

(f) Drydock Activities—The plan must address the routine maintenance and cleaning of the drydock to minimize the potential for pollutants in storm water runoff. The facility must describe the procedures for cleaning the accessible areas of the drydock prior to flooding and the final cleanup after the vessel is removed and the dock is raised. Cleanup procedures for oil, grease, or fuel spills occurring on the drydock must also be included within the plan. The facility must consider items such as sweeping rather than hosing off debris and spent blasting material from the accessible areas of the drydock prior to flooding and having absorbent materials and oil containment booms readily available to contain and cleanup any spills.

(g) General Yard Area—The plan must include a schedule for routine yard maintenance and cleanup. Scrap metal, wood, plastic, miscellaneous trash, paper, glass, industrial scrap, insulation, welding rods, packaging, etc., must be routinely removed from the general yard area. The facility must consider such measures as providing covered trash receptacles in each yard, on each pier, and on board each vessel being repaired.

These seven areas are the common sources of pollutants in storm water from ship building and repairing and boat building and repairing activities. Based upon Best Management Practices for the Shipbuilding and Repair Industry and for Bridge Maintenance Activities prepared by the College of Engineering at the University of South Alabama, the suggested management measures are commonly used at ship and boat facilities. EPA believes that the incorporation of management practices such as those suggested will substantially reduce the potential for these activities and areas to contribute pollutants to storm water discharges. In addition, EPA believes that these requirements will continue to provide the necessary flexibility to address the variable risk for pollutants in storm water discharges associated with different facilities. Many facilities will find that appropriate management measures are already employed at the facility because they have been required under an existing EPA program.

The preventive maintenance requirements specifically include the routine inspection of sediment traps to ensure that spent abrasives, paint chips, and solids will be intercepted and retained prior to entering the storm drainage system. Because of the nature of operations occurring at ship and boat facilities, routine attention needs to be placed on the collection and proper disposal of spent abrasive, paint chips, and other solids.

In addition to the comprehensive site evaluation required under Part XI.R.3.a.(4) of today's permit, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility, at a minimum, on a monthly basis. The following areas shall be included in all inspections: pressure washing areas, blasting and painting areas, material storage areas, engine maintenance and repair areas, material handling areas, drydock areas, and general yard areas. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records shall be maintained.

The purpose of the inspections is to check on the implementation and effectiveness of the storm water pollution prevention plan. The inspections allow facility personnel to monitor the success or failure of elements of the plan on a regular basis. The use of an inspection checklist is encouraged. The checklist will ensure that all required areas are inspected, as well as help to meet the record keeping requirements.

The permittee is required to identify annual (once per year) dates for employee training. Employee training must, at a minimum address the following areas when applicable to a facility: used oil management; spent solvent management; proper disposal of spent abrasives; proper disposal of vessel wastewaters, spill prevention and control; fueling procedures; general good housekeeping practices; proper painting and blasting procedures; and used battery management. Employees, independent contractors, and customers must be informed about BMPs and be required to perform in accordance with these practices. The permittee is required to consider posting easy to read or graphic depictions of BMPs that are included in the plan as well as emergency phone numbers in the work areas. This practice will enhance employees understanding the pollutant control measures. Unlike some industrial operations, the industrial activities associated with ship and boat building and repair facilities that may affect storm water quality require the cooperation of all employees. EPA, therefore, is requiring that employee training take place at least once a year to serve as: (1) Training for new employees; (2) a refresher course for existing employees; (3) training for all employees on any storm water pollution prevention techniques recently incorporated into the plan; and (4) a forum for the facility to invite independent contractors and customers to inform them of pollution prevention procedures and requirements.

7. Numeric Effluent Limitation

There are no additional numeric effluent limitations beyond those described in Part V.B. of today's permit.

8. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. Under the Storm Water Regulations at 40 CFR 122.26(b)(14), EPA defined ''storm water discharge associated with industrial activity.'' The focus of today's permit is to address the presence of pollutants that are associated with the industrial activities identified in this definition and that might be found in storm water discharges. Under the methodology for determining analytical monitoring requirements, described in section VI.E.1 of this fact sheet, nitrate plus nitrite nitrogen is above the bench mark concentrations for the ship and boat building or repair yards sector. After a review of the nature of industrial activities and the significant materials exposed to storm water described by facilities in this sector, EPA has determined that the higher concentrations of nitrate plus nitrite nitrogen are not likely to be caused by the industrial activity, but may be primarily due to non-industrial activities on-site. Today's permit does not require ship and boat building or repair yards facilities to conduct analytical monitoring for this parameter. Therefore, under the revised methodology for determining pollutants of concern in the various industrial sectors, no analytical monitoring is required by ship and boat building and repairing facilities.

b. Quarterly Visual Examination of Storm Water Quality. Ship and boat building or repair yard facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted under paragraph (3) below. The examination(s) must be made at least once in each of the following 3-month periods: January through March, April through June, July through September, and October through December. The examination shall be made during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(1) Examinations shall be made of grab samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.

(2) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(3) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(4) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(5) EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

EPA believes that this quick and simple assessment will allow the permittee to approximate the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examinations. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and the effects of the management practices that are included in the plan.

S. Storm Water Discharges Associated With Industrial Activity From Vehicle Maintenance Areas, Equipment Cleaning Areas, or Deicing Areas Located at Air Transportation Facilities

1. Discharges Covered Under This Section

The conditions in this section apply to airports, airport terminals, airline carriers, and establishments engaged in servicing, repairing, or maintaining aircraft and ground vehicles, equipment cleaning and maintenance (including vehicle and equipment rehabilitation mechanical repairs, painting, fueling, lubrication) or deicing/anti-icing operations which conduct the above described activities (facilities generally classified as SIC code 45). For the purpose of this final permit, the term ''deicing'' is defined as the process to remove frost, snow, or ice and ''anti-icing'' is the process which prevents the accumulation of frost, snow, or ice. Both of these activities are covered under this permit.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

a. Responsible Parties. Airports typically operate under a single management organization known as the airport ''authority'' which in most cases is a public agency. Airline carriers and other fixed base operators (e.g., fueling companies and maintenance shops) that have contracts with the airport authority to conduct business on airport property are commonly referred to as ''tenants'' of the airport. Tenants may be of two types—those that are regulated as storm water dischargers associated with industrial activities under 40 CFR 122.26(b)(14) and those that are not. The operator and the tenants of the airport that conduct industrial activities as described above, or as described anywhere in 40 CFR 122.26(b)(14) and which have storm water discharges, are required to apply for coverage under an NPDES storm water permit for the discharges from their areas of operation. Where an airport has multiple operators (airport authority and tenants) that have storm water discharges associated with industrial activity, as described above, each operator is required to apply for coverage under an NPDES storm water permit. This may be done as separate operators or may be done as co-permittees. Regardless, each individual party, whether a co-permittee or a separate permittee, must submit a notice of intent (NOI) to be covered under today's permit. During implementation of the storm water pollution prevention plan, the airport authority should work cooperatively with tenants that are not required to have a NPDES permit for their storm water discharges. The airport authority may accomplish this through negotiated agreements, contractual requirements, or other means. Ultimately, the operator(s)/owner(s) (the airport authority) of the storm water outfalls from the airport is(are) responsible for compliance with all terms and conditions of this or other NPDES permits applicable to those outfalls. Storm water pollution prevention plans developed separately for areas of the airport facility occupied by tenants of the airport that are regulated under 40 CFR 122.26(b)(14) as a storm water discharge associated with industrial activity shall be integrated into the storm water pollution prevention plan for the entire airport facility.

The airport authority and tenants of the airport are encouraged to apply as co-permittees under today's permit, and to work in partnership in the development and implementation of a storm water pollution prevention plan.

2. Pollutants Found in Storm Water Discharges

In general, the quantitative data submitted thus far has not raised any particular areas of concern with respect to discharges of pollutants resulting from vehicle maintenance and/or deicing/anti-icing operations conducted at airport facilities. However, EPA believes that the part 2 sampling data does not provide justification that discharges resulting from deicing/anti-icing operations are not a significant source of pollutants. The sampling requirements for part 2 of the group application did not specify that facilities must sample storm water discharges from areas where deicing/anti-icing activities occur and/or during times when such operations were being conducted. As a result, only one facility indicated that the sampling data submitted was collected from areas where deicing activities were being conducted. After reviewing recent case studies on the effects of glycol discharges to receiving waters, EPA reports and the results of FAA surveys, EPA believes that additional information on the discharges of deicing/anti-icing chemicals to receiving waters as a result of aircraft and runway deicing/anti-icing operations is warranted and necessary.

Both ethylene and propylene glycols exert high oxygen demands when released into receiving waters. As such, this section requires that facilities report both the Biochemical Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) of discharges sampled at facilities that use at least 100,000 gallons or more of glycol-based deicing/anti-icing chemicals. The concentration of nitrogen and possibly ammonia are the concern with respect to deicing/anti-icing operations where urea is used. Therefore, this section requires that facilities subject to the monitoring requirements in Part XI.S.5. of the permit also report the concentration of Total Kjeldahl Nitrogen (TKN) in discharges sampled.

The results of the storm water survey conducted by the FAA (June 1992) showed that 10 percent of the respondents who conduct deicing/anti-icing activities used more than 100,000 gallons of glycol-based deicing/anti-icing chemicals during winter seasons. In addition, those facilities using more than 100,000 gallons of glycol-based deicing/anti-icing chemicals accounted for 71 percent of the total amount of glycol-based deicing/anti-icing chemicals reported in the survey. In a similar survey conducted by the American Association of Airport

Executives, 4 percent of the airports conducting deicing/anti-icing activities used more than 100,000 gallons of ethylene glycol which represented approximately 76 percent of the total amount of ethylene glycol used by all airports surveyed.

3. Special Conditions

a. Prohibition of Non-storm Water Discharges. In addition to the non-storm water prohibitions described under Part III.A.2, today's permit clarifies in Part XI.S.2.a (Prohibition of Non-storm Water Discharges) that non-storm water discharges, including discharges from aircraft, ground vehicle and equipment washwaters, dry weather discharges from airport deicing/anti-icing operations, and dry weather discharges resulting from runway maintenance are not authorized under this permit. Dry weather discharges are generated from processes other than those described in the definition of storm water. The definition of storm water includes storm water runoff, snow melt runoff, and surface runoff and drainage. There is no limit on the time between the snowfall and snow melt for the purpose of including a snow melt discharge in the definition of storm water. All other discharges not included in the definition of storm water constitute non-storm water discharges. Operators of non-storm water discharges must obtain coverage under a separate NPDES wastewater permit if such discharges are a point source discharge to waters of the U.S. or are discharged through a municipal separate storm sewer system. In a related requirement, the permittee is required to attach a copy of the NPDES permit issued for the discharge of non-storm water runoff or, if an NPDES permit has not yet been issued, a copy of the pending application to the plan. For facilities that discharge the waters mentioned above to a sanitary sewer system, the operator of the sanitary sewer system must be notified. A copy of the notification letter must be attached to the plan. If an industrial user permit has been issued under a pretreatment program, a copy of the permit must be attached to the plan as does any other permit to which the facility's discharge waters are subject. This will help to prevent confusion and help to ensure that non-storm water discharges are not inadvertently authorized by this permit.

b. Releases of Reportable Quantities of Hazardous Substances and Oil. Today's permit clarifies in Part XI.S.2.b (Releases of Reportable Quantities of Hazardous Substances and Oil) that each individual permittee is required to report spills equal to or exceeding the RQ levels specified at 40 CFR 110, 117 and 302. If the airport authority is the sole permittee, then the sum total of all spills at the airport must be assessed against the RQ. If the airport authority is a co-permittee with other deicing/anti-icing operators at the airport, such as numerous different airlines, the assessed amount must be the summation of spills by each co-permittee. If separate, distinct individual permittees exist at the airport, then the amount spilled by each separate permittee must be the assessed amount for the RQ determination.

4. Storm Water Pollution Prevention Plan Requirements

a. Contents of the Plan. The pollution prevention plan requirements described below are in addition to those found under Part VI.C.

(1) Description of Potential Pollutant Sources. In addition to the common pollution prevention plan requirements discussed in Part VI.C.2.a. (Drainage), the site map developed for an entire airport shall identify the location of each tenant of the facility describe their activities.

In addition to the pollution prevention requirements discussed in Part VI.C.2. (Description of Potential Pollutant Sources), airport facilities, including areas operated by tenants of the facility that conduct industrial activities, must address the following specific operations and areas where the operations occur:

Aircraft Deicing/Anti-icing—Includes both deicing to remove frost, snow or ice, and anti-icing which prevents the accumulation of frost, snow or ice. Deicing/anti-icing of an airplane is accomplished through the application of a freezing point depressant fluid, commonly ethylene glycol or propylene glycol, to the exterior surface of an aircraft. Both ethylene and propylene glycol have high biochemical oxygen demands (BOD) when discharged to receiving waters. Environmental impacts on surface waters due to glycol discharges includes glycol odors and glycol contaminated surface water and ground water systems, diminished dissolved oxygen levels and fish kills.

The Federal Aviation Administration (FAA) recently conducted a survey which focused on aircraft and runway deicing/anti-icing operations at U.S. airports. Ninety-six airports responded to the survey and results are summarized in a final report dated June 1, 1992. In summary, 65 airports indicated the amounts of ethylene glycol used for aircraft deicing for the winter periods of 1989–90 and 1990–91 and the volumes used by each airport ranged significantly, from a few gallons to 520,000 gallons. The average annual volume of ethylene glycol used by all respondents for the winter periods of 1989–90 and 1990–91 was approximately 2.16 million gallons.

The FAA survey summary reported that the majority of aircraft deicing operations occur on the apron adjacent to the passenger terminal and runoff generally drains to a nearby storm water inlet. In fact, 31 of the respondents to the FAA survey indicated that 75 percent or more of the spent deicing chemicals were discharged to a storm sewer system. In general, the remainder of spent chemical resulting from aircraft deicing operations drained to ditches or open areas.

All aspects of aircraft deicing/anti-icing operations, including quantities used and stored, as well as application, handling and storage procedures are required to be addressed under the conditions of this section.

(b) Runway Deicing/Anti-icing—Includes both deicing and anti-icing operations conducted on runways, taxiways and ramps. Runway deicing/anti-icing commonly involves either the application of chemical fluids such as ethylene glycol or solid constituents such as pelletized urea. Urea has a high nitrogen content, therefore degradation of urea in a receiving water causes an increase in nutrient loadings resulting in an accelerated growth of algae and eutrophic conditions. Under certain ambient conditions, the degradation of urea in receiving waters can also result in ammonia concentrations toxic to aquatic life.

The FAA's storm water survey reported that, of the facilities that indicated using urea for runway deicing/anti-icing for the winter periods of 1989–90 and 1990–91, the amount of urea used during a single winter period ranged from 100 pounds to 1,450,000 pounds (715 tons). With regard to disposal of spent deicing/anti-icing chemicals from runways, taxiways and ramps, 20 airports indicated that they discharged 50 percent or more of runoff from deicing areas directly to a storm sewer system. In response to questions concerning collection and treatment of spent deicing chemicals from runway deicing/anti-icing activities, only five facilities indicated that runoff from runway deicing/anti-icing operations was collected and treated.

All aspects of runway deicing/anti-icing operations, including types of deicing/anti-icing chemicals, quantities used and stored, as well as application, handling and storage procedures are required to be addressed under the conditions of this section.

(c) Aircraft Servicing—Typically conducted on the apron area adjacent to the passenger terminal, the servicing of aircraft could potentially contribute pollutants to storm water. As a result of spills or leaks during the servicing of aircraft, fluids such as engine oil, hydraulic fluid, fuel and lavatory waste could potentially enter the storm water system and/or be discharged to receiving waters. All spillage other than potable water should be prevented from entering the storm sewer system.

(d) Aircraft, Ground Vehicle and Equipment Maintenance and Washing—Maintenance activities included in this section include both minor and major operations conducted either on the apron adjacent to the passenger terminal, or at dedicated maintenance facilities. Potential pollutant sources from all types of maintenance activities include spills and leaks of engine oils, hydraulic fluids, transmission oil, radiator fluids, and chemical solvents used for parts cleaning. In addition, the disposal of waste parts, batteries, oil and fuel filters, and oily rags also have a potential for contaminating storm water runoff from maintenance areas unless proper management practices and operating procedures are implemented. The spent wash water from aircraft and ground vehicle washing activities could potentially be contaminated with surface dirt, metals, and fluids (fuel, hydraulic fluid, oil, lavatory waste).

(e) Runway Maintenance—Over time, materials such as tire rubber, oil and grease, paint chips, and jet fuel can build up on the surface of a runway causing a reduction in the friction of the pavement surface. When the friction level of a runway falls below a specific level, then maintenance must be performed. The Federal Aviation Administration (FAA) recommends several methods for removing rubber deposits and other contaminants from a runway surface including high pressure water, chemical solvents, high velocity particle impact, and mechanical grinding. If not properly managed, the materials removed from the runway surface could be discharged into nearby surface waters. Similarly, if chemical solvents are used in the maintenance operation, improper management practices could result in discharges of the chemical solvents in the storm water runoff from runway areas to nearby surface waters.

(2) Measures and Controls. In addition to the common pollution prevention plan requirements discussed in Part VI.C.3. (Measures and Controls), this section specifies that permittees must address particular Best Management Practices (BMP) for specific areas and operations identified as potential sources of pollutants. This section further specifies that a schedule for implementation shall be provided for each BMP selected. The BMPs specified in this section are not intended to be the only alternative management practices considered by operators, simply the minimum to be considered. In most cases, the BMPs specified are common sense approaches that are already in practice at many airport facilities. As such, operators may only need to include the information in their storm water pollution prevention plan. Specific areas and industrial operations mentioned in this section and the corresponding BMPs for such areas are the following:

(a) Aircraft, Ground Vehicle and Equipment Maintenance Areas (including aircraft service areas)—The plan must describe measures that prevent or minimize the contamination of storm water runoff from all areas used for aircraft, ground vehicle and equipment maintenance and servicing. Management practices such as performing all maintenance activities indoors, maintaining an organized inventory of materials used, draining all parts of fluids prior to disposal, prohibiting the practice of hosing down the apron or hangar floor, using dry cleanup methods in the event of spills, and/or collecting the storm water runoff from maintenance and/or service areas and providing treatment, or recycling should be considered.

(b) Aircraft, Ground Vehicle, and Equipment Cleaning Areas—The plan must describe measures that prevent or minimize the contamination of the storm water runoff from all areas used for aircraft, ground vehicle, and equipment maintenance. Management practices such as performing all cleaning operations indoors, and/or collecting the storm water runoff from the area and providing treatment or recycling should be considered.

(c) Aircraft, Ground Vehicle, and Equipment Storage Areas—The storage of aircraft, ground vehicles, and equipment awaiting maintenance must be confined to designated areas (delineated on the site map). The plan must describe measures that prevent or minimize the contamination of storm water runoff from these areas. Management practices such as indoor storage of aircraft and ground vehicles, the use of drip pans for the collection of fluid leaks, and perimeter drains, dikes or berms surrounding storage areas should be considered.

(*d*) *Material Storage Areas*—Storage units of all materials (e.g., used oils, hydraulic fluids, spent solvents and waste aircraft fuel) must be maintained in good condition, so as to prevent contamination of storm water, and plainly labeled (e.g., ''used oil,'' ''Contaminated Jet-A,'' etc.). The plan must describe measures that prevent or minimize contamination of the storm water runoff from storage areas. Management practices such as indoor storage of materials, centralized storage areas for waste materials, and/or installation of berms and dikes around storage areas should be considered for implementation.

(e) Airport Fuel System and Fueling Areas—The plan must describe measures that prevent or minimize the discharge of fuels to the storm sewer resulting from fuel servicing activities or other operations conducted in support of the airport fuel system. Where the discharge of fuels into the storm sewer cannot be prevented, the plan shall indicate measures that will be employed to prevent or minimize the discharge of the contaminated runoff into receiving surface waters.

Where above ground storage timers are present, pollution prevention plan requirements shall be consistent with requirements established in 40 CFR 112.7 guidelines for the preparation and implementation of a spill prevention control and countermeasure (SPCC) plan. Where a SPCC plan already exists, the storm water pollution prevention plan may incorporate requirements into the PPP by reference.

(f) Source Reduction—This section specifies that facilities which conduct aircraft and/or runway (including taxiways and ramps) deicing/anti-icing operations shall evaluate present operating procedures to consider alternative practices which would reduce the overall amount of deicing/anti-icing chemical used and/or lessen the environmental impact of the pollutant source.

With regard to runway deicing operations, operators should begin by evaluating present chemical application rates to ensure against excessive over application. Devices which meter the amount of chemical being applied to runways help to prevent over application. Operators should also emphasize anti-icing operations which would preclude the need to deice; less chemical is required to prevent the formation of ice on a runway than is required to remove ice from a runway. To further assist in implementing anti-icing procedures, operators should also consider installing runway ice detection systems (RID) otherwise known as ''pavement sensors'' which monitor runway temperatures. Pavement sensors provide an indication of when runway temperatures are approaching freezing conditions, thus alerting operators of the need to conduct anti-icing operations. Deicing/anti-icing chemicals applied during extremely cold, dry conditions, are often ineffective since they do not adhere to the ice surface and may be scattered as a result of windy conditions or aircraft movement. In an effort to improve the efficiency of the application, operators should consider pre-wetting the deicing chemical to improve the adhesion to the iced surface.

With regard to substitute deicing/ chemicals for runway use, operators should consider using chemicals which have less of an environmental impact on receiving waters. Potassium acetate, has a lower oxygen demand than glycol, is nontoxic to aquatic habitat or humans, and was approved by the FAA for runway deicing operations in November, 1991 (AC No. 150/5200–30A CHG 1).

In considering alternative management practices for aircraft deicing/ operations, operators should evaluate present application rates to ensure against excessive over application. In addition, operators may consider pretreating aircraft with hot water or forced air prior to the application of chemical deicer. The goal of this management practice is to reduce the amount of chemical deicer used during the operation. This management practice alone is not sufficient since discharges of small concentrations of glycol can have significant effects on receiving waters. It is, however, an effective measure to reduce the amount of glycol needed per operation.

(g) Management of Runoff—A number of reports including EPA's Guidance For Issuing NPDES Storm Water Permits For Airports, September 28, 1991 and Federal Aviation Administration (FAA) Advisory Circular (AC 150–5320–15) indicate that the most common location for deicing/anti-icing aircraft at U.S. airports is along the apron areas where mobile deicing vehicles operate from gate to gate. In a recent FAA survey of deicing/anti-icing operations at U.S. airports (June 1992), the majority of respondents indicated that spent deicer chemicals from aircraft deicing/anti-icing operations either drain to the storm sewer system, open areas, or are left to evaporate on the ramp.

This section specifies that operators shall provide a narrative description of BMPs to control or manage storm water runoff from areas where deicing/anti-icing operations occur in an effort to minimize or reduce the amount of pollutants being discharged from the site. For example, when deicing/anti-icing operations are conducted on aircraft during periods of dry weather, operators should ensure that storm water inlets are blocked to prevent the discharge of deicing/anti-icing chemicals to the storm sewer system. Mechanical vacuum systems or other similar devices can then be used to collect the spent deicing chemical from the apron surface for proper disposal to prevent those materials from later becoming a source of storm water contamination. Establishing a centralized deicing station would also provide better control over aircraft deicing/anti-icing operations in that it enables operators to readily collect spent deicing/anti-icing chemicals.

Once spent deicer/anti-icer chemicals are collected, operators can then select from various methods of disposal such as:

(i) Disposal to Sanitary Sewage Facility—Because glycols are readily biodegradable, runoff can be treated along with sanitary sewage. The receiving treatment plant would, however, have to have the capacity to handle the hydraulic load as well as the additional biochemical oxygen demand associated with the deicing/anti-icing chemical. Measurements have shown that the average oxygen demand for glycol is between 400,000 and 600,000 mg O2/L even if diluted per fluid manufacturers specifications (FAA AC 150–5320–15 CHG 1, 1991). To lessen both the increased hydraulic and pollutant loads due to runoff from airport deicing/anti-icing operations, retention basins may be located at the airport facility.

(ii) Retention and Detention Ponds—Conversion of suitable unused airport land into retention or detention basins allows for collection of large volumes of glycol waste from pavement surface runoff. The design capacity for such basins should at least handle surface runoffs for winter months noting the decreased microbial activity during the winter season which is needed for biodegradation, plus additional capacity for runoff during thawing periods. Continuous aeration would supply required oxygen and allow for faster biodegradation and release of glycol waste, which may reduce capacity requirements. Metering the discharge of flow from an onsite basin allows the operator to better control the rate of flow during peak flight hours and to avoid BOD shock loadings to a sanitary treatment facility or a surface water.

(iii) Recycling—Glycol recycling provides operators with a chemical cost savings since recaptured glycol can be sold or reused for other non-aircraft applications (FAA AC 150–5320–15, February 1991). Studies indicate that collected deicing chemicals which have glycol concentrations ranging from 15 to 25 percent can be cost effectively recycled. The optimal conditions for collecting the highest concentration of glycol in spent deicing fluid is directly from the apron or centralized deicing station when deicing operations are conducted during dry weather or light precipitation events. Deicing/anti-icing chemicals discharged to retention basins which are then allowed to mix with additional surface runoff typically result in glycol concentrations well below the acceptable range for recycling. There are, however, methods of physical separation presently available which increase the concentration of glycol and allow operators to recover a relatively reusable product.

(h) Inspections—In addition to the common pollution prevention plan requirements discussed in Part VI.C.3.d (Inspections), qualified personnel shall inspect equipment and areas involved in deicing/anti-icing operations on a weekly basis during periods when deicing/anti-icing operations are being conducted.

(i) Pollution Prevention Training—Pollution Prevention training programs shall inform management and personnel responsible for implementing activities identified in the storm water pollution prevention plan of the components and goals of the plan. Training should address topics such as spill response, good housekeeping, material management practices and deicing/anti-icing procedures. The pollution prevention plan shall identify periodic dates for such training. EPA recommends that facilities conduct training annually at a minimum. However, more frequent training may be necessary at facilities with high turnover of employees or where employee participation is essential to the storm water pollution prevention plan.

(3) Comprehensive Site Compliance Evaluation. The storm water pollution prevention plan must describe the scope and content of comprehensive site evaluation that qualified personnel will conduct to: (1) Confirm the accuracy of the description of potential pollution sources contained in the plan, (2) determine the effectiveness of the plan, and (3) assess compliance with the terms and conditions of the permit. Comprehensive site compliance evaluations must be conducted at least annually. The individual or individuals who will conduct the evaluations must be identified in the plan and should be members of the pollution prevention team. Evaluation reports must be

retained for a period of at least 3 years following the date of evaluation.

Based on the results of each evaluation, the description of potential pollution sources, and measures and controls, the plan must be revised as appropriate within 2 weeks after each inspection. Changes in the measures and controls must be implemented on the site in a timely manner, and no later than 12 weeks after completion of the inspection.

5. Numeric Effluent Limitation

There are no additional numerical limitations beyond those in Part V.B. of this permit.

6. Monitoring and Reporting Requirements

In general, the quantitative data submitted with part 2 of the group application was inadequate to clearly identify particular areas of concern with respect to discharges of pollutants resulting from vehicle maintenance and/or deicing/anti-icing operations conducted at airport facilities. EPA believes that the part 2 sampling data does not provide justification that discharges resulting from deicing/anti-icing operations are not a significant source of pollutants. The sampling requirements for part 2 of the group application did not specify that facilities must sample storm water discharges from areas where deicing/anti-icing activities occur and/or during times when such operations were being conducted. As a result, only one facility indicated that the sampling data submitted was collected from areas where deicing/anti-icing activities were being conducted. After reviewing recent case studies on the effects of glycol discharges to receiving waters, EPA reports, and the results of FAA surveys, EPA believes that additional information on the impacts of discharges of deicing/anti-icing chemicals to receiving waters resulting from aircraft and runway deicing/anti-icing operations is warranted and necessary.

Both ethylene and propylene glycols exert high oxygen demands when released into receiving waters. As such, this section requires that facilities report both the Biochemical Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) of discharges sampled at facilities that use at least 100,000 gallons or more of glycol-based deicing/anti-icing chemicals. The concentration of nitrogen and possibly ammonia are the concern with respect to deicing/anti-icing operations where urea is used. Therefore, this section requires that facilities subject to the monitoring requirements in Part XI.S.5. of the permit also report the concentration of Total Kjeldahl Nitrogen (TKN) in discharges sampled.

The results of the storm water survey conducted by FAA (June 1992) showed that 10 percent of the respondents who conduct deicing activities used more than 100,000 gallons of glycol-based deicing chemicals during winter seasons. In addition, those facilities using more than 100,000 gallons of glycol-based deicing chemicals accounted for 71 percent of the total amount of glycol-based deiced chemicals reported by all respondents in the survey. In a similar survey conducted by the American Association of Airport Executives, 4 percent of the airports conducting deicing activities used more than 100,000 gallons of ethylene glycol which represented approximately 76 percent of the total amount of ethylene glycol used by all airports surveyed.

a. Annual Loading Estimates. All facilities that use more than 100,000 gallons of glycol-based deicing/anti-icing chemicals and/or 100 tons or more of urea on an average annual basis shall prepare estimates of annual pollutant loadings resulting from discharges of spent deicing/anti-icing chemicals from the facility. The loading estimates shall reflect the amounts of deicing/anti-icing chemicals discharged to separate storm sewer systems or surface waters, prior to and after implementation of the facility's storm water pollution prevention plan. The purpose of these estimates is to calculate the net reduction in deicing/anti-icing chemical loadings to receiving streams. Such estimates shall be reviewed and certified by an environmental professional (engineer, scientist, etc.) with experience in storm water pollution prevention. The environmental professional need not be certified or registered, however, experience with development of storm water pollution prevention plans and with airport operations is critical to prepare accurate estimates. By means of the certification, the environmental professional, having examined the facility's deicing/anti-icing procedures and proposed control measures described in the storm water pollution prevention plan, shall attest that the loading estimates have been accurately prepared.

b. Analytical Monitoring Requirements. EPA believes that airports may reduce the level of pollutants in storm water runoff from their sites through the development and proper implementation of the storm water pollution prevention plan requirements discussed in today's permit. In order to provide a tool for evaluating the effectiveness of the pollution prevention plan and to characterize the discharge for potential environmental impacts, the permit requires airport facilities that use 100,000 gallons or more of glycol-based deicing/anti-icing chemicals and/or 100 tons or more of urea on an average annual basis to collect and analyze samples of their storm water discharges from areas where deicing/anti-icing activities occur for the pollutants listed in Table S–1. Airport facilities which use less than 100,000 gallons of glycol-based deicing/anti-icing chemicals and/or less than 100 tons of urea on an average annual basis are not required to monitor discharges resulting from deicing/anti-icing activities.

In determining if an airport is subject to the monitoring requirements, airport authorities must determine the ''average annual usage rate'' of deicing/anti-icing chemicals at their particular facility. The ''average annual usage rate'' is determined by averaging the total amounts of deicing/anti-icing chemicals used at the facility for the three previous calendar years. The total amount of deicing/anti-icing chemicals used at an airport facility is the cumulative amount used by the airport authority and each tenant of the airport facility. EPA recognizes that glycol-based deicing/anti-icing chemicals are often diluted with water prior to deicing aircraft. In some cases, deicing/anti-icing chemicals may constitute only 50 percent of the applied volume of liquid to aircraft. Therefore, in determining the fluid amounts of deicing/anti-icing chemicals used at a facility, operators should use the pre-dilution volume.

At a minimum, storm water discharges from airport facilities that use 100,000 gallons or more of glycol-based deicing/anti-icing chemicals and/or 100 tons or more of urea on an average basis must be monitored four times during the second year of permit coverage when deicing/anti-icing activities are occurring and from outfalls that receive storm water runoff from those areas. At the end of the second year of permit coverage, a facility must calculate the average concentration for all grab samples analyzed for each parameter listed in Table S–1 on an outfall-by-outfall basis. If more than four different events are sampled during a monitoring period, then the average concentration for each parameter shall be determined using all grab samples analyzed.

TABLE S–1.—INDUSTRY MONITORING REQUIREMENTS

Parameter	Cut-off concentration
Biochemical Oxygen Demand (BOD_5).	30 mg/L
Chemical Oxygen Demand (COD).	120 mg/L
Ammonia	19 mg/L
pH	6.0 to 9 s.u.

If the average concentration for all grab samples analyzed for a parameter is less than or equal to the value listed in Table S–1, then the permittee is not required to conduct quantitative analysis for that parameter during the fourth year of the permit. If, however, the average concentration for all grab samples analyzed for a parameter is greater than the cut-off concentration listed in Table S–1, then the permittee is required to conduct monitoring four times for that parameter while deicing/anti-icing operations are occurring in the fourth year of the permit. Monitoring is not required during the first, third, and fifth year of the permit. The exclusion from monitoring in the fourth year of the permit is conditional on the facility maintaining industrial operations and BMPs that will ensure a quality of storm water discharges consistent with the average concentrations recorded during the second year of the permit.

TABLE S–2.—SCHEDULE OF MONITORING

2nd Year of Permit Coverage	• Collect a minimum of four samples during months of deicing/anti-icing (December–February) Conduct monitoring for four separate events during months of deicing/anti-icing (December–February) • Calculate the average concentration on an outfall by outfall basis, for all parameters analyzed during this period • If average concentration is greater than the value listed in Table S–1, then sampling is required during the fourth year of the permit • If average concentration is less than or equal to the value listed in Table S–1, then no further sampling is required for that parameter
4th Year of Permit Coverage	• Conduct monitoring four times, on an outfall by outfall basis, during the months of deicing/anti-icing (December–February) for any parameter where the average concentration in year 2 of the permit is greater than the value listed in Table S–1 • If industrial activities or the pollution prevention plan have been altered such that storm water discharges may be adversely affected, monitoring is required for all parameters of concern during the months of deicing/anti-icing (December–February)

In cases where the average concentration for all grabs analyzed for a parameter exceeds the cut-off concentration, EPA expects permittees to place special emphasis on methods for reducing the presence of those parameters in storm water discharges. Quarterly monitoring in the fourth year of the permit will reassess the effectiveness of the adjusted pollution prevention plan.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly chemical sampling.

c. Alternative Certification. The alternative certification provision discussed in other industry sectors described in Part VIII of this fact sheet are not applicable to discharges resulting from deicing/anti-icing operations. As structured, today's permit only requires monitoring from airports that use more than 100,000 gallons of glycol-based deicing/anti-icing chemicals and/or 100 tons of urea. In addition, airports that use less than the stated thresholds of deicing/anti-icing chemicals are not required to submit an alternative certification.

d. Reporting Requirements. Permittees are required to submit all monitoring results obtained during the second and fourth year of permit coverage no later than the 31st day of March following the monitoring period. For each outfall, one signed Discharge Monitoring Report form must be submitted to the Director per storm event sampled. For facilities conducting monitoring beyond the minimum requirements an additional Discharge Monitoring Report Form must be filed for each analysis.

e. Sample Type. A minimum of one grab and one flow-weighted composite sample shall be taken from each outfall that collects runoff from areas where deicing/anti-icing activities occur. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample is intended to provide information on the maximum expected concentrations of BOD5, COD, and ammonia as a result of deicing/anti-icing chemicals discharged during the precipitation event. The composite sample is intended to provide a measure of the BOD5, COD, ammonia loadings for the entire precipitation event as a result of the discharge of deicing/anti-icing chemicals. It will also provide site-specific information necessary for calculating the estimates of the annual pollutant loadings also required by this permit. The recommended methodology for performing grab and composite sampling is described at 40 CFR 122.21(g)(7). The permittee has the option to submit site-specific deicing/anti-icing discharge monitoring protocol and methodology, better suited to the particular facility, to the Director for approval.

f. Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluent. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

T. Storm Water Discharges Associated With Industrial Activity From Treatment Works

1. Discharges Covered Under this Section

On November 16, 1990 (55 FR 47990), the U.S. Environmental Protection Agency (EPA) promulgated the regulatory definition of ''storm water discharges associated with industrial activity.'' This definition includes point source discharges of storm water from eleven categories of facilities, including ''* * * (ix) treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 M.G.D. or more or required to have an approved pretreatment program under 40 CFR part 403.''

This section establishes special conditions for storm water discharges associated with industrial activity from treatment works treating domestic sewage with a design flow of 1.0 M.G.D. or more, or for treatment works that are required to have an approved pretreatment program under 40 CFR Part 403, or for those having land dedicated to the disposal of sewage sludge within the confines of the facility. Please note that storm water discharges from farm lands, domestic gardens, or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with Section 405 of the Clean Water Act (CWA), are not currently regulated under the Federal storm water regulations.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Industry Profile

Wastewater treatment plants remove organic and inorganic contaminants from domestic sewage and sludge. This section provides a description of the treatment processes for reducing pollutants in domestic sewage. The operations are basically the same at all treatment plants and may be categorized by three general processes: primary treatment, secondary treatment, and tertiary treatment.

Primary Treatment—The objective of primary treatment is the removal of settleable and suspended organic pollutants. This typically involves at least one of the following operations: screening, grit removal, and sedimentation. Chemical processes, such as disinfection, may also occur during primary treatment operations.

Secondary Treatment—The objective of secondary treatment is further removal of settleable solids and soluble organic matter. The operations employed during secondary treatment include biological oxidation via suspended growth or fixed film processes, such as activated sludge, rotating biological contractors or trickling filters.

Tertiary Treatment—The objectives of tertiary treatment include further treatment of wastewater, such as removal of suspended solids by filtration; removal of nutrients, such as phosphorus and nitrogen, typically through chemical additions and biological processes, or by selective ion exchange; and further removal of pollutants through activated carbon treatment.

Prior to discharge into a receiving water body, treated wastewater is disinfected using chlorination followed by dechlorination. Sludge produced during primary and secondary treatment is commonly combined, thickened, stabilized, and then mechanically dewatered. Sludge is aerobically or anaerobically stabilized by adjusting the pH with lime. This is followed by dewatering process where a polymer is added to condition the sludge for dewatering. Sludge is often stored onsite in piles exposed to weather, until final disposal (e.g., surface disposal, or incineration). When sludge is to be land applied, sludge drying beds or composting piles may be exposed to precipitation. In cases where sludge is incinerated onsite of the treatment plant, ash piles or impoundments may be exposed to precipitation.

3. Pollutants Found in Storm Water Discharges From Treatment Works

The impact of industrial activities at treatment works on storm water discharges will vary. Factors at a site which influence the water quality include geographic location, hydrogeology, the industrial activities exposed to storm water discharges, the facility's size, the types of pollution prevention measures/best management practices in place, and the type, duration, and intensity of storm events. Taken together or separately, these factors determine how polluted the storm water discharges will be at a given facility. For example, caustic soda may be significant source of pollutants at some facilities, while incinerator ash may be the primary pollutant source at others. Additionally, pollutant sources other than storm water, such as illicit connections, spills, and other improperly dumped materials, may increase the pollutant loading discharged into Waters of the United States.

Table T–1 lists industrial activities that commonly occur at treatment works, common pollutant sources at these facilities, and pollutants that are associated with these sources. Table T–1 identifies parameters as potential pollutants of concern associated with facilities covered by this section.

TABLE T–1.—DESCRIPTION OF INDUSTRIAL ACTIVITIES, POTENTIAL POLLUTANT SOURCES, AND POSSIBLE POLLUTANTS

Activity	Pollutant source	Pollutant
Preparation of biological and physical treatment processes.	Spills and leaks of process chemicals	Disinfectants, polymers and coagulants, alum, ferric chloride, soda ash, lime, sodium aluminate, sodium hypochlorite, caustic soda.

TABLE T–1.—DESCRIPTION OF INDUSTRIAL ACTIVITIES, POTENTIAL POLLUTANT SOURCES, AND POSSIBLE POLLUTANTS—Continued

Activity	Pollutant source	Pollutant
Soil amending and grass fertilizing	Over fertilizing	Commercial brands of balance fertilizers (6–6–6, 8–8–8 or 12–12–12), commercial sludge based products, nitrogen, other nutrients, phosphorous, ammonia.
Liquid storage in above ground storage	External corrosion and structural failure	Aluminum sulfate, liquid chlorine, liquid polymer, fuel, oil.
	Installation problems	Aluminum sulfate, liquid chlorine, liquid polymer, fuel, oil.
	Spills and overfills due to operator error	aluminum sulfate, liquid chlorine, liquid polymer, fuel, oil.
	Failure of piping systems (pipes, pumps, flanges, couplings, hoses, and valves).	Aluminum sulfate, liquid chlorine, liquid polymer, fuel, oil.
	Leaks or spills during pumping of liquids from barges, trucks, or rail cars to a storage facility.	Aluminum sulfate, liquid chlorine, liquid polymer, fuel, oil.
Pest Control	Large quantities of pesticide application, pesticide storage.	Diazanon, malathion, amdro, dimethylphthalate, diethyl phthalate, dichlorvos, carbaryl, skeetal, batex, liquid copper.
Sludge Drying Beds	Sludge	Nitrate, TDS, TSS, ammonia.
Sludge Storage Piles	Sludge	Nitrate, TDS, TSS, ammonia.
Sludge Transfer	Sludge, vehicles, transfer equipment	Nitrate, TDS, TSS, oil, fuel, hydraulic fluids, ammonia.
Incineration	Ash impoundments/piles	Heavy metals, TDS, TSS.
Miscellaneous	Grit and scum piles from clarifiers, screens, exposed soil.	TSS, heavy metals, fecal coliform, nitrate, TSS.

Sources: EPA, Risk Reduction Engineering Lab, Cincinnati, OH, and U.S. of America National Committee for Representation of the United States to the International Association of Water Pollution Research and Control. November 1989. ''Developments at International Conference on Water Pollution Research (14th).'' EPA/600/2–89/059.

EPA, Office of Water Program Operations. June 1983. ''Need Survey, 1982. Conveyance, Treatment, and Control of Municipal Wastewater, Combined Sewer Overflows, and Storm Water Runoff: Summaries of Technical Data.'' EPA/430/9–83/002.

EPA, Office of Research and Development. May 1992. ''Facility Pollution Prevention Guide.'' EPA/600/R–92/088.

EPA, Office of Water. September 1992. ''Storm Water Management for Industrial Activities—Developing Pollution Prevention Plans and Best Management Practices.'' EPA 832–R–92–006.

Based on the similarities of the facilities included in this sector in terms of industrial activities and significant materials, EPA believes it is appropriate to discuss the potential pollutants at treatment works facilities as a whole and not subdivide this sector. Therefore, Table T–2 lists data for selected parameters from facilities in the treatment works sector. These data include the eight pollutants that all facilities were required to monitor for under Form 2F, as well as the pollutants that EPA has determined may merit further monitoring.

TABLE T–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY TREATMENT WORKS FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant Sample type	No. of Facilities		No. of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	49	48	94	93	32.7	44.2	0.0	0.0	1300.0	1300.0	12.0	7.5	78.0	83.0	171.6	203.4
COD	47	46	85	84	131.8	155.7	0.0	0.0	1900.0	2000.0	67.3	61.7	437.4	431.9	932.2	942.3
Nitrate + Nitrite Nitrogen	47	46	89	88	19.70	19.34	0.00	0.00	427.00	396.78	0.93	0.76	41.56	35.04	167.28	137.67
Total Kjeldahl Nitrogen	46	45	84	83	7.67	4.52	0.00	0.00	213.00	150.00	1.35	1.31	14.24	9.30	32.94	19.05
Oil & Grease	49	N/A	96	N/A	35.7	N/A	0.0	N/A	1210.0	N/A	1.2	N/A	60.5	N/A	202.8	N/A
pH	43	N/A	86	N/A	N/A	N/A	0.4	N/A	8.9	N/A	7.0	N/A	11.5	N/A	14.5	N/A
Total Phosphorus	49	48	91	89	0.91	0.67	0.00	0.00	9.50	5.92	0.47	0.45	2.91	2.20	6.21	4.39
Total Suspended Solids	50	49	95	93	153	111	0	2	1836	845	64	55	638	422	1661	1013

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.

[ii] Composite samples.

4. Options for Controlling Pollutants

Part 1 group application data indicate that BMPs have not been widely implemented at the representative sampling facilities. Less than 3 percent of the sampling subgroup reported that they cover loading areas, storage areas, or material handling areas; approximately 10 percent reported that they use containment; less than 4 percent of the representative facilities use concrete pads. The most commonly listed (approximately 15 percent) material management practice is catch basins. Because BMPs described in part 1 data are limited, the following table is provided to identify BMPs associated with activities that routinely occur at treatment works.

TABLE T–3.—GENERAL STORM WATER BMPS FOR TREATMENT WORKS

Activity	BMPs
Preparation of biological and physical treatment process.	Use drip pans under drums and equipment where feasible. Store process chemicals inside buildings. Inspect the storage yard for filling drip pans and other problems regularly. Train employees on procedures for storing and inspecting chemicals.
Soil amending and grass fertilizing	Use the appropriate amount of fertilizer. Do not overfertilize. Train employee on proper fertilizing techniques.
Liquid storage in above ground storage containers.	Maintain good integrity of all storage containers. Install safeguards (such as diking or berming) against accidental releases at the storage area. Inspect storage tanks to detect potential leaks and perform preventive maintenance. Inspect piping systems (pipes, pumps, flanges, couplings, hoses, and valves) for failures or leaks. Train employees on proper filling and transfer procedures.
Pest Control	Minimize pesticide application. Only apply pesticide if needed. Train employees on proper pesticide application.
Sludge Drying Beds	Ensure drying bed is draining properly (e.g., check for clogging); avoid overfilling drying bed; grade the land to divert flow around drying bed; berm, dike, or curb drying bed areas; cover drying beds.
Sludge Storage Piles	Confine storage of sludge to a designated area as far from any receiving water body as possible; store sludge on an impervious surface (e.g., concrete pad); grade the land to divert flow around storage piles; berm, dike, or curb sludge storage piles; cover sludge storage piles.
Sludge Transfer	Promptly remove any sludge spilled during transfer; conduct transfer operations over an impervious surface; avoid transferring sludge during rain events; grade the land to divert flow around transfer areas; berm, curb, or dike transfer areas; avoid locating transfer operations near receiving water bodies.
Incineration—ash impoundments/piles	Line ash impoundments with clay (or other type of impervious material); ensure ash impoundments will hold maximum volume of ash and a 10-year, 24-hour rain event; curb, berm, or dike ash storage areas; avoid locating ash storage areas near receiving water bodies.
Miscellaneous	Properly dispose of grit/scum; properly dispose of screens on a daily basis; maximize vegetative cover to stabilize soil and reduce erosion.

Sources: NPDES Storm Water Group Applications—Part 1. Received by EPA March 18, 1991 through December 31, 1992.
EPA, Office of Research and Development. May 1992. ''Facility Pollution Prevention Guide.'' EPA/600/R–92/088.
EPA, Office of Water. September 1992. ''Storm Water Management for Industrial Activities—Developing Pollution Prevention Plans and Best Management Practices.'' EPA 832–R–92–006.
U.S. Postal Service. May 1992. ''NPDES/Storm Water Guide.'' AS–554.

5. Special Conditions

There are no additional requirements under this section other than those described in part VI.B of this fact sheet.

6. Storm Water Pollution Prevention Plan Requirements

There are no additional requirements under this section other than those described in Part VI.C. of this fact sheet.

7. Monitoring and Reporting Requirements

The regulatory modifications at 40 CFR 122.44(i)(2) established on April 2, 1992, grant permit writers the flexibility to reduce monitoring requirements in storm water discharge permits. EPA has determined that the potential for storm water discharges to contain pollutants above benchmark levels, because of the industrial activities and materials exposed to precipitation, does not support sampling at treatment works facilities.

Under the Storm Water Regulations at 40 CFR 122.26(b)(14), EPA defined ''storm water discharge associated with industrial activity''. The focus of today's permit is to address the presence of pollutants that are associated with the industrial activities identified in this definition and that might be found in storm water discharges. Under the methodology for determining analytical monitoring requirements, described in section VI.E.1 of this fact sheet, nitrate plus nitrite nitrogen is above the bench mark concentrations for the treatment works sector. After a review of the nature of industrial activities and the significant materials exposed to storm water described by facilities in this sector, EPA has determined that the higher concentrations of nitrate plus nitrite nitrogen are not likely to be caused by the industrial activity, but may be primarily due to non-industrial activities on-site. Today's permit does not require treatment works facilities to conduct analytical monitoring for this parameter.

Based on a consideration of the BMPs typically used at these facilities, and generally low pollutant values from the application data, EPA believes that the pollution prevention plan with visual examinations of storm water discharges will help ensure storm water contamination is minimized.

a. Quarterly Visual Examination of Storm Water. Quarterly visual examinations are required of a storm water discharge from each outfall at the treatment works. The examination must be of a grab sample collected from each storm water outfall. The examination of storm water grab samples shall include any observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, or other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on these samples.

The examination must be made at least once in each of the following 3-month periods during daylight unless there is insufficient rainfall or snow-melt to runoff: January through March, April through June, July through September, and October through December. Whenever practicable, the same individual should carry out the collection and examination of discharges throughout the life of the permit to ensure the greatest degree of consistency possible. Grab samples shall be collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff begins discharging. Reports of the visual examination include: the examination date and time, examination personnel, visual quality of the storm water discharge, and probable sources of any observed storm water contamination. The visual examination reports must be maintained onsite with the pollution prevention plan.

When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluent. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

EPA believes that this quick and simple assessment will allow the permittee to approximate the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examinations. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and the effects of the management practices that are included in the plan.

EPA believes that with quarterly visual examinations and site compliance evaluations, potential sources of contaminants can be identified and controlled with BMPs. In determining the monitoring requirements, EPA considered the nature of the industrial activities and significant materials exposed at these sites, and performed a review of data provided in Part 2 group applications.

U. Storm Water Discharges Associated With Industrial Activity From Food and Kindred Products Facilities

1. Discharges Covered Under this Section

On November 16, 1990 (55 FR 47990), EPA promulgated the regulatory definition of ''storm water discharges associated with industrial activity.'' This definition included point source discharges of storm water from 11 major categories of facilities, including: ''* * * (xi) Facilities under Standard Industrial Classifications 20, 21 * * *.''

This section covers storm water discharges associated with industrial activities from establishments manufacturing or processing foods and beverages for human consumption, and related products, and prepared feeds for animals and fowls. This section also covers establishments engaged in manufacturing cigarettes, cigars, and other tobacco products. Food and kindred products processing facilities subject to requirements under this section include the following types of operations (i.e., subsectors):

a. Meat Products (generally described by SIC Codes 2011, 2013, and 2015).

b. Dairy Products (generally described by SIC Codes 2021, 2022, 2023, 2024, and 2026).

c. Canned, Frozen, and Preserved Fruits, Vegetables, and Food Specialties (generally described by SIC Codes 2032, 2033, 2034, 2035, 2037, and 2038).

d. Grain Mill Products (generally described by SIC Codes 2041, 2043, 2044, 2045, 2046, 2047, and 2048).

e. Bakery Products (generally described by SIC Codes 2051, 2052, and 2053).

f. Sugar and Confectionery Products (generally described by SIC Codes 2061, 2062, 2063, 2064, 2066, 2067, and 2068).

g. Fats and Oils (generally described by SIC Codes 2074, 2075, 2076, 2077, and 2079).

h. Beverages (generally described by SIC Codes 2082, 2083, 2084, 2085, 2086, and 2087).

i. Miscellaneous Food Preparations and Kindred Products (generally described by SIC Codes 2091, 2092, 2095, 2096, 2097, 2098, and 2099).

j. Tobacco Products (generally described by SIC Codes 2111, 2121, 2131, and 2141).

Storm water discharges covered by this section include discharges from industrial plant yards; material handling sites; refuse sites; sites used for application or disposal of process wastewaters; sites used for storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas for raw materials and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and where the aforementioned areas are exposed to storm water.

This section does not cover any discharges subject to effluent limitations guidelines, including storm water that combines with process wastewater. Also, storm water that does not come into contact with any raw material, intermediate product, finished product, by-product, or waste product located on the site of the operation are not subject to permitting under this section according to 40 CFR 122.26(b)(14).

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Industry Profile

From subsectors comprising the Food and Kindred Products Sector, as of January 1, 1993, 26 Part 2 Group Storm Water Applications were received from 9 of the 10 industrial subsectors (excluding tobacco products) and 31 different primary SIC Codes. Subsector descriptions for all facilities within the Food and Kindred Products sector are as follows:

a. Meat Products Subsector (SIC Code 201X). The Meat Products subsector is separated into three segments. These include meat packing plants (SIC 2011); sausages and other prepared meat products (SIC 2013); and poultry slaughtering and processing (SIC 2015). All three of the industrial segments submitted group application information. Production related activities for these segments include stockyards, slaughtering (killing, blood processing, viscera handling, and hide processing), cutting and deboning, meat processing, rendering, and materials recovery.

b. Dairy Products Subsector (SIC Code 202X). The Dairy Products subsector is separated into five segments. These segments include creamery butter; natural, processed, and imitation cheese; dry, condensed, and evaporated dairy products; ice cream and frozen desserts; and fluid milk. All five of the industrial segments submitted group application information. Although a variety of operations are encountered in the Dairy Products subsector, the initial operations (e.g., receiving stations, clarification, separation, and pasteurization) are common to most dairy plants and products. However, after these initial operations, the processes and equipment become highly dependent on the product segments. These operations may include: culturing, churning, pressing, curing, blending, condensing, sweetening, drying, milling, and packaging.

c. Canned Frozen and Preserved Fruits, Vegetables, and Frozen Specialties Subsector (SIC Code 203X). The Canned Frozen and Preserved Fruits, Vegetables, and Frozen Specialties subsector is separated into six segments. They include canned specialties; canned fruits, vegetables, preserves, jams, and jellies; dried and dehydrated fruits, vegetables, and soup mixes; pickled fruits and vegetables, vegetable sauces and seasonings, and salad dressings; frozen fruits, fruit juices, and vegetables; and other frozen specialties. Five of the six segments are represented in the part 2 application information with the pickled fruits and vegetables, vegetable sauces and seasonings, and salad dressings being the lone segment not represented in the part 2 data by a primary SIC Code (although this segment is represented as a secondary SIC Code). All of the facilities use various fruits or vegetables as the primary raw material. Sweeteners, such as sugar and corn syrup, are used as secondary raw materials. Typically, fruits and vegetables are washed, cut, blanched, and cooked prior to being classified as finished product. Additional operations may include drying, dehydrating, and freezing.

d. Grain Mills Subsector (SIC Code 204X). The Grain Mills subsector is separated into seven segments. These include flour and other grain mill products; cereal breakfast foods; rice milling; prepared flour mixes and doughs; wet corn milling; dog and cat food; and prepared feeds and feed ingredients for animals and fowls, except dogs and cats. Six of the seven segments are represented in the part 2 application information with the rice milling segment being the lone segment not represented in the part 2 data by a primary SIC Code. Process operations performed in the grain mill subsector include: washing, milling, debranning, heat treatment (i.e., steeping, parboiling, drying and cooking), screening, shaping (i.e., extruding, grinding, molding, and flaking), and vitamin and mineral supplementing.

e. Bakery Products Subsector (SIC Code 205X). The Bakery Products subsector is separated into three segments. These include the following industrial activities: bread and other bakery products, except cookies and crackers; cookies and crackers; and frozen bakery products, except bread. All three segments are represented in the part 2 application information by a primary SIC Code. Process operations in this subsector include mixing, shaping of dough, cooling, and decorating.

f. Sugar and Confectionery Subsector (SIC Code 206X). The Sugar and Confectionery subsector is separated into seven segments. These include the following industrial activities: cane sugar, except refining; cane sugar refining; beet sugar; candy and other confectionery products; chocolate and cocoa products; chewing gum; and salted and roasted nuts and seeds. Only two of the seven segments are represented in the part 2 application information (i.e., candy and other confectionery products and chocolate and other cocoa products). The primary raw materials include sugar, flavorings (including chocolate), flour, nuts, and milk, which are then mixed together, cooked, and then formed using various techniques into specified product shapes. The manufacture of chocolate products requires shelling, roasting, and grinding of the cocoa beans followed by the typical sugar processing operations identified above.

g. Fats and Oils Subsector (SIC Code 207X). The Fats and Oils subsector is separated into five segments. These include the cottonseed oil mills; soybean oil mills; vegetable oil mills, except corn, cottonseed, and soybean; animal and marine fats and oils; and shortening, table oils, margarine, and other edible fats and oils, not elsewhere classified. Only two of the five segments are represented in the part 2 application information (i.e., animal and marine fats and oils and shortening, table oils, margarine, and other edible fats and oils, not elsewhere classified). Typical process operations at an animal and marine fats and oils facility include cooking of inedible fats and oils from butcher shops, supermarkets, food manufacturing facilities, restaurants, and slaughterhouses, tallow and grease separation from proteinaceous solids. The solids are then ground to produce meat and bone meal. Operations at an edible oils manufacturer include refining, bleaching, hydrogenation, fractionation, emulsification, deodorization, filtration, and blending of the crude oils into edible products.

h. Beverages Subsector (SIC Code 208X). The Beverages subsector is separated into six segments. These include the malt beverages; malt; wines, brandy, and brandy spirits; distilled and blended liquors; bottled and canned soft drinks and carbonated waters; and flavoring extracts and flavoring syrups, not elsewhere classified segments. Four the six segments are represented by the part 2 application with malt and wines, brandy, and brandy spirits being the two segments not represented by the part 2 application information. Process operations may include brewing, distilling, fermentation, blending, and packaging (i.e., bottling, canning, or bulk packaging).

i. Miscellaneous Food Preparation and Kindred Products Subsector (SIC Code 209X). The Miscellaneous Food Preparation and Kindred Products subsector is separated into seven industrial segments. These include canned and cured fish and seafood; prepared fresh or frozen fish and seafoods; roasted coffee; potato chips, corn chips, and similar snacks; manufactured ice; macaroni, spaghetti, vermicelli, and noodles; and food preparations, not elsewhere classified segments. Three of the seven segments are represented by the part 2 application information (i.e., prepared fresh or frozen fish and seafoods; potato chips, corn chips, and similar snacks; and macaroni, spaghetti, vermicelli, and noodles). Process operations may include shelling, washing, drying, shaping, baking, frying, and seasoning.

j. Tobacco Products Subsector (SIC Code 21XX). The tobacco products subsector is separated into four segments. These include cigarettes, cigars, chewing and smoking tobacco and snuff, and tobacco stemming and redrying. None of these four segments submitted part 2 application information. Typical process operations may include drying, blending, shaping, cutting and rolling.

3. Pollutants in Storm Water Discharges Associated with Food and Kindred Products Processing Facilities.

Typical food and kindred products processing facilities do not conduct many processing operations outdoors. The nature of the business, and the required sanitary conditions, require that the raw materials through final product be protected from storm water. As such, the contamination of storm water from this sector is primarily from the loading and unloading of products and raw materials, spillage and leaks from tanks and containers stored outdoors, waste management practices, pest control, and improper connections to the storm sewer. Table U–1 lists potential pollutant sources from activities that commonly take place at food and kindred products processing facilities.

TABLE U–1.—DESCRIPTION OF POTENTIAL POLLUTANT SOURCES [i, ii, iii]

Activity	Pollutant source	Pollutant(s)
A. Raw Material Unloading/Product Loading.	• Container defects (bags, drums, bottles, crates) • Spills and leaks during unloading/ loading (tanks, rail cars) • Failed connections (hoses and couplings) • Washdown of unloading/loading area	BOD, TSS, O&G, pH, TKN.
B. Storage Containers:		
Liquid Storage (i.e., above ground storage tanks).	• Failed piping and connections (couplings, flanges, hoses, and valves) • External corrosion and structural failure • Spills and overflows due to operator error	BOD, TSS, O&G, pH.
Liquid Storage (drums, carboys, and gallon jugs).	• Outside containers • Open containers • External corrosion of the containers • Operator handling and transporting • Spills and leaks from damaged containers	BOD, TSS, O&G, pH.
Solid Storage (silos, holding bins, fiber drums, etc.).	• Dust and particulates • Operator handling and transporting • Spills and leaks	BOD, TSS, pH.
C. Waste Management:		
Air Emissions	• Oven emissions • Vents • Fine solids handling	BOD, TSS, O&G, pH.
Solid Waste	• Dumpsters and trash cans • Spent equipment, scraps, etc.	BOD, TSS, O&G, pH, copper, manganese.
Wastewater	• Treatment processes (e.g., hydraulic overflow) • Outside piping and connections (couplings, flanges, hoses, valves, and pumps)	BOD, TSS, O&G, pH, fecal coliform.
D. Pest Control:		
Pesticides, rodenticides, insecticides.	• Outside areas of applications	Miscellaneous insecticides, rodenticides, pesticides, etc., TKN.
E. Improper Connections to the Storm Sewer.	• Process wastewaters • Process floor drains • Sanitary sewers • USTs	BOD, TSS, O&G, pH.

[i] ''Standard Handbook of Environmental Engineering,'' Corbitt, Robert A., McGraw-Hill, Inc., 1990.
[ii] Air Pollution Engineering Manual, Air and Waste Management Association, Edited by Anthony J. Buonicore and Wayne T. Davis, Van Nostrand Reinhold, New York, 1992.
[iii] ''Environmental Engineering and Sanitation,'' Fourth Edition, Salvato, Joseph A., John Wiley & Sons, Inc., 1992.

Impacts caused by storm water discharges from food and kindred products processing facilities will vary from facility to facility. Several factors influence to what extent operations at the site can affect water quality. Such factors include: geographic location; hydrogeology; the types of industrial activities exposed to storm water; the size of the operation; the nature of storm water control measures in place; and the type, duration, and intensity of precipitation events. Each of these factors interact to influence the quantity and quality of storm water runoff. For example, flour/oil particulate emissions from vents (e.g., from baking operations) may be a significant source of pollutants at some facilities, while material storage may be a primary source at others. Similarly, a facility with all storm water from exposed industrial activity diverted to the sanitary sewer would have less of an impact than a facility not practicing this control option. In addition, sources of pollutants other than storm water, such as illicit connections, spills, and improperly dumped materials, may increase the pollutant loadings discharged in the receiving stream.

EPA reviewed Part 1 Group Storm Water Applications for facilities identified as sampling facilities to determine the types of significant materials from food and kindred products processing that are exposed to storm water. A list of these significant materials is presented in Table U–2. Note that significant materials related to vehicle maintenance (e.g., diesel fuel) and other miscellaneous nonprocessing materials (e.g., lumber) are not included in Table U–2.

TABLE U–2.—SIGNIFICANT MATERIALS EXPOSED TO STORM WATER

Acids (phosphoric, sulfuric)	Feathers
Activated carbon	Feed
Ammonia	Ferric chloride
Animal cages	Fruits, vegetables, coffee beans
Bleach	Gel bone
Blood	Grain (flour, oats, wheat)
Bone meal	Hides
Brewing residuals	Lard
Calcium oxide	Manure
Carbon dioxide	Milk
Caustic soda	Salts (brine)
Chlorine	Skim powder
Cheese	Starch
Coke oven tar	Sugar (sweetner, honey, fructose, syrup)
Detergent	Tallow
Eggs	Wastes (off-spec product, sludge)
Ethyl alcohol	Whey
Fats, greases, shortening, oils	Yeast

Based on the wide variety of industrial activities and significant materials at the facilities included in this sector, EPA believes it is appropriate to divide the food and kindred products industry into subsectors to properly analyze sampling data and determine monitoring requirements. As a result, this sector has been divided into the following subsectors: meat products; dairy products; canned, frozen, and preserved fruits; grain mill products; bakery products; sugar and confectionery products; fats and oils; beverages; miscellaneous food and kindred products; and tobacco products. Tables below include data for the eight pollutants that all facilities were required to monitor for under Form 2F. The tables also list those parameters that EPA has determined may merit further monitoring. A table has not been included for the following subsectors because less than 3 facilities submitted data in that subsector: sugar and confectionery products facilities; and tobacco products facilities.

TABLE U–3.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY MEAT PRODUCTS FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	30	29	51	50	25.9	19.2	0.0	0.0	170.0	81.0	12.0	9.2	102.5	78.7	248.436	182.3
COD	30	29	51	50	184.3	122.8	0.0	0.0	1307.0	1307.0	80.0	72.0	717.3	350.7	1623.7	659.3
Nitrate + Nitrite Nitrogen	30	29	51	50	1.35	1.24	0.00	0.00	4.75	8.66	0.86	0.60	4.54	3.78	8.84	7.10
Total Kjeldahl Nitrogen	30	29	51	50	3.30	3.57	0.00	0.00	18.00	27.00	2.00	1.60	9.59	12.55	16.92	26.07
Oil & Grease	31	N/A	52	N/A	7.7	N/A	0.0	N/A	34.0	N/A	6.6	N/A	25.3	N/A	41.7	N/A
pH	24	N/A	38	N/A	N/A	N/A	5.9	N/A	8.6	N/A	7.7	N/A	8.9	N/A	9.5	N/A
Total Phosphorus	30	29	51	50	20.45	0.94	0.02	0.02	970.00	9.70	0.28	0.28	9.89	3.11	36.98	8.25
Total Suspended Solids	30	29	51	50	397	206	0	0	2540	2120	98	68	2266	902	7830	2618

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.

[ii] Composite samples.

TABLE U–4.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY DAIRY PRODUCTS FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	33	33	81	81	66.4	49.6	0.0	0.0	1400.0	1360.0	17.0	10.0	185.0	122.4	479.0	297.5
COD	33	33	81	81	214.7	149.3	15.0	0.0	3010.0	2100.0	94.0	78.4	647.0	418.0	1385.3	836.8
Nitrate + Nitrite Nitrogen	33	33	81	81	1.24	0.99	0.00	0.00	25.52	8.88	0.61	0.57	3.53	3.16	7.18	6.31
Total Kjeldahl Nitrogen	33	33	81	81	4.35	3.68	0.00	0.00	32.00	32.40	2.50	2.44	12.40	10.18	22.65	18.04
Oil & Grease	33	N/A	81	N/A	6.1	N/A	0.0	N/A	92.4	N/A	2.0	N/A	26.1	N/A	58.9	N/A
pH	31	N/A	78	N/A	N/A	N/A	4.4	N/A	9.0	N/A	7.0	N/A	8.6	N/A	9.4	N/A
Total Phosphorus	33	33	80	80	1.68	1.07	0.00	0.00	24.40	6.80	0.50	0.38	7.59	4.71	19.51	11.35
Total Suspended Solids	32	32	79	79	225	218	0	0	2667	3110	56	53	967	798	2932	2274

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.

[ii] Composite samples.

TABLE U–5.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY CANNED, FROZEN, AND PRESERVED FRUITS, VEGETABLES AND FOOD SPECIALTIES FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD$_5$	29	26	71	56	48.9	44.0	0.0	0.0	1550.0	1150.0	9.1	8.5	122.9	98.1	305.3	232.0
COD	27	24	69	55	174.6	153.4	0.0	0.0	3810.0	2820.0	39.0	40.0	522.0	492.0	1293.2	1280.8
Nitrate + Nitrite Nitrogen	28	26	68	57	1.20	0.93	0.00	0.00	14.70	9.60	0.59	0.40	3.89	2.74	8.17	5.53
Total Kjeldahl Nitrogen	30	27	73	59	4.44	3.45	0.00	0.00	64.00	33.90	1.80	1.60	14.27	12.53	32.44	29.35
Oil & Grease	28	N/A	68	N/A	5.3	N/A	0.0	N/A	35.0	N/A	1.2	N/A	27.7	N/A	70.0	N/A
pH	26	N/A	68	N/A	N/A	N/A	4.3	N/A	10.3	N/A	7.1	N/A	8.7	N/A	9.7	N/A
Total Phosphorus	28	26	68	57	1.02	0.95	0.00	0.00	11.80	8.30	0.42	0.54	3.52	3.45	8.18	7.73
Total Suspended Solids	30	27	73	58	147	112	0	0	1840	800	67	49	787	585	2445	1681

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE U–6.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY GRAIN MILL PRODUCTS FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD$_5$	72	70	77	75	86.4	73.9	0.0	0.0	713.0	968.0	20.0	21.0	296.2	249.8	770.8	613.7
COD	72	70	77	74	273.9	211.4	0.0	0.0	2000.0	2040.0	89.0	81.0	937.4	640.9	2170.9	1339.3
Nitrate + Nitrite Nitrogen	73	71	79	75	1.62	1.08	0.00	0.00	44.90	17.70	0.36	0.50	6.51	5.29	18.50	13.97
Total Kjeldahl Nitrogen	72	70	77	74	10.3	7.62	0.00	0.00	78.00	75.00	4.00	3.00	39.01	25.19	88.55	51.97
Oil & Grease	73	N/A	78	N/A	4.4	N/A	0.0	N/A	44.0	N/A	0.00	N/A	21.6	N/A	46.2	N/A
pH	73	N/A	78	N/A	N/A	N/A	5.0	N/A	8.9	N/A	7.0	N/A	8.2	N/A	8.8	N/A
Total Phosphorus	72	70	77	74	8.17	2.90	0.08	0.06	314.00	19.70	1.74	1.70	18.69	10.52	48.77	22.82
Total Suspended Solids	72	70	77	74	324	320	4	4	3300	4530	112	110	1468	1233	4338	3469
Zinc, Total	17	17	17	17	1.409	1.342	0.060	0.110	13.500	7.350	0.30	0.31	4.775	4.793	13.091	11.564

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE U–7.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY BAKERY PRODUCTS FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD$_5$	16	17	32	34	18.8	17.5	4.0	0.0	82.0	85.0	13.0	11.50	45.7	46.6	74.6	79.4
COD	16	17	32	34	103.7	92.3	16.2	14.0	514.0	426.0	72.0	59.0	270.3	238.2	465.9	407.8
Nitrate + Nitrite Nitrogen	16	17	32	34	0.47	0.56	0.00	0.00	1.94	1.90	0.40	0.46	1.29	1.64	2.00	2.67
Total Kjeldahl Nitrogen	16	17	32	34	2.89	2.41	0.00	0.00	10.00	6.60	2.40	2.15	9.15	6.33	16.22	10.14
Oil & Grease	16	N/A	32	N/A	14.0	N/A	0.0	N/A	93.0	N/A	5.0	N/A	63.6	N/A	149.9	N/A
pH	14	N/A	30	N/A	N/A	N/A	6.1	N/A	8.4	N/A	7.1	N/A	8.3	N/A	8.9	N/A
Total Phosphorus	16	17	32	34	0.56	0.49	0.00	0.00	2.10	1.80	0.47	0.38	1.51	1.71	2.47	3.23
Total Suspended Solids	16	17	32	34	140	64	2	2	410	200	103	41	888	295	2686	750

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE U–8.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY FATS AND OILS MANUFACTURING FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD$_5$	12	12	19	19	68.0	38.6	0.0	0.0	180.0	75.0	57.0	41.0	240.7	108.0	466.2	177.1
COD	12	12	19	19	322.6	191.1	17.0	9.60	1040.0	840.0	230.0	150.0	1253.4	640.1	2622.1	1216.4
Nitrate + Nitrite Nitrogen	12	12	19	19	2.69	1.65	0.32	0.23	18.30	4.90	1.37	1.01	7.97	4.82	15.95	8.58
Total Kjeldahl Nitrogen	12	12	19	19	19.60	7.96	0.00	0.0	240.00	65.2	3.40	2.75	55.66	24.1	156.55	53.5
Oil & Grease	11	N/A	18	N/A	28.5	N/A	0.0	N/A	150.0	N/A	7.8	N/A	178.1	N/A	527.7	N/A
pH	11	N/A	17	N/A	N/A	N/A	5.7	N/A	10.0	N/A	7.6	N/A	10.0	N/A	11.1	N/A
Total Phosphorus	12	12	19	19	0.91	1.96	0.00	0.00	8.11	15.8	0.37	0.23	3.18	6.75	7.65	21.73
Total Suspended Solids	10	11	17	18	635	442	3	0	4850	3060	290	175	3746	1725	12233	4158

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE U–9.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY BEVERAGES FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD$_5$	18	15	29	23	16.8	8.61	1.0	1.0	153.0	35.0	6.0	5.0	52.7	25.1	115.4	45.6
COD	18	15	29	23	70.1	42.1	9.0	5.0	270.0	88.0	49.0	46.0	214.3	125.2	401.6	217.3
Nitrate + Nitrite Nitrogen	18	15	29	23	0.60	0.65	0.00	0.04	1.90	2.10	0.41	0.60	1.67	2.12	2.85	3.96
Total Kjeldahl Nitrogen	18	15	29	23	1.54	0.95	0.31	0.27	7.45	2.9	1.00	0.74	3.82	2.11	6.35	3.15

TABLE U–9.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY BEVERAGES FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)—Continued

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
Oil & Grease	18	N/A	29	N/A	1.7	N/A	0.0	N/A	7.0	N/A	1.2	N/A	4.3	N/A	6.4	N/A
pH	18	N/A	29	N/A	N/A	N/A	4.8	N/A	8.9	N/A	7.3	N/A	8.9	N/A	9.8	N/A
Total Phosphorus	18	15	29	23	0.51	0.36	0.05	0.06	5.40	2.70	0.26	0.20	1.39	0.94	2.79	1.71
Total Suspended Solids	18	15	29	23	29	9.7	3	0	170	36	18	5	95	32	193	65
Zinc, Total	10	8	11	9	0.179	0.141	0.000	0.000	0.440	0.400	0.13	0.07	0.549	0.517	0.922	0.969

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

TABLE U–10.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY MISCELLANEOUS FOOD PREPARATIONS AND KINDRED PRODUCTS FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	7	7	15	15	16.8	11.9	0.0	0.0	67.0	66.0	8.5	4.20	59.0	39.5	118.5	80.6
COD	7	7	15	15	103.1	81.1	13.0	17.0	297.0	504.0	63.0	52.0	371.2	211.4	759.3	384.2
Nitrate + Nitrite Nitrogen	7	7	15	15	0.49	0.47	0.00	0.0	1.17	1.22	0.48	0.38	1.79	1.65	3.11	2.93
Total Kjeldahl Nitrogen	7	7	15	15	2.76	1.96	0.44	0.40	11.90	7.81	1.59	1.35	8.88	5.51	17.42	9.99
Oil & Grease	7	N/A	15	N/A	4.4	N/A	0.0	N/A	16.0	N/A	2.9	N/A	15.7	N/A	28.5	N/A
pH	8	N/A	16	N/A	N/A	N/A	2.3	N/A	8.6	N/A	6.9	N/A	12.0	N/A	N/A	
Total Phosphorus	7	7	15	15	0.52	0.423	0.03	0.03	1.67	1.67	0.30	0.23	2.50	1.91	6.31	4.91
Total Suspended Solids	7	7	15	14	481	132	0	1	2880	1063	179	51	4441	719	21493	2499

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] Composite samples.

4. Options for Controlling Pollutants.

One option for controlling pollutants in storm water is to set effluent limitations for these discharges. EPA does not consider this to be feasible because of the lack of performance data necessary to develop limitations.

Pursuant to 40 CFR 122.44(k), permits may contain Best Management Practices (BMPs) to control or abate the discharge of pollutants in storm water, when applicable (and where numeric effluent limitations are infeasible). EPA believes that the most effective BMPs for reducing pollutants in storm water discharges from food and kindred products processing facilities is through exposure minimization and good housekeeping practices. Exposure minimization practices reduce the potential for storm water to come in contact with pollutants. Good housekeeping practices ensure that the facility is responsive to routine and non-routine activities that may increase exposure of pollutants to storm water. The BMPs necessary to address these two concerns are generally uncomplicated and inexpensive practices. They are easy to implement, and require little or no maintenance. Minor capital expenses, such as construction of cement pads or berms/dikes, may be necessary in some cases, although these types of control structures already exist at many food and kindred products processing facilities. In a few instances, more intensive BMPs, such as detention ponds or filtering devices, may be necessary depending on the type of discharge, types and concentrations of contaminants, and volume of flow, although these occurrences are expected to be very low for the sector as a whole. The types of material management practices identified in the storm water group applications for the food and kindred products processing sector, for sampling facilities only, are identified in Table U–11. In fact, part 1 group application data indicate that BMPs are widely implemented at food and kindred products processing facilities.

The selection of the most effective BMPs will be based on site-specific considerations such as: facility size, climate, geographic location, geology/hydrogeology and the environmental setting of each facility, and volume and type of discharge generated. Each facility will be unique in that the source, type, and volume of contaminated storm water will differ. In addition, the fate and transport of pollutants in these discharges will vary. EPA believes that the management practices discussed herein are well suited mechanisms to prevent or control the contamination of storm water discharges associated with food and kindred products processing facilities.

TABLE U–11.—MATERIAL MANAGEMENT PRACTICES[i,ii]

Absorbent mats	Preventative maintenance
Baghouse	Retaining wall
BMPs	Roof drains
Catch basin	Sealed tanks
Concrete pad	Shoveling
Containment	Site inspection
Cover (drums, holding pen, loading, storage)	Spill prevention plan
Curbing	Spillstoppers
Diking	Stone filters
Diversion	Sumps
Drains	Swales
Dust control	Sweeping
Housekeeping	Tarps (i.e., temporary covers)
Indoor storage	Training
Infiltration	V-Strips

TABLE U–11.—MATERIAL MANAGEMENT PRACTICES[i,ii]—Continued

Mopping Oil interceptor Oil/water separators Overfill protection Ponds	Vacuuming Valves Vinyl socks Waste minimization procedures Wetland

[i] NPDES Storm Water Group Applications—Part 2. Application Nos. 12, 13, 37, 81, 125, 159, 178, 179, 312, 436, 437, 446, 541, 557, 583, 584, 599, 630, 730, 789, 811, 819, 935, 936, 1006, 1096, 1147, and 1159.
[ii] NPDES Storm Water Group Applications—Part 1. Application Nos. 12, 13, 37, 60, 81, 125, 144, 159, 178, 179, 312, 436, 437, 446, 533, 541, 545, 557, 583, 584, 599, 630, 680, 730, 733, 789, 811, 819, 932, 935, 936, 1006, 1096, 1147, 1159, and 1217.

Table U–12 identifies general BMPs that are applicable to a variety of food and kindred products processing subsectors, while Table U–13 identifies BMPs for specific processing operations.

TABLE U–12.—GENERAL STORM WATER BMPS FOR THE FOOD AND KINDRED PRODUCTS PROCESSING SECTOR[i,ii,iii,iv]

Activity	BMPs
A. Raw Material Unloading/Product Loading	• Ensure that a facility representative is present during unloading/loading activities. • Inspect the unloading/loading areas to detect problems before they occur.
Shipping and Receiving	• Close storm drains during loading/unloading activities in surrounding area. • Inspect all containers prior to unloading/loading of any raw or spent materials. • Install backflow prevention devices on liquid transfer equipment. • Inspect all connection equipment (e.g., hoses and couplings), and replace when necessary, before performing unloading/loading activities. • Perform all unloading/loading activities in a covered and/or enclosed areas. • Use drip pans when loading/unloading liquid product. • Situate loading/unloading areas indoors or in a covered area. • Use rubber seals in truck loading dock areas to contain spills indoors. • Drain hoses back into truck, railcar, etc. after loading/unloading materials. • Install high level alarm on tanks to prevent overfilling. • Ensure that berms and dikes are built around the unloading/loading areas, if applicable. • If outside or in covered areas, minimize runon of storm water into the unloading/loading areas by grading the areas to ensure that storm water runs off. • Use dry cleanup methods for unloading/loading areas rather than washing the areas down. • Train employees on proper unloading/loading techniques. • Initiate an inventory control for all raw and spent materials.
B. Storage Containers:	
Liquid Storage	• Inspect the external condition (corrosion, leaks) of the containers. • Inspect the general area around the containers. • Ensure that beams and dikes are built around the containers. • Cover and/or enclose. • Bulkhead liquid storage tanks indoors (i.e., tank outlets located inside buildings).
Liquid Storage (drums, carboys, and gallon jugs).	• Ensure that all containers are closed (e.g., valves shut, lids and manways sealed, caps closed). • Wash containers indoors before storing empty containers outdoors. • If outside or in a covered area, minimize runon of storm water into a storage area by grading area to ensure that storm water runs ''off'' and not ''on''. • Train employees on proper storage techniques (e.g., filling and transferring contents). • Maintain employee training on proper handling and transportation of materials. • Maintain an inventory control of all raw and spent materials. • Employ measures to protect against spillage from the overflows (e.g., high level sensors, alarms).
Solid Storage (silos, holding bins, fiber drums, etc.).	• Consider vacuum emission control systems for airborne dust and particulate matter.
C. Waste Management:	
Wastewater	• Perform treatment processes in-house, if possible. • Inspect the outside pipe connections (couplings, valve seals and gaskets, flanges, etc.) of the treatment system for leaks, corrosion, and poor maintenance upkeep.
Solid Waste (paper, wood pellets, scrap metals, refuse, etc.).	• Inspect the general area around the solid waste (e.g., look for signs of leaching). • Store waste so that it is physically contained (dumpsters, drums, bags). • Store waste in an enclosed/covered area. • If outside or in a covered area, minimize exposure to storm water by grading the area to ensure that storm water runs ''off'' and not ''on''. • Ensure hazardous waste disposal practices are performed in accordance with Federal, State, and local requirements. • Route trash compactor leakage to treatment system or sanitary sewer.
Air Emissions	• Clean around vents and stacks to atmosphere from process and storage areas. • Place tubs around vents and stacks for easy collection of settling particles. • Inspect air emission control systems (e.g., baghouses) regularly and repair and replace as necessary. • Route overflows/condensates from process vents to onsite treatment system or to the sanitary sewer.
D. Pest Control	• Follow manufacturers directions for application of pest control materials to site.

TABLE U–12.—GENERAL STORM WATER BMPS FOR THE FOOD AND KINDRED PRODUCTS PROCESSING SECTOR [i,ii,iii,iv]—Continued

Activity	BMPs
	• Time application for dry weather conditions. • Store partially full containers indoors or undercover. • Apply insecticides during breeding months. • Protect rat bait houses from storm water.
E. Improper Connections to the Storm Sewer ...	• Perform smoke or dye testing to determine if interconnections exist between the sanitary and storm sewers. • Plug all floor drains leading to storm sewers. • Update facility schematics to accurately reflect all plumbing connections.
F. General	• Offer employee incentives so that employees will develop cost effective, worker efficient BMPs. • Request outside firm to conduct a storm water inspection/audit. • Inspect material transfer lines/connections for leaks or signs of wear and repair or replace as necessary.

[i] ''Standard Handbook of Environmental Engineering,'' Corbitt, Robert A., McGraw-Hill, Inc., 1990.
[ii] Air Pollution Engineering Manual, Air and Waste Management Association, Edited by Anthony J. Buonicore and Wayne T. Davis, Van Nostrand Reinhold, New York, 1992.
[iii] ''Environmental Engineering and Sanitation,'' Fourth Edition, Salvato, Joseph A., John Wiley & Sons, Inc., 1992.
[iv] Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices (EPA 832–R–92–006), EPA, Office of Water, September 1992.

TABLE U–13.—SPECIFIC STORM WATER BMPS FOR THE FOOD AND KINDRED PRODUCTS PROCESSING SECTOR [i,ii,iii,iv]

Activity	BMPs
A. Meat Products:	
• Animal Holding Pens (beef, chicken)	• Inspect area around animal holding pens. • Enclose/cover fowl hanging area. • Enclose/cover the animal holding pens. • Grade the areas around the animal holding pens to ensure storm water ''runs off'' and not ''on'' to the holding pen.
	• Train employees on proper material (i.e., hide, hair, feathers, animal parts) clean-up procedures around and within the animal holding pens. • Store animal manure and other materials from clean-up activities in appropriate containers in an enclosed/covered area. • Area for trailers holding empty bird cages should have storm water runon/runoff controls in place. • Use mechanical sweepers around site to clean up fugitive feathers, dust, and manure.
B. Dairy Products:	
• Packaged Dairy Products (spoiled and broken product containers).	• Inspect area around aged/spoiled dairy products. • Store aged/spoiled dairy products in enclosed area. • Train employees on proper disposal methods for all aged/spoiled dairy products. • Ensure that all aged/spoiled product (e.g., bottles, cartons, plastic containers) are disposed of in a proper manner (bagged, covered).
C. Canned Frozen and Preserved Fruits, Vegetables, and Frozen Specialties:	
• Fruit and Vegetable Storage and Disposal.	• Inspect all fruit and vegetable storage areas. • Store all fruits and vegetables in appropriate containers (e.g., bins, bushels, baskets, buckets) and in enclosed/covered areas. • Store empty fruit and vegetable containers in an enclosed/covered area. • Train employees on proper handling/disposal methods for fresh/rotten fruits and vegetables. • Consider air emission control systems for all cooking processes to reduce particulate matter. • Minimize fruit and vegetable storage time outdoors.
D. Grain Mills	
• Grain Handling, Storage and Mixing	• Inspect the general area around the grain storage. • Store all grain in appropriate containers (e.g., silos, hoppers) in an enclosed/covered area. • Train employees on grain handling procedures. • Consider a vacuum control system in all grain mixing areas.
E. Bakery Products:	
• Ingredient Storage and Mixing	• Inspect ingredient storage areas. • Store all ingredients (e.g., corn sweeteners, flour, shortening, syrup, vegetable oils) in appropriate containers (e.g., tanks, drums, bags) in an enclosed/covered area.
• Baking Process	• Remove flour/oil dust accumulation around ventilation exhaust systems. • Install an air emission control system for all baking processes to reduce particulate matter.
F. Sugar and Confectionery:	
• Sugar Handling	• Consider a vacuum control system in all granular and powdered processing areas.
G. Fats & Oils:	

TABLE U–13.—SPECIFIC STORM WATER BMPS FOR THE FOOD AND KINDRED PRODUCTS PROCESSING SECTOR[i,ii,iii,iv]—Continued

Activity	BMPs
• Fats and Oils Storage and Disposal	• Inspect all Fats and Oils storage areas. • Store all fats and oils, (e.g., butcher shop materials, hair, hide, tallow, bone meal, and offal) in enclosed/covered areas. • Ensure all fats and oils are physically contained.
H. Beverages:	
Material Storage and Mixing	• Ensure grain is stored in enclosed/covered area. • Consider an air emission control system for all grain handling and brewing processes. • Protect reusable beverage containers that are stored outdoors from storm water contact.

[i] ''Standard Handbook of Environmental Engineering,'' Corbitt, Robert A., McGraw-Hill, Inc., 1990.
[ii] Air Pollution Engineering Manual, Air and Waste Management Association, Edited by Anthony J. Buonicore and Wayne T. Davis, Van Nostrand Reinhold, New York, 1992.
[iii] ''Environmental Engineering and Sanitation,'' Fourth Edition, Salvato, Joseph A., John Wiley & Sons, Inc., 1992.
[iv] Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices (EPA 832–R–92–006), EPA, Office of Water, September 1992.

5. Storm Water Pollution Prevention Plan Requirements

All facilities included in this section of today's permit must prepare and implement a storm water pollution prevention plan. The establishment of a pollution prevention plan requirement reflects EPA's decision to allow operators of food and kindred products processing facilities to utilize BMPs as the BAT/BCT level of control for the storm water discharges covered by this section. The requirements included in pollution prevention plans provides a flexible framework for the development and implementation of site-specific controls to minimize pollution in storm water discharges. This approach is consistent with the approach used in the baseline general permits finalized on September 9, 1992 (57 FR 41236).

EPA believes that pollution prevention is the most effective approach for controlling contaminated storm water discharges from food and kindred products processing facilities. Pollution prevention plans allow the operator of a facility to select BMPs based on site-specific considerations such as: facility size; climate; geographic location; hydrogeology; the environmental setting of each facility; and volume and type of discharge generated. This flexibility is necessary because each facility will be unique in that the source, type and volume of contaminated surface water discharges will differ from site to site.

There are two major objectives to a pollution prevention plan: (1) To identify sources of pollution potentially affecting the quality of storm water discharges associated with industrial activity from a facility, and (2) to describe and ensure implementation of practices to minimize and control pollutants in storm water discharges associated with industrial activity from a facility.

Specific requirements for a pollution prevention plan for food and kindred products processing facilities are described below. These requirements must be implemented in addition to the baseline pollution prevention plan provisions discussed previously.

a. Contents of the Plan. Storm water pollution prevention plans are intended to aid operators of food and kindred products processing facilities to evaluate all potential pollution prevention sources at a site, and assist in the selection and implementation of appropriate measures designed to prevent, or control, the discharge of pollutants in storm water runoff. EPA has developed guidance entitled ''Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices,'' EPA, 1992 (EPA 832–R–92–006), to assist permittees in developing and implementing pollution prevention measures.

(1) Pollution Prevention Team. As a first step in the process of developing and implementing a storm water pollution prevention plan, permittees must identify a qualified individual or team of individuals to be responsible for developing the plan and assisting the facility or plant manager in its implementation. When selecting members of the team, the plant manager should draw on the expertise of all relevant departments within the plant to ensure that all aspects of plant operations are considered when the plan is developed. The plan must clearly describe the responsibilities of each team member as they relate to specific components of the plan. In addition to enhancing the quality of communication between team members and other personnel, clear delineation of responsibilities will ensure that every aspect of the plan is addressed by a specified individual of group of individuals. Pollution Prevention Teams may consist of one individual where appropriate (e.g., in certain small businesses with limited storm water pollution potential).

(2) Description of Potential Pollutant Sources. Each storm water pollution prevention plan must describe activities, materials, and physical features of the facility that may contribute to storm water runoff or, during periods of dry weather, result in dry weather flows. This assessment of storm water pollution prevention will support subsequent efforts to identify and set priorities for necessary changes in materials, materials management practices, or site features, as well as aid in the selection of appropriate structural and nonstructural control techniques. Plans must describe the following elements:

(a) Drainage—The plan must contain a map of the site that shows the pattern of storm water drainage, structural and nonstructural features that control pollutants in storm water runoff, and process wastewater discharges, surface water bodies (including wetlands), places where significant materials are exposed to rainfall and runoff, and locations of major spills and leaks that occurred in the 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. The map must also show areas where the following general activities take place: loading/unloading areas; vehicle fueling; vehicle and equipment maintenance and/or cleaning areas; waste treatment, storage, and disposal locations; and liquid storage tanks. In addition, as identified in the Part 1 Storm Water Group Applications, the following areas are also potential sources of pollutants in storm water from food and kindred products processing facilities: vents and stacks from cooking and drying operations and

dry product vacuum transfer lines; animal holding pens; spoiled product and broken product container storage areas; and significant dust or particulate generating areas. The site map must identify all monitoring locations that must be sampled as part of the monitoring requirements of the permit. (Monitoring and Reporting Requirements). This will allow for a direct comparison of the industrial activities exposed to storm water with the analytical data for storm water discharges from these areas. The site map must also indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls (e.g. storm water and air conditioner condensate). In order to increase the readability of the map, the inventory of the types of discharges contained in each outfall may be kept as an attachment to the site map.

(b) Inventory of Exposed Materials—Facility operators are required to carefully conduct an inspection of the site and related records to identify significant materials that are or may be exposed to storm water. The inventory must address materials that within 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit have been handled, stored, processed, treated, or disposed of in a manner to allow exposure to storm water. Findings of the inventory must be documented in detail in the pollution prevention plan. At a minimum, the plan must describe the method and location of onsite storage or disposal; practices used to minimize contact of materials with rainfall and runoff; existing structural and nonstructural controls that reduce pollutants in storm water runoff; existing structural controls that limit process wastewater discharges; and any treatment that the runoff receives before it is discharged to surface waters or a separate storm sewer system. The description must be updated whenever there is a significant change in the types or amounts of materials, or material management practices, that may affect the exposure of materials to storm water.

(c) Significant Spills and Leaks—The plan must include a list of any significant spills and leaks of toxic or hazardous pollutants that occurred in the 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Significant spills include, but are not limited to, releases of oil or hazardous substances in excess of quantities that are reportable under Section 311 of CWA (see 40 CFR 110.10 and 117.21) or Section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (see 40 CFR 302.4). Significant spills may also include releases of oil or hazardous substances that are not in excess of reporting requirements and releases of materials that are not classified as oil or a hazardous substance.

(d) Non-storm Water Discharges—Each pollution prevention plan must include a certification, signed by an authorized individual, that discharges from the site have been tested or evaluated for the presence of non-storm water discharges. The certification must describe possible significant sources of non-storm water, the results of any test and/or evaluation conducted to detect such discharges, the test method or evaluation criteria used, the dates on which tests or evaluations were performed, and the onsite drainage points directly observed during the test or evaluation. Pollution prevention plans must identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water discharge.

(e) Sampling Data—Any existing data on the quality or quantity of storm water discharges from the facility must be described in the plan. The description should include a discussion of the methods used to collect and analyze the data. Sample collection points should be identified in the plan and shown on the site map. Also, the plan should identify the types of storm water discharges (i.e., applicable sectors) being sampled at each outfall.

(f) Summary of Potential Pollutant Sources—The description of potential pollutant sources culminates in a narrative assessment of the risk potential that the industrial activities, materials, and physical features of the site pose to storm water quality. Any such activities, materials, or features must be addressed by the measures and controls subsequently described in the plan. In conducting the assessment, the facility operator must consider the following activities: loading/unloading areas; vehicle fueling; vehicle and equipment maintenance and/or cleaning areas; waste treatment, storage, and disposal locations; liquid storage tanks; vents and stacks from cooking and drying operations and dry product vacuum transfer lines; animal holding pens; out-of-date/spoiled product storage areas; and significant dust or particulate generating areas. The assessment must list any significant pollution sources at the site and identify the pollutant parameter or parameters (e.g., biochemical oxygen demand, oil and grease, etc.) associated with each source.

In addition to food and kindred products processing related industrial activities, the plan must also describe application and storage of pest control chemicals (e.g., rodenticides, insecticides, fungicides, etc.) used at the facility, including a discussion of application and storage procedures.

(3) Measures and Controls. The permittee must evaluate, select, and describe the pollution prevention measures, BMPs, and other controls that will be implemented at the facility. EPA emphasizes the implementation of pollution prevention measures and BMPs that reduce possible pollutant discharges at the source. Source reduction measures include, among others, preventative maintenance, chemical substitution, spill prevention, good housekeeping, training, and proper materials management. Where source reduction is not appropriate, EPA supports the use of source control measures and BMPs such as material segregation or covering, water diversion, and dust control. If source reduction or source control are not possible, recycling or treatment are the remaining alternatives. Recycling allows the reuse of storm water while treatment lowers pollutant concentrations prior to discharge. Since the majority of food and kindred products processing is conducted indoors, the activities identified above are geared towards only those activities that may contribute pollutants to storm water. Also because of the relatively few activities that are conducted outdoors within this sector, pollution prevention measures, BMPs, and other controls should be relatively few and easy for any given permittee. Also, these measures are the most appropriate means to reduce pollutant loadings to storm water (as opposed to pollutant limitations) because of the relative ease and the significant reductions in pollutant loads that can be realized. The permittee should consider the general storm water BMPs for the food and kindred products processing sector identified in Table U–12 and the subsector specific BMPs provided in Table U–13 when assessing the need for storm water measures and controls.

The pollution prevention plan must discuss the reasons each selected control or practice is appropriate for the facility and how each of the potential pollutant sources will be addressed. The plan must also identify the times during which each control or practice will be implemented. Also, the plan should summarize the effects that the controls or practices will have on storm water discharges from the site. At a minimum, the measures and controls must address the following components:

(a) Good Housekeeping—Permittees must describe protocols established to reduce the possibility of mishandling chemicals or equipment and training employees in good housekeeping techniques. Specifics of this plan must be communicated to appropriate plant personnel.

(b) Preventative Maintenance—Permittees are required to develop a preventative maintenance program that includes regular inspections and maintenance of storm water BMPs. The purpose of the inspections is to assess the effectiveness of the storm water pollution prevention plan. The inspections allow facility personnel to monitor the success or failure of elements of the plan on a regular basis. The use of an inspection checklist should be considered. A checklist ensures that all required areas are inspected, as well as providing documentation for the recordkeeping requirement.

(c) Spill Prevention and Response Procedures—Permittees are required to identify appropriate material handling procedures, storage requirements, containment or diversion equipment, and spill cleanup procedures that will minimize the potential for spills and in the event of a spill enable proper and timely response. Areas and activities that typically pose a high risk for spills at food and kindred products processing facilities include raw material unloading and product loading areas, material storage areas, and waste management areas (e.g., dumpsters, compactors). These activities and areas, and their accompanying drainage points, must be described in the plan.

(d) Inspections—In addition to the comprehensive site evaluation required under XI.U.6.b. (Comprehensive Site Compliance Evaluation) of this section of today's permit, qualified personnel must inspect designated equipment and areas of the facility at appropriate intervals as specified in the plan. Areas that are found to possibly contribute pollutants to storm water are identified in this section of today's permit as requisite areas for periodic scheduled inspections. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections must be maintained. Inspections shall be carried out by qualified facility personnel at least once each year.

(e) Employee Training—Permittees must describe a program for informing personnel at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as good housekeeping, materials management, and spill response procedures. A schedule for conducting this training must be provided in the plan. Where appropriate, contractor personnel also must be trained in relevant aspects of storm water pollution prevention. EPA recommends that facilities conduct training annually at a minimum. However, more frequent training may be necessary at facilities with high turnover of employees or where employee participation is essential to the storm water pollution prevention plan.

(f) Recordkeeping and Internal Reporting Procedures—Permittees must describe procedures for developing and retaining records on the status and effectiveness of plan implementation. The plan must address spills, monitoring, and BMP inspection and maintenance activities. Ineffective BMPs must be reported and the date of their corrective action noted.

(g) Sediment and Erosion Control—Permittees must identify areas that, due to topography, activities, soils, cover materials, or other factors have a high potential for significant soil erosion. Measures to limit erosion in these areas must be identified.

(h) Management of Runoff—Permittees must provide a narrative assessment of traditional storm water management practices that divert, infiltrate, reuse, or otherwise manage storm water runoff so as to reduce the discharge of pollutants. Based on the assessment, the permittee must identify practices that are reasonable and appropriate for the facility and must describe the particular pollutant source area or activity to be controlled by each storm water management practice. Reasonable and appropriate practices must be implemented and maintained.

b. Comprehensive Site Compliance Evaluation. The storm water pollution prevention plan must describe the scope and content of comprehensive site evaluations that qualified personnel will conduct to (1) confirm the accuracy of the description of potential pollution sources contained in the plan, (2) determine the effectiveness of the plan, and (3) assess compliance with the terms and conditions of this section of today's permit. Comprehensive site compliance evaluations must be conducted at least annually for food and kindred products processing facilities. The individual or individuals who will conduct the evaluation must be identified in the plan and should be members of the pollution prevention team. Evaluation reports must be retained for at least 3 years after the date of the evaluation. Where compliance evaluation schedules overlap with inspections required under XI.V.3.a.(3)(d) of this section, the compliance evaluation may be conducted in place of one such inspection.

Based on the results of each evaluation, the description of potential pollution sources, and measures and controls, the plan must be revised as appropriate within 2 weeks after each inspection. Changes in the measures and controls must be implemented on the site in a timely manner, and never more than 12 weeks after completion of the evaluation.

6. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. EPA believes that food and kindred products facilities may reduce the level of pollutants in storm water runoff from their sites through the development and proper implementation of the storm water pollution prevention plan requirements discussed in today's permit. In order to provide a tool for evaluating the effectiveness of the pollution prevention plan and to characterize the discharge for potential environmental impacts, the permit requires grain mill products facilities and fats and oils products facilities to collect and analyze samples of their storm water discharges for the pollutants listed in Tables U–14 or U–15. The pollutants listed in Tables U–14 or U–15 were found to be above benchmark levels for a significant portion of facilities in these subsectors that submitted quantitative data in the group application process. Because these pollutants have been reported at benchmark levels from grain mill products and fats and oils products facilities, EPA is requiring monitoring after the pollution prevention plan has been implemented to assess the effectiveness of the pollution prevention plan and to help ensure that a reduction of pollutants is realized.

Under the Storm Water Regulations at 40 CFR 122.26(b)(14), EPA defined ''storm water discharge associated with industrial activity''. The focus of today's permit is to address the presence of pollutants that are associated with the industrial activities identified in this definition and that might be found in storm water discharges. Under the methodology for determining analytical monitoring requirements, described in section VI.E.1 of this fact sheet, zinc is above the bench mark concentrations for the grain mill and beverage products subsectors. After a review of the nature of industrial activities and the significant materials exposed to storm water described by facilities in these subsectors, EPA has determined that the higher concentrations of zinc are not likely to be caused by the industrial activity, but may be primarily due to non-industrial activities on-site. Today's permit does not require grain mill or beverage products facilities to conduct analytical monitoring for this parameter.

At a minimum, storm water discharges from grain mill product and fats and oils product facilities must be monitored quarterly during the second year of permit coverage. Samples must be collected at least once in each of the following periods: January through March; April through June; July through September; and October through December. At the end of the second year of permit coverage, a facility must calculate the average concentration for each parameter listed in Tables U–14 or U–15, and applicable to that industrial subsector. If the permittee collects more than four samples in this period, then they must calculate an average concentration for each pollutant of concern for all samples analyzed.

TABLE U–14.—GRAIN MILL PRODUCTS MONITORING REQUIREMENTS

Pollutant of concern	Cut-off concentration
Total Suspended Solids (TSS) ...	100 mg/L

TABLE U–15.—FATS AND OILS MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Biochemical Oxygen Demand (BOD).	30 mg/L
Chemical Oxygen Demand (COD).	120 mg/L
Nitrate Plus Nitrite Nitrogen	0.68 mg/L
Total Suspended Solids	100 mg/L

If the average concentration for a parameter is less than or equal to the value listed in Tables U–14 or U–15, then the permittee is not required to conduct quantitative analysis for that parameter during the fourth year of the permit. If, however, the average concentration for a parameter is greater than the cut-off concentration listed in Table U–14 or U–15, then the permittee is required to conduct quarterly monitoring for that parameter during the fourth year of permit coverage. Monitoring is not required during the first, third, and fifth year of the permit. The exclusion from monitoring in the fourth year of the permit is conditional on the facility maintaining industrial operations and BMPs that will ensure a quality of storm water discharges consistent with the average concentrations recorded during the second year of the permit.

TABLE U–16.—SCHEDULE OF MONITORING

2nd Year of Permit Coverage	• Conduct quarterly monitoring. • Calculate the average concentration for all parameters analyzed during this period. • If average concentration is greater than the value listed in Table U–14 or U–15, then quarterly sampling is required during the fourth year of the permit. • If average concentration is less than or equal to the value listed in Table U–14 or U–15, then no further sampling is required for that parameter.
4th Year of Permit Coverage	• Conduct quarterly monitoring for any parameter where the average concentration in year 2 of the permit is greater than the value listed in Table U–14 or U–15. • If industrial activities or the pollution prevention plan have been altered such that storm water discharges may be adversely affected, quarterly monitoring is required for all parameters of concern.

In cases where the average concentration of a parameter exceeds the cut-off concentration, EPA expects permittees to place special emphasis on methods for reducing the presence of those parameters in storm water discharges. Quarterly monitoring in the fourth year of the permit will reassess the effectiveness of the adjusted pollution prevention plan.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly chemical sampling.

b. Alternative Certification. Throughout today's permit, EPA has included monitoring requirements for facilities which the Agency believes have the potential for contributing significant levels of pollutants to storm water discharges. The alternative described below is necessary to ensure that monitoring requirements are only imposed on those facilities that do, in fact, have storm water discharges containing pollutants at concentrations of concern. EPA has determined that if materials and activities are not exposed to storm water at the site, then the potential for pollutants to contaminate storm water discharges does not warrant monitoring.

Therefore, a discharger is not subject to the monitoring requirements of this Part provided the discharger makes a certification for a given outfall, or a pollutant-by-pollutant basis in lieu of monitoring reports required under paragraph (*c*) below, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, significant materials from past industrial activity that are located in areas of the facility that are within the drainage area of the outfall are not presently exposed to storm water and will not be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan and submitted to EPA in accordance with Part VI.C. of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph (*c*) below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations. EPA does not expect facilities to be able to exercise this certification for indicator parameters, such as TSS and BOD.

c. Reporting Requirements. Permittees are required to submit all monitoring results obtained during the second and fourth year of permit coverage within 3 months of the conclusion of each year. For each outfall, one signed Discharge Monitoring Report form must be submitted to the Director per storm event sampled. Such permittees must submit monitoring results on four separately signed Discharge Monitoring Report Forms to the Director. For facilities conducting monitoring beyond the minimum quarterly requirements an additional Discharge Monitoring Report Form must be filed for each analysis.

d. Sample Type. All discharge data shall be reported for grab samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable.

If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

e. Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluent. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

f. Quarterly Visual Examination of Storm Water Quality. All food and kindred products facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted under paragraph (3) below. The examination(s) must be made at least once in each of the following 3-month periods: January through March, April through June, July through September, and October through December. The examination shall be made during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(*1*) Examinations shall be made of grab samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for the entire permit term.

(*2*) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(*3*) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(*4*) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(*5*) EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

EPA believes that this quick and simple assessment will allow the permittee to approximate the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examinations. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and effects on the management practices that are included in the plan.

V. Storm Water Discharges Associated With Industrial Activity From Textile Mills, Apparel, and Other Fabric Product Manufacturing Facilities

1. Discharges Covered Under This Section

Special permit conditions have been developed for textile mills, apparel, and other fabric product manufacturing facilities. The conditions in this section apply to storm water discharges from textile related operations located at any of the facilities covered under the storm water application regulations [40 Code of Federal Regulations (CFR) 122.26] and applying for coverage under this permit.

The storm water application regulations define storm water discharges associated with industrial activity at 40 CFR 122.26(b)(14). Category (xi) of this definition includes facilities under Standard Industrial Classifications 22 and 23. The conditions in this section apply to storm water discharges from the Textile Mill Products, of and regarding facilities and establishments engaged in the preparation of fiber and subsequent manufacturing of yarn, thread, braids, twine, and cordage, the manufacturing of broadwoven fabrics, narrow woven fabrics, knit fabrics, and carpets and rugs from yarn; processes involved in the dyeing and finishing of fibers, yarn fabrics, and knit apparel; the integrated manufacturing of knit apparel and other finished articles of yarn; the manufacturing of felt goods (wool), lace goods, nonwoven fabrics, miscellaneous textiles, and other apparel products.

Textile Mill Product facilities (SIC major group 22) typically receive and prepare fibers, transform these materials into fabric or related products, and finish the materials before packaging. Apparel facilities (SIC major group 23) typically receive woven or knitted fabric for cutting, sewing, and packaging. For more information on the industrial activities at textile facilities, consult EPA's ''Development Document for Effluent Limitations Guidelines and Standards for the Textile Mills'' (Document EPA 440/1–79/0226, October 1979).

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Pollutants in Storm Water Discharges Associated with the Manufacture of Textile Products

Based on group application information and data, and the ''Development Document for Effluent Limitation Guidelines and Standards for the Textile Mills,'' EPA has identified the storm water pollutants and sources resulting from textile manufacturers in Table V–1.

TABLE V–1.

Activity	Pollutant source	Pollutant
Raw material storage and handling	Wool, cotton, synthetics, rayon, other fibers, coal/wood piles, fuels, oil, lubricants.	TSS, pH, oil and grease, COD, BOD_5, lead, chromium, benzene.
Storage and handling of materials for dyeing	Dyes, dye preservatives, pigments	Copper, phenols, lead, chromium, zinc, aluminum, acids.
Storage and handling of materials for scouring and cleaning.	Wool, scouring agents, detergents	BOD_5, COD, TSS, oil and grease, sulfides, phenols, pH, chromium.
Storage and handling of materials for bleaching, printing, finishing, and other activities.	Dyes, bleaches, detergents, finishing agents, printing products.	BOD_5, COD, TSS, oil and grease, sulfides, phenols, pH, chromium, hydrogen peroxide, acids.

Based on the wide variety of industrial activities and significant materials at the facilities included in this sector, EPA believes it is appropriate to divide the textile mills, apparel, and other fabric product manufacturing industry into subsectors to properly analyze sampling data and determine monitoring requirements. As a result, this sector has been divided into the following subsectors: textile mills and apparel and other finished products made from fabrics. Table V–2 below includes data for the eight pollutants that all facilities were required to monitor for under Form 2F. The table also lists those parameters that EPA has determined may merit further monitoring. A table has not been included for the apparel and other finished products made from fabrics subsector because less than 3 facilities submitted data.

TABLE V–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY TEXTILE MILL PRODUCTS FACILITIES SUBMITTING PART II SAMPLING DATA [i] (mg/L)

Pollutant sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp [ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	51	49	96	93	10.4	9.53	0.0	0.0	50.0	50.2	7.0	7.0	29.8	26.02	51.1	43.2
COD	51	49	96	93	61.9	46.25	0.0	0.0	306.0	212.0	41.0	36.0	194.0	132.1	365.0	228.8
Nitrate + Nitrite Nitrogen	51	49	96	93	1.35	1.22	0.00	0.0	71.00	65.0	0.30	0.34	3.17	2.71	6.80	5.74
Total Kjeldahl Nitrogen	51	49	96	93	1.98	1.71	0.00	0.0	7.40	8.30	1.64	1.50	5.54	4.38	9.03	6.76
Oil & Grease	51	N/A	97	N/A	3.2	N/A	0.0	N/A	42.0	N/A	0.0	N/A	17.8	N/A	35.9	N/A
pH	48	N/A	91	N/A	N/A	N/A	4.0	N/A	10.2	N/A	6.9	N/A	9.1	N/A	10.4	N/A
Total Phosphorus	51	49	96	93	0.28	0.29	0.00	0.0	11.00	11.0	0.12	0.11	0.66	0.66	1.29	1.30
Total Suspended Solids	51	49	96	93	126	75	0	0.0	1888	1675	38	20	591	261	1860	694
Zinc, Total	7	6	16	14	0.328	0.296	0.000	0.070	1.060	0.880	0.19	0.21	1.079	0.769	2.062	1.269

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.

[ii] Composite samples.

3. Options for Controlling Pollutants

Table V–3 lists some BMPs which may be effective in limiting the amount of pollutants in storm water discharges from textile facilities. Many of the BMPs suggested focus on the process aspect of textile manufacturing. Although processes are typically conducted indoors, EPA believes that changes in the manufacturing process, such as a switch to less toxic chemicals, can lessen the amount of contamination in storm water discharges. The BMPs listed are not necessarily required to be implemented. Rather, BMPs should be chosen based on the specific nature of the storm water discharges at each textile facility and implemented as appropriate. Based on part 1 information, several of the BMPs suggested are already in place at many of the facilities. Part 1 submittals indicate that diking or other types of diversion occur at 55 percent of the sampling facilities. Nineteen percent of the sampling facilities noted that they use some form of covering as a BMP, and catch basins are in place at 45 percent. In addition, 64 percent of the facilities designated as samplers in part 1 information reported they had a Spill Prevention Control and Countermeasure Plan in place, while 56 percent used swales, 29 percent had vegetation strips, and 12 percent utilized ponds to collect storm water.

TABLE V–3.—COMMON BEST MANAGEMENT PRACTICES FOR TEXTILE FACILITIES

Activity	BMPs
Preparation (e.g., Desizing and Scouring)	Waste stream reuse for typical bleach unit processing; recycle J-box or kier drain wastes to saturator.
	Make use of countercurrent washing.
	Use washer waste from scour operation for batch scouring.
Dyeing	Perform analysis of spent dye baths for residual materials.
	Where feasible, obtain background information and data necessary before making product substitutions. This includes OSHA form 20 data and technical data.
	Be aware of potential problem chemicals, such as aryl phenol ethoxylates, chlorinated aromatics, chlorinated aromatics, and metals.
	Employ pad batch dyeing to eliminate the need for salts and chemical specialties from the dyebath, with associated reduction in cost and pollution source reduction.
Finishing	Reuse residual portions of finish mixes as much as possible by adding back to them the required components to make up the next mix.
	Return noncontact cooling water and stream condensates to either a hot water holding tank or a clear well. If neither is available, segregate waste streams from sources which do not generally require treatment from other waste streams that do require treatment.
General Water Conservation Techniques	Use ‘‘low liquor ratio’’ dyeing machines where practicable.
	Use of foam processing (mercerizing, bleaching, dyeing, finishing) where practicable as a water conservation process.
Chemical Screening and Inventory Control	Employ prescreening practices to evaluate and consider chemicals on a wide range of environmental and health impact criteria.
	Develop and perform a routine raw material quality control program.
	Review and develop procedures for source reduction of metals.
	Promptly transfer used fluids to the proper container; do not leave full drip pans or other open containers around the shop. Empty and clean drip pans and containers.
	Do not pour liquid waste down floor drains, sinks, or outdoor storm drain inlets.
	Plug floor drains that are connected to the storm or sanitary sewer; if necessary, install a sump that is pumped regularly.
	Inspect the maintenance area regularly for proper implementation of control measures.
	Train employees on proper waste control and disposal procedures
Material Handling: Bulk Liquid Storage and Containment.	Store permanent tanks in a paved area surrounded by a dike system which provides sufficient containment for the larger of either 10 percent of the volume of all containers or 110 percent of the volume of the largest tank.
	Maintain good integrity of all storage tanks.
	Inspect storage tanks to detect potential leaks and perform preventive maintenance.
	Inspect piping systems (pipes, pumps, flanges, couplings, hoses, valves) for failures or leaks.
	Train employees on proper filling and transfer procedures.
Material Handling: Containerized Material Storage.	Store containerized materials (fuels, paints, solvents, etc.) in a protected, secure location and away from drains.
	Store reactive, ignitable, or flammable liquids in compliance with the local fire code.
	Label all materials clearly.
	Identify potentially hazardous materials, their characteristics, and use.
	Control excessive purchasing, storage, and handling of potentially hazardous materials.
	Keep records to identify quantity, receipt date, service life, users, and disposal routes.
	Secure and carefully monitor hazardous materials to prevent theft, vandalism, and misuse of materials.
	Educate personnel for proper storage, use, cleanup, and disposal of materials.
	Provide sufficient containment for outdoor storage areas for the larger of either 10 percent of the volume of all containers or 110 percent of the volume of the largest tank.
	Use temporary containment where required by portable drip pans.
	Use spill troughs for drums with taps.
Material Handling: Designated Material Mixing Areas.	Mix solvents in designated areas away from drains, ditches, and surface waters.
	If spills occur,
	• Stop the source of the spill immediately
	• Contain the liquid until cleanup is complete
	• Deploy oil containment booms if the spill may reach the water

TABLE V–3.—COMMON BEST MANAGEMENT PRACTICES FOR TEXTILE FACILITIES—Continued

Activity	BMPs
	• Cover the spill with absorbent material • Keep the area well ventilated • Dispose of cleanup materials properly • Do not use emulsifier or dispersant.

Sources: Smith, Brent, ''Identification and Reduction of Pollution Sources in Textile Wet Processing.'' Department of Textile Chemistry, North Carolina State University, Raleigh, NC, 1986.

Smith, Brent, ''Identification and Reduction of Toxic Pollutants in Textile Mill Effluent.'' Department of Textile Chemistry, North Carolina State University, Raleigh, NC, 1992.

NPDES Storm Water Group Applications—Part 1. Received by EPA March 18, 1991 through December 31, 1992.

4. Special Conditions

There are no additional requirements beyond those described in Part VI.B of this fact sheet.

5. Storm Water Pollution Prevention Plan Requirements

The permit conditions that apply to storm water discharges from textile mills, apparel and other fabric product manufacturing facilities are, in part, established upon the basic requirements in the front of this fact sheet. The following discussion addresses only those conditions that may differ from the common pollution prevention plan provisions discussed previously.

a. Contents of the Plan

(1) Description of Potential Pollutant Sources. Under the description of potential pollutant sources in the storm water pollution prevention plan requirements, permittees are required to include processing areas, loading/unloading areas, treatment, storage, and waste disposal areas, liquid storage tanks, fueling areas, on a site facility map. EPA believes that this is appropriate since these areas may potentially be a significant source of pollutants to storm water.

(2) Measures and Controls. Under the description of measures and controls in the storm water pollution prevention plan requirements, this section requires that all areas that may contribute pollutants to storm water discharges shall be maintained in a clean, orderly manner. This section also requires that the following areas must be specifically addressed:

(a) Material Storage Areas—All stored and containerized materials (fuels, petroleum products, solvents, dyes, etc.) must be stored in a protected area, away from drains and clearly labeled. The plan must describe measures that prevent or minimize contamination of storm water runoff from such storage areas. The facility should specify which materials are stored indoors and must provide a description of the contaminant area or enclosure for those materials which are stored outdoors. Above ground storage tanks, drums, and barrels permanently stored outside must be delineated on the site map with a description of the appropriated containment measures in place to prevent leaks and spills. The facility may consider an inventory control plan to prevent excessive purchasing, storage, and handling of potentially hazardous substances. In the case of storage of empty chemical drums and containers, facilities should employ such practices as triple-rinsing containers. The discharge waters from such washings must be collected, contained, or treated, and facilities should identify where the discharge will be released.

(b) Material Handling Area—The plan must describe measures that prevent or minimize contamination of the storm water runoff from materials handling operations and areas. The facility may consider the use of spill and overflow protection; covering fuel areas; covering and enclosing areas where the transfer of materials may occur. Where applicable, the plan must address the replacement or repair of leaking connections, valves, transfer lines and pipes that may carry chemicals, dyes, or wastewater.

(c) Fueling Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from fueling areas. The facility may consider covering the fueling area, using spill and overflow protection, minimizing runon of storm water to the fueling area, using dry cleanup methods, and/or collecting the storm water runoff and providing treatment or recycling.

(d) Above Ground Storage Tank Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from above ground storage tank areas. The facility must consider storage tanks and their associated piping and valves. The facility may consider regular cleanup of these areas, preparation of a spill prevention control and countermeasure program, providing spill and overflow protection, minimizing runon of storm water from adjacent facilities and properties, restricting access to the area, inserting filters in adjacent catch basins, providing absorbent booms in unbermed fueling areas, using dry cleanup methods, and permanently sealing drains within critical areas that may discharge to a storm drain.

EPA believes that the incorporation of management practices such as those suggested will substantially reduce the potential for these activities and areas to significantly contribute pollutants to storm water discharges. In addition, EPA believes that these requirements continue to provide the necessary flexibility to address the variable risk for pollutants in storm water discharges associated with different facilities. Further, many facilities will find that management measures that have already been incorporated into the facility's operation, such as the installation of overfill protection equipment and labelling and maintenance of used oil storage units, are already required under existing EPA programs and will meet the requirements of this section.

Under the preventive maintenance requirements, the plan specifically includes the routine inspection of sediment traps to ensure that solids will be intercepted and retained prior to entering the storm drainage system. Because of the nature of operations which occur at textile facilities, specific routine attention needs to be placed on the collection of solids.

Under the inspection requirements this section requires that, in addition to the comprehensive site evaluation required under Part IV of today's permit, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility, at a minimum, on a monthly basis.

The purpose of the inspections is to check on the implementation and effectiveness of the storm water pollution prevention plan. The inspections allow facility personnel to monitor the success or failure of elements of the plan on a regular basis. The use of an inspection checklist is highly encouraged. The checklist will ensure that all required areas are inspected, as well as help to meet the record keeping requirements.

The permittee is required to identify at least annual dates for employee training. EPA requires that facilities conduct training annually at a minimum. However, more frequent training may be necessary at facilities with high turnover of employees or where employee participation is essential to the storm water pollution prevention plan. Employee training must, at a minimum, address the following areas when applicable to a facility: use of reused/recycled waters; solvents management; proper disposal of dyes; proper disposal of petroleum products and spent lubricants; spill prevention and control; fueling procedures; and general good housekeeping practices. Employees, independent contractors, and customers must be informed about BMPs and be required to perform in accordance with these practices. Copies of BMPs and any specific management plans, including emergency phone numbers, shall be posted in the work areas. EPA, therefore, is requiring that employee training take place at least once a year to serve as: (1) Training for new employees; (2) a refresher course for existing employees; and (3) training for all employees on any storm water pollution prevention techniques recently incorporated into the plan.

6. Monitoring and Reporting Requirements

a. Monitoring Requirements. The regulatory modifications at 40 CFR 122.44 (i)(2) established on April 2, 1992, grant permit writers the flexibility to reduce monitoring requirements in storm water discharge permits. EPA has determined that the potential for storm water discharges to contain pollutants above benchmark levels, because of the industrial activities and materials exposed to precipitation, does not support sampling at facilities covered by this section of today's permit. Under the Storm Water Regulations at 40 CFR 122.26(b)(14), EPA defined ''storm water discharge associated with industrial activity''. The focus of today's permit is to address the presence of pollutants that are associated with the industrial activities identified in this definition and that might be found in storm water discharges. Under the methodology for determining analytical monitoring requirements, described in section VI.E.1 of this fact sheet, zinc is above the bench mark concentrations for the textile mills subsector. After a review of the nature of industrial activities and the significant materials exposed to storm water described by facilities in this subsector, EPA has determined that the higher concentrations of zinc are not likely to be caused by the industrial activity, but may be primarily due to non-industrial activities on-site. Today's permit does not require textile mills facilities to conduct analytical monitoring for this parameter. Based on a consideration of the BMPs typically used at these facilities, and generally low pollutant values from the application data, EPA believes that the pollution prevention plan with visual examinations of storm water discharges (see below) will help to ensure storm water contamination is minimized. Because permittees are not required to conduct analytical monitoring, they will be able to focus their resources on developing and implementing the pollution prevention plan.

b. Quarterly Visual Examination of Storm Water Quality. Textile mills, apparel, and other fabric product facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted under paragraph (3) below. The examination(s) must be made at least once in each of the following 3-month periods: January through March, April through June, July through September, and October through December. The examination shall be made during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(1) Examinations shall be made of grab samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.

(2) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(3) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the observation data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(4) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(5) EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

EPA believes that this quick and simple assessment will help the permittee to determine the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examinations. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and the effects of the management practices that are included in the plan.

As discussed above, EPA does not believe that analytical monitoring is necessary for textile mills, apparel, and other fabric product manufacturing facilities. EPA believes that between quarterly visual examinations and site compliance evaluations potential sources of contaminants can be recognized, addressed, and then controlled with BMPs. In determining the monitoring requirements, EPA considered the nature of the industrial activities and significant materials exposed at these sites, and performed a review of data provided in Part 2 group applications.

W. Storm Water Discharges Associated With Industrial Activity From Wood and Metal Furniture and Fixture Manufacturing Facilities

1. Discharges Covered Under This Section

On November 16, 1990 (55 FR 47990), the U.S. Environmental Protection Agency (EPA) promulgated the regulatory definition of "storm water discharges associated with an industrial activity." This definition included point source discharges of storm water from eleven major categories of facilities, including facilities under Standard Industrial Classification (SIC) codes 2434 and 25. Part XI.W. of today's permit only covers storm water discharges associated with industrial activities from furniture and fixture manufacturing facilities. Furniture and fixture manufacturing facilities eligible for coverage under this section include facilities identified by the following SIC codes: wood kitchen cabinets (generally described by SIC code 2434); household furniture (generally described by SIC code 251); office furniture (generally described by SIC code 252); public buildings and related furniture (generally described by SIC code 253); partitions, shelving, lockers, and office and store fixtures (generally described by SIC code 254); and miscellaneous furniture and fixtures (generally described by SIC code 259).

Storm water discharges covered by this section include all discharges where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to precipitation and storm water runon. Storm water that does not come into contact with an industrial activity or a significant material are not subject to permitting according to 40 CFR 122.26. This section is not applicable to any discharge subject to effluent limitation guidelines. However, the storm water component of the unpermitted discharge may be included under this section.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Industry Profile

The manufacturing processes for furniture and fixture manufacturing facilities are not typically exposed to storm water. However, unloading operations and the storage of some raw materials, and waste products, may be exposed to precipitation. Because of the lack of industrial activities occurring outdoors and the necessity of keeping many of the raw materials dry, the primary sources of storm water pollutants originate from materials handling and waste management or disposal activities. Table W–1 lists potential pollutant source activities, and related pollutants associated with furniture and fixture manufacturing facilities. There are two primary types of furniture and fixture manufacturing facilities. The distinction is based on the primary raw material, wood or metal. The manufacturing processes and significant materials to produce wood and metal furniture or fixtures are not similar. However, these manufacturing activities and wood resources are not typically exposed to precipitation.

TABLE W–1.—Activities, Pollutant Sources, and Pollutants

Activity	Pollutant source	Pollutant
Wood Drying	Coal	TSS, pH, cadmium, arsenic.
	Saw Dust	TSS, COD, BOD_5, pH.
	Ash	TSS, pH.
Furniture Manufacturing	Sizing Operations	TSS, BOD_5, pH.
	Painting Operations	Lead, cadmium, COD.
	Gluing Operations	Solvents, COD, oil & grease.
	Used Rags	Solvents, COD, oil & grease.
	Processing materials unloading	Diesel fuel, gasoline, oil, TSS.
	Waste Material Transportation	TSS, BOD_5, pH.
	Treatment Facilities	Solvents, COD, oil & grease.
	Open Dumps	TSS, BOD_5, oil & grease, COD.
Other Activities	Air Emission Control Cleaning	TSS, pH, cadmium, lead, copper, zinc.

Source: Storm Water Group Applications, Parts 1 and 2.

Industrial activities occurring at furniture and fixture manufacturing facilities that pertain to the storm water rule include, "* * * but [are] not limited to, storm water discharges from industrial plant yards; material handling sites; refuse sites; sites used for the application or disposal of process wastewaters (as defined at 40 CFR Part

401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials and intermediate and finished materials; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water'' (40 CFR 122.26(b)(14)). The most common industrial activities at furniture and fixture manufacturing facilities include material handling sites and raw material storage areas.

Significant materials include, ''* * * but [are] not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; * * * hazardous substances designated under Section 101(14) of CERCLA; any chemical facilities required to report pursuant to Section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharges'' (40 CFR 122.26(b)(12)). Significant materials commonly found at furniture and fixture manufacturing facilities include: wood; saw dust; metals; petroleum-based products; solvents; detergents; and waste materials.

Manufacturers of furniture and fixtures are separated by the primary raw material (i.e., wood and metal). The primary raw materials, industrial processes, waste and by-products, and final products differ for the production of wood furniture and metal furniture. Within each subsector the number of industrial activities and corresponding significant materials and waste products may also vary. Presented below are brief descriptions of the industrial activities and significant materials associated with the manufacturing of wood and metal furniture and fixtures. Due to similarities in the production of furniture and fixtures within subsectors, industrial activities and significant materials are fairly uniform across this sector. Unique practices are noted.

a. Manufacturing of Wood Furniture and Fixtures. The process of manufacturing wood furniture begins with the delivery and storage of wood. There are three different raw wood materials; lumber, veneer, and particle board. Since the manufacturing processes are not typically exposed to storm water for this industry, some of the ''industrial activities'' described below may not be susceptible to storm water exposure. Significant materials and materials management practices do refer to those materials exposed to storm water, and to the subsequent management practices used to control storm water. Variations on exposure to industrial activities and significant materials are site-specific.

(1) Industrial Activities. Once delivered, raw lumber is allowed to air dry up to 1 year. After the lumber is sufficiently air dried it is then transported to a dry kiln for further drying. The lumber is kiln dried anywhere from 7 to 150 days. Once the lumber has been dried to a desired moisture content, the dried lumber is taken to the processing area. The remaining furniture manufacturing processes are all completed indoors. Manufacturers may also receive lumber that is already dried. Therefore, the manufacturers may not need to air or kiln dry the wood and proceed directly into the processing stage.

The dried lumber is run through planers, to create a smooth, preliminary working surface, and then cut to specified dimensions depending on the end use. The sized lumber is then taken through sanding and machining operations. Sanding produces a smooth, fine working surface. Machining can include boring, routing, lathe operations, mitre cutting, and finish cuts. From this point, each piece of wood is dedicated to a specific product.

Veneer is another raw material used in the production of furniture. In this process logs are placed in a steam vat to increase the moisture content of a log. The logs are turned on a lathe to peel off the veneer. The resulting veneer sheets are layered into stacks or ''hacks.'' Moisture is removed from the hacks by kiln drying. After a desired moisture content has been achieved the hacks are disassembled. Veneer is frequently hot or cold pressed onto particle board or solid wood by utilizing adhesives.

Particle board is the third raw material incorporated into the manufacturing of wood furniture. The board is received, cut to size, and banded on all four edges with solid wood. The banding is accomplished in continuous, steam heated units utilizing adhesives. The panels are allowed to cool and then they are sanded. Particle board is frequently coated with veneer.

The products from the three raw materials may be combined during the machining and sanding step or during the final assembly of a furniture piece. The machining and sanding step may include: initial sizing of particle board, veneer, and lumber; laminating operations; and surface printing. Once all the pieces of a particular furniture item are manufactured and sized, assembly can begin. This process generally involves an assembly line routing with many different individuals and machines working together to build the unit.

The final step in creating an un-upholstered piece of furniture involves surface finishing. This process may involve many separate coats of stains, lacquers, sealers, and finishes to a single unit. This is the step where a uniform wood color and texture are given to each piece of furniture or furniture grouping.

Facilities that manufacture upholstered furniture may have all of the previously mentioned activities, or may purchase dried or sized materials from a manufacturer. Upholstered furniture manufacturers will transport, handle, store, and process natural and synthetic fibers used for the upholstery. After the wood component of an upholstered piece of furniture is assembled, the upholstery materials are cut, sized, stretched, and then attached to the frame. After the final inspection of a furniture piece, the unit is packaged and either stored temporarily onsite or immediately shipped to an offsite location.

(2) Significant Materials. The significant materials identified, in part 1 of the group applications, as exposed to storm water at wood furniture and fixture manufacturing facilities include: raw wood; sawdust; coal; kiln ash; solvent-based finishing materials and waste products; used rags; raw glue and waste materials; and petroleum-based products. While most of the raw wood material is stored outside, more valuable wood products (e.g., sheets of veneer, mahogany, etc.) and some composite wood products (e.g., particle board) may be stored inside or under cover.

b. Manufacturing of Metal Furniture and Fixtures. Many furniture and fixture manufacturing facilities build their furniture with metal as the primary raw material. However, some manufacturers combine wood and upholstered materials with a metal frame. Metal furniture manufacturing facilities may purchase wood pieces ready for assembly or they may have all the industrial activities of wood manufacturing facilities in addition to the metal manufacturing facilities. The industrial activities at metal furniture manufacturing facilities will be site-specific and depend upon the level of work necessary to shape and treat the delivered metal into a furniture piece.

(1) Industrial Activities. Facilities that manufacture metal household furniture conduct operations that include: machining and assembly, finishing, and temporary storage of finished products within an enclosed building. Cold roll steel is initially received and

temporarily stored within the manufacturing building. However, steel may be stored outside prior to use. The steel is cut to size, bent, and welded to design specifications to fabricate raw metal household furniture. Final grinding, sanding, finishing, spot welding, and painting are then completed. After the final inspection of a furniture piece, the unit is packaged and either stored temporarily onsite or immediately shipped to an offsite location.

(2) Significant Materials. The significant materials identified as exposed to storm water, in part 1 of the group applications, at metal furniture and fixture facilities include: metals; sawdust; solvent-based finishing materials and waste products; electroplating solutions and sludges; used rags; raw glue and waste materials; and petroleum-based products. Prior to manufacturing rolls of steel may be stored outdoors but will be brought indoors for manufacturing.

3. Pollutants in Storm Water Discharges Associated with Furniture and Fixtures Manufacturing Facilities

Few pollutants are expected in storm water discharges from the manufacturing of wood and metal furniture and fixtures because the majority of the industrial activities occur indoors. Pollutants may be present in storm water as a result of outdoor activities associated with the manufacturing of wood and metal furniture and fixture such as: material handling operations; waste disposal; raw material storage; and deposition of airborne particulate matter. In addition, sources of pollutants other than storm water, such as illicit connections, spills, and other improperly dumped materials, may increase the pollutant loadings discharged into waters of the United States.

Many of the part 2 group application data submittals did not identify individual site characteristics or sources of storm water pollutants which may be responsible for pollutant loadings.

Based on the similarities of the facilities included in this sector in terms of industrial activities and significant materials, EPA believes it is appropriate to discuss the potential pollutants at Wood and Metal Furniture and Fixture Manufacturing facilities as a whole and not subdivide this sector. Therefore, Table W–2 lists data for selected parameters from facilities in the Wood and Metal Furniture and Fixture Manufacturing sector. These data include the eight pollutants that all facilities were required to monitor for under Form 2F, as well as the pollutants that EPA has determined may merit further monitoring.

TABLE W–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY FURNITURE AND FIXTURES FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant sample type	No. of Facilities		No. of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	16	15	25	24	12.2	8.80	0.0	0.0	46.0	32.0	9.0	5.95	38.8	27.0	72.2	47.0
COD	16	15	25	24	96.0	76.3	0.0	0.0	300.0	240.0	83.0	72.5	231.9	187.6	358.4	288.0
Nitrate + Nitrite Nitrogen	16	15	25	24	1.73	1.51	0.00	0.0	12.00	10.0	0.90	0.68	6.11	5.1	12.97	11.1
Total Kjeldahl Nitrogen	16	15	25	24	4.37	4.40	0.00	0.60	46.00	55.0	1.70	1.35	10.70	9.57	20.39	18.88
Oil & Grease	16	N/A	25	N/A	3.8	N/A	0.0	N/A	33.0	N/A	0.0	N/A	19.1	N/A	45.0	N/A
pH	15	N/A	23	N/A	N/A	N/A	4.2	N/A	9.3	N/A	7.5	N/A	9.7	N/A	10.8	N/A
Total Phosphorus	16	15	25	24	0.27	0.26	0.00	0.0	1.10	1.30	0.20	0.19	0.76	0.76	1.30	1.35
Total Suspended Solids	16	15	25	24	188	143	3	2	891	900	130	91	1008	791	2740	2290
Zinc, Total	3	3	4	4	2.973	0.594	0.340	0.074	10.000	1.500	0.78	0.40	14.907	3.056	44.006	7.758

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.

[ii] Composite samples.

4. Options for Controlling Storm Water Pollutants.

Certain BMPs are implemented to prevent and/or minimize exposure of pollutants from industrial activities to storm water discharges. EPA believes the most effective BMPs for reducing pollutants in storm water discharges are exposure minimization practices. Exposure minimization practices lessen the potential for storm water to come into contact with pollutants. Good housekeeping practices ensure that facilities are sensitive to routine and nonroutine activities which may increase pollutants in storm water discharges. The BMPs which address good housekeeping and exposure minimization are easily implemented, inexpensive, and require little, if any, maintenance. BMP expenses may include construction of roofs for storage areas or other forms of permanent cover and the installation of berms/dikes. Other BMPs such as detention/retention ponds and filtering devices may be needed at these facilities because of the contaminant level in the storm water discharges.

Part 1 group application data indicate that few BMPs have been implemented at wood and metal furniture and fixture manufacturing facilities. The only BMPs identified in the part 1 applications include: closed tanks, drums, and metal boxes; and partial covering. The part 1 data submissions did not indicate the presence of any traditional BMPs, such as sedimentation and retention ponds, or diversion dikes. However, the group application process did not require a description, or identification, of traditional BMPs, only the identification of material management practices that limit the contact between storm water and significant materials.

Because BMPs described in the part 1 data are limited, EPA is providing an overview of supplementary BMPs for use at furniture and fixture manufacturing facilities. However, inclusion of a BMP cited does not preclude the use of other viable BMP options. Table W–3 summarizes BMP options as they apply to wood and metal furniture and fixture manufacturing facilities.

TABLE W–3.—STORM WATER BMPS FOR FURNITURE AND FIXTURE MANUFACTURING FACILITIES

Activity	Best management practices (BMPs)
Outdoor Unloading and Loading	Confine loading/unloading activities to a designated area. Perform all loading/unloading activities in a covered or enclosed area. Close storm drains during loading/unloading activities in surrounding areas.

TABLE W–3.—STORM WATER BMPS FOR FURNITURE AND FIXTURE MANUFACTURING FACILITIES—Continued

Activity	Best management practices (BMPs)
	Avoid loading/unloading materials in the rain. Inspect all containers prior to loading/unloading of any raw or spent materials. Berm, curb, or dike loading/unloading areas. Use dry clean-up methods instead of washing the areas down. Train employees on proper loading/unloading techniques.
Outdoor Material Storage (including waste and particulate emission management).	Confine storage of raw materials, parts, and equipment to designated areas. Train employees on proper waste control and disposal. Berm, curb, or dike any areas around tanks. Ensure that all containers are properly sealed and valves closed. Inventory all raw and spent materials. Inspect air emission control systems regularly, and repair or replace when necessary. Store wastes in covered, leak proof containers (e.g., dumpsters, drums). Store wastes in enclosed and/or covered areas. Ensure hazardous and solid waste disposal practices are performed in accordance with applicable Federal, State, and local requirements. Ship all wastes to offsite landfills or treatment facilities.

Sources: NPDES Storm Water Group Applications—Part 1. Received by EPA, March 18, 1991, through December 31, 1992, and EPA, Office of Water. September 1992. ''Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices.'' EPA 832–R–92–006.

Many of the BMPs identified in Table W–3 are reminders of good or preferred operating procedures that are intended to limit the exposure of significant materials and industrial activities to storm water. Facility operators should review their current operations and consider implementing these BMPs if they are applicable to the site in order to reduce storm water contamination.

Since none of the facilities within the wood and metal furniture and fixture manufacturing sector indicated the presence of traditional storm water management practices, EPA is requiring the participants in this sector to consider the implementation of storm water diversions and sediment control and collection structures.

Discharge diversions provide the first line of defense in preventing the contamination of discharges, and subsequent contamination of receiving waters of the United States. Discharge diversions are temporary or permanent structures installed to divert flow, store flow, or limit storm water runon and runoff.

These diversion practices have several objectives. First, diversion structures can be designed to prevent otherwise uncontaminated (or less contaminated) water from crossing disturbed areas or areas containing significant amounts of contaminated materials, where contact may occur between runon and significant materials. These source reduction measures may be particularly effective for preventing uncontaminated discharges from contacting exposed materials and/or reduce the flow across disturbed areas, thereby lessening the potential for erosion. Second, diversion structures can be used to collect or divert waters for later treatment, if necessary. The usefulness of these control measures are limited by such factors as the size of the area to be controlled and the type and nature of materials exposed and precipitation events.

Diversion dikes, curbs, and berms are temporary or permanent diversion structures that prevent runoff from passing beyond a certain point, and divert runoff away from its intended path. Dikes, curbs or berms may be used to surround and isolate areas of concern at wood and metal furniture manufacturing facilities, and divert flow around piles of significant materials in order to minimize or limit offsite discharges of contaminated storm water.

Sediment control and collection limits movement and retains sediments from being transported offsite. Several structural collection devices have been developed to remove sediment from runoff before it leaves the site. Several methods of removing sediment from site runoff involve diversion mechanisms previously discussed, supplemented by a trapping or storage device. Structural practices typically involve filtering diffuse storm water flows through temporary structures such as straw bale dikes, silt fences, brush barriers or vegetated areas.

However, structural practices require periodic removal of sediment to remain functional, for both temporary and permanent structures. As such, they serve as more active-type practices which may not be appropriate for permanent use at inactive mines. However, these practices may be effectively used as temporary measures during active operation and/or prior to the final implementation of permanent measures. Temporary structures include: plastic matting, plastic netting, and erosion control blankets; mulch-straw or wood chips; and compaction. Permanent sediment control and collection structures include: sediment/settling ponds; sediment traps or catch basins; and vegetated buffer strips.

5. Storm Water Pollution Prevention Plan Requirements

All facilities subject to this section must prepare and implement a storm water pollution prevention plan. The establishment of a pollution prevention plan requirement reflects EPA's decision to allow operators of furniture and fixture manufacturing facilities to utilize BMPs as the BAT/BCT level of control for the storm water discharges covered by this section. The requirements included in pollution prevention plans provide a flexible framework for the development and implementation of site-specific controls to minimize pollutants in storm water discharges. EPA believes that pollution prevention is the most effective approach for controlling contaminated storm water discharges from furniture and fixture manufacturing facilities. Pollution prevention plans allow the operator of a facility to select BMPs based on site-specific considerations such as: facility size; climate; geographic location; hydrogeology; the environmental setting of each facility; volume and type of discharge generated, and current BMPs. This flexibility is necessary because each facility will be unique in that the source, type, and volume of contaminated surface water discharges will differ from site to site.

There are two major objectives to a pollution prevention plan: (1) To identify sources of pollution potentially affecting the quality of storm water discharges associated with an industrial activity from a facility; and (2) to describe and ensure implementation of practices to minimize and control pollutants in storm water discharges associated with industrial activity. Specific requirements for a pollution prevention plan for furniture and fixture manufacturing facilities are described below. These requirements must be implemented in addition to the pollution prevention plan provisions discussed previously, or any other industry-specific requirements to which the facility is subject. For example, facilities with coal piles must comply with the provisions for coal pile runoff, as well as the pollution prevention requirements for the furniture and fixture manufacturing industry.

a. Description of Potential Pollution Sources. Under the drainage requirements, the site map must show areas where the following activities take place, if applicable: fueling; vehicle and equipment maintenance and/or cleaning; loading and unloading; material storage (including tanks or other vessels used for liquid or waste storage); outdoor material processing; waste treatment, storage, or disposal; haul roads; access roads; and rail spurs. The site map must also indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls (e.g. storm water and air conditioner condensate). In order to increase the readability of the map, the inventory of the types of discharges contained in each outfall may be kept as an attachment to the site map.

b. Measures and Controls. Following completion of the source identification and assessment phase, the permittee must evaluate, select, and describe the pollution prevention measures, BMPs, and other controls that will be implemented at the facility. The permittee must assess the applicability of the following categories of BMPs for their site: discharge diversions, drainage/storm water conveyance systems, runoff dispersions, and good housekeeping measures. In addition, BMPs include processes, procedures, schedules of activities, prohibitions on practices, and other management practices that prevent or reduce the discharge of pollutants in storm water runoff.

The pollution prevention plan must discuss the reasons each selected structural control or BMP is appropriate for the facility and how each will address the potential sources of storm water pollution. The plan also must include a schedule specifying the time or times during which each control or practice will be implemented. In addition, the plan should discuss ways in which the controls and practices relate to one another and, when taken as a whole, produce an integrated and consistent approach for preventing or controlling potential storm water contamination problems.

Permittees are also required to develop a preventive maintenance program that includes regular inspections and maintenance of storm water BMPs. The maintenance program requires periodic removal of debris from discharge diversions and conveyance systems. These activities should be conducted particularly during wet seasons. Permittees already controlling their storm water runoff with impoundments or sedimentation ponds must include the maintenance schedules for these ponds in the pollution prevention plan.

Under the inspection requirements of the pollution prevention plan, operators of furniture and fixture manufacturing facilities are required to conduct quarterly inspections. The inspections shall include: (1) An assessment of the integrity of storm water discharge diversions, conveyance systems, sediment control and collection systems, and containment structures; (2) visual inspections of vegetative BMPs to determine if soil erosion has occurred; and (3) visual inspections of material handling and storage areas and other potential sources of pollution for evidence of actual or potential pollutant discharges of contaminated storm water.

EPA believes that this quick and simple description will allow the permittee to assess the effectiveness of his/her plan on a regular basis at very little cost. The inspection will provide meaningful results upon which the facility may act quickly. The frequency of this inspection will also allow for timely adjustments to be made to the pollution prevention plan. If a BMP is found to be ineffective, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the inspections. The inspection is intended to be performed by facility staff. This hands on inspection will also enhance the staff's understanding of the storm water problems on that site and effects on the management practices that are included in the plan.

Under employee training, the permit does not specify the frequency, however, EPA recommends that facilities conduct training annually at a minimum. However, more frequent training may be necessary at facilities with high turnover of employees or where employee participation is essential to the storm water pollution prevention plan.

Under the recordkeeping and internal reporting procedures of the pollution prevention plan, the permittee must describe procedures for developing and retaining records on the status and effectiveness of plan implementation. The plan must address spills, monitoring (if applicable), and BMP inspection and maintenance activities. Ineffective BMPs must be recorded and the date of their corrective action noted. According to the pollution prevention plan requirements, the permittee must evaluate the appropriateness of each storm water BMP that diverts, infiltrates, reuses, or otherwise reduces the discharge of contaminated storm water. In addition, the permittee must describe the storm water pollutant source area or activity (i.e., loading and unloading operations, raw material storage piles etc.) to be controlled by each storm water management practice.

6. Monitoring and Reporting Requirements

a. Monitoring Requirements. The regulatory modifications at 40 *CFR* 122.44 (i)(2) established on April 2, 1992, grant permit writers the flexibility to reduce monitoring requirements in storm water discharge permits. EPA has determined that the potential for storm water discharges to contain pollutants above benchmark levels, because of the industrial activities and materials exposed to precipitation, does not support sampling at facilities covered by this section of today's permit. Under the Storm Water Regulations at 40 CFR 122.26(b)(14), EPA defined ''storm water discharge associated with industrial activity''. The focus of today's permit is to address the presence of pollutants that are associated with the industrial activities identified in this definition and that might be found in storm water discharges. Under the methodology for determining analytical monitoring requirements, described in section VI.E.1 of this fact sheet, nitrate plus nitrite nitrogen and zinc are above the bench mark concentrations for the furniture and fixtures sector. After a review of the nature of industrial activities and the significant materials exposed to storm water described by facilities in this sector, EPA has determined that the higher concentrations of nitrate plus nitrite nitrogen and zinc are not likely to be caused by the industrial activity, but may be primarily due to non-industrial activities on-site. Today's permit does not require furniture and fixtures facilities to conduct analytical monitoring for these parameters.

Based on a consideration of the nature of BMPs typically used at these facilities, and generally low pollutant values from the application data, EPA believes that the pollution prevention plan with visual examinations of storm water discharges (see below) will help to ensure storm water contamination is minimized. Because permittees are not required to conduct analytical monitoring, they will be able to focus their resources on developing and implementing the pollution prevention plan.

b. Quarterly Visual Examination of Storm Water Quality. Wood and metal furniture and fixture manufacturing facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted under paragraph (3) below. The examination(s) must be made at least once in each of the following 3-month periods: January through March, April through June, July through September, and October through December. The examination shall be made during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(1) Examinations shall be made of grab samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.

(2) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(3) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the observation data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(4) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(5) EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

EPA believes that this quick and simple assessment will help the permittee to determine the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examinations. The visual examination is intended to be performed by members of the pollution prevention team. This hands on examination will enhance the staff's understanding of the storm water problems on that site and effects of the management practices that are included in the plan.

As discussed above, EPA does not believe that analytical monitoring is necessary for wood and metal furniture and fixture manufacturing facilities. EPA believes that between quarterly visual examinations and site compliance evaluations potential sources of contaminants can be recognized, addressed and then controlled with BMPs. In determining the monitoring requirements, EPA considered the nature of the industrial activities and significant materials exposed at these sites, and performed a review of data provided in Part 2 group applications.

X. Storm Water Discharges Associated With Industrial Activity From Printing and Publishing Facilities

1. Industry Profile

On November 16, 1990 (55 FR 47990) EPA promulgated the regulatory definition of ''storm water discharge associated with industrial activity.'' This definition includes point source discharges of storm water from eleven categories of facilities, including ''—category (xi) facilities classified as Standard Industrial Classification (SIC) code—27.'' Facilities eligible for coverage under this section include: book printing (SIC Code 2732); commercial printing, lithographic (SIC Code 2752); commercial printing, gravure (SIC Code 2754); commercial printing, not elsewhere classified (SIC Code 2759); and platemaking and related services (SIC Code 2796).

This section establishes special condition for storm water discharges associated with industrial activities at printing and publishing facilities. The SIC codes of these facilities are in category (xi) of the definition of storm water discharges associated with industrial activity. Storm water discharges from facilities in this category are only regulated where precipitation and storm water runon come into contact with areas associated with industrial activities, and significant materials. Significant materials include, but are not limited to, raw materials, waste products, finished products, intermediate products, by-products, and other materials associated with industrial activities.

When an industrial facility, described by the above eligibility provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

The printing and publishing industry is composed of a heterogeneous collection of over 38,000 companies that range in size from a few employees to several thousand.[98] Some companies are involved in both printing and publishing, while others are exclusively one or the other. The industrial activities of these facilities are similar, but the finished products vary. The finished products include magazines, newspapers, books, and labels. The printing activities covered under this section occur strictly indoors, and are separated into distinct operations. They include book printing, commercial printing (lithographic and gravure), and platemaking for printing purposes. The lithographic printing operation, which is based on the premise that grease and water do not mix, consists of a printing plate or cylinder, ink, a blanket and paper. Areas on the printing plate which will be transferred are coated with grease, and the rest of the plate is kept moist with water. The ink adheres to the grease and is repelled by the water. The printing image is then transferred to a blanket, which is transferred to paper. The gravure printing process uses printing plates or cylinders, ink, and paper. In the gravure process, the image is engraved on the printing plate or cylinder, the ink is then picked up by the engraved cells and directly transferred to paper. Other printing methods include screen, letter press, and flexographic printing. In the platemaking process, plates are cut from metal (usually steel), formed, engraved with the image, and coated with copper sulfate or chromic acid. The plates are later used in the printing processes described above.

Aside from the specific printing activities, other types of industrial activities are shared by facilities covered under this section. For example, the majority of these facilities have outdoor material handling and storage activities, and share the same types of raw and waste materials.

The primary raw materials utilized by this industry group include paper (including wax paper and card stock at some facilities), printing inks (hydrocarbon based, solvent based), and solvents. Other raw materials include steel (for facilities which manufacture printing plates), toner, paints, lubricating fluids, fuels, coating materials, and adhesives/glues. The paper products are stored indoors because exposure to precipitation would destroy the quality. The other raw materials arrive at the facilities in drums and either remain in the drums or are stored in aboveground or underground tanks, depending on the facilities' space and primary activity. The outdoor storage areas for drums are sometimes covered, but when the drums are directly exposed to precipitation, the storage areas are diked. Within the facilities, drums are stored on wooden pallets or skids, which may become contaminated from spills of the stored materials. After use the pallets and skids are stored outside for disposal and have the potential to contaminate storm water discharges.

Both nonhazardous and hazardous wastes are produced from the printing process. Hazardous wastes including ink wastes, solvent wastes, and waste chromic and sulfuric acid. These wastes are generated in small quantities at some of the facilities within this industrial group. Solvent wastes result from cleaning of printing plates and metal cutting operations. Ink wastes are generated from the cleaning of printing plates and from excess ink used in printing. Chromic and sulfuric acid wastes are generated from facilities which manufacture and coat rotogravure printing plates.

Nonhazardous wastes from this industry group include waste paper, paper dust, scrap steel, and used wooden pallets. All of these waste materials have the potential to pollute storm water discharges.

Significant materials exposed to storm water at these facilities may include raw materials and waste materials. They include solvents (toluene, xylene, acetone, 1,1,1-trichloroethane), fuels (gasoline and diesel), inks, metal, lubricating oils, pallets, copper, chromium, acids (sulfuric and chromic), oil and grease, and waste paper. Some of these materials may be directly exposed to storm water, while others may be covered. Pollutants that may be associated with these materials include TSS, pH, heavy metals, oil and grease, and COD.

Material handling activities such as loading and unloading areas, and liquid transfer (solvents from outdoor storage tanks to facility) may be exposed to storm water discharges. Exposure of these areas to storm water may be minimized by covering of the shipping/receiving and liquid transfer areas.

For those facilities engaged in fueling and vehicle maintenance, gasoline and diesel fuel are frequently stored outdoors in aboveground storage tanks and drums. Most vehicles and equipment require oil, hydraulic fluids, antifreeze, and other fluids that may leak and contaminate storm water discharges.

2. Pollutants Found in Storm Water Discharges From Printing and Publishing Facilities

The impact of industrial activities on storm water discharges at printing and publishing facilities will vary. Factors at a site which influence the water quality include geographic location, hydrogeology, the industrial activities exposed to storm water discharges, the facility's size, the types of pollution prevention measures/best management practices in place, and the type, duration, and intensity of storm events. Taken together or separately, these factors determine how polluted the storm water discharges will be at a given facility. Additionally, pollutant sources other than storm water, such as illicit connections,[99] spills, and other improperly dumped materials, may increase the pollutant loading discharged into Waters of the United States. Table X–1 lists industrial activities that commonly occur at printing and publishing facilities, the pollutant sources at these facilities, and the pollutants associated with these activities. Table X–1 identifies heavy metals, oil and other parameters as potential pollutants associated with printing and publishing facilities.

[98] ''Economic Analysis of Proposed Effluent Guidelines, Printing Industry.'' Office of Planning and Evaluation, EPA. August 1974.

[99] Illicit connections are contributions of unpermitted non-storm water discharges to storm sewers from any number of sources including improper connections, dumping or spills from industrial facilities, commercial establishments, or residential dwellings. The probability of illicit connections at facilities manufacturing transportation equipment, industrial or commercial machinery is low but it may be applicable at some operations.

TABLE X–1.—DESCRIPTION OF INDUSTRIAL ACTIVITIES, POTENTIAL POLLUTANT SOURCES, AND ASSOCIATED POLLUTANTS [i,ii,iii]

Activity	Pollutant source	Pollutant
Plate Preparation	using ink (lithography, letterpress, screen printing, flexography), etch baths, applying lacquer.	solvent, heavy metal, toxic waste ink with solvents chromium, lead.
Printing	using ink (lithography, letterpress, screen printing, flexography), gravure.	heavy metal waste (dust and sludge), ink—sludges with chromium or lead, ink—toxic wastes with metals, solvents.
Clean up	used plates: type, die, press blankets and rollers.	ink—toxic wastes with metals, solvents.
Stencil Preparation for Screen Printing	lacquer stencil film, photoemulsion, blockout (screen filler).	solvents, photographic processing wastes.
Material Handling: Transfer, Storage, Disposal	spills and leaks from material handling equipment.	fuel, oil, heavy metals.
	spills and leaks from aboveground tanks	fuel, oil, heavy metals, material being stored.
	solvents; trash; petroleum products	heavy metals, spent solvents, oil.
Photoprocessing	developing negatives and prints	heavy metals, spent solvents.

[i] EPA, Pollution Prevention Programs, Opportunities in Printing. Philadelphia, PA. October 1990.
[ii] University of Pittsburgh Trust, Center for Hazardous Materials Research Fact Sheet, Pollution Prevention: Strategies for the Printing Industry.
[iii] EPA, Resource Conservation and Recovery Act (RCRA) document, Does Your Business Produce Hazardous Waste as Many Small Businesses Do. Printing and Allied Industries, EPA/530–SW–90–027g, April 15, 1990.

Based on the similarities of the facilities included in this sector in terms of industrial activities and significant materials, EPA believes it is appropriate to discuss the potential pollutants at printing and publishing facilities as a whole and not subdivide this sector. Therefore, Table X–2 lists data for selected parameters from facilities in the printing and publishing sector. These data include the eight pollutants that all facilities were required to monitor for under Form 2F, as well as the pollutants that EPA has determined may merit further monitoring.

TABLE X–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY PRINTING AND PUBLISHING FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant Sample type	No. of Facilities		No. of Samples		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
	Grab	Comp [ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	15	15	33	33	12.8	7.7	0.0	0.0	61.8	27.0	9.0	6.40	45.9	24.05	94.1	1.9
COD	15	15	33	33	64.5	45.97	0.0	0.0	239.0	171.0	49.0	40.0	241.5	203.0	492.9	432.1
Nitrate + Nitrite Nitrogen	15	14	27	26	1.18	1.22	0.00	0.0	5.80	5.30	0.73	0.82	3.46	3.25	6.14	5.40
Total Kjeldahl Nitrogen	15	15	33	33	3.01	1.78	0.00	0.0	10.00	6.70	1.50	0.98	11.61	5.64	25.09	10.65
Oil & Grease	15	N/A	33	N/A	10.7	N/A	0.0	N/A	98.0	N/A	1.0	N/A	51.1	N/A	149.7	N/A
pH	14	N/A	26	N/A	N/A	N/A	5.4	N/A	8.6	N/A	7.0	N/A	8.3	N/A	8.9	N/A
Total Phosphorus	15	15	33	33	0.34	0.33	0.00	0.0	1.80	2.10	0.16	0.13	1.34	1.25	3.03	2.84
Total Suspended Solids	15	15	33	33	88	29	0	0	660	104	30	26	445	121	1383	263

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.
[ii] iiComposite samples.

3. Options for Controlling Pollutants

In evaluating options for controlling pollutants in storm water discharges, EPA must achieve compliance with the technology-based standards of the Clean Water Act [Best Available Technology (BAT) and Best Conventional Technology)]. The Agency does not believe that it is appropriate to establish specific numeric effluent limitations or a specific design or performance standard in this section for storm water discharges associated with industrial activity from printing and publishing facilities to meet BAT/BCT standards of the Clean Water Act. Instead, this section establishes requirements for the development and implementation of site-specific storm water pollution prevention plans consisting of a set of Best Management Practices (BMPs) that are sufficiently flexible to address different sources of pollutants at different sites.

Certain BMPs are implemented to prevent and/or minimize exposure of pollutants from industrial activities to storm water discharges. EPA believes the most effective BMPs for reducing pollutants in storm water discharges are exposure minimization practices. Exposure minimization practices lessen the potential for storm water to come into contact with pollutants. Good housekeeping practices ensure that facilities are sensitive to routine and nonroutine activities which may increase pollutants in storm water discharges. The BMPs which address good housekeeping and exposure minimization are easily implemented, inexpensive, and require little, if any, maintenance. BMP expenses may include construction of roofs for storage areas or other forms of permanent cover and the installation of berms/dikes. Other BMPs such as detention/retention ponds and filtering devices may be needed at these facilities because of the contaminant level in the storm water discharges. The types of BMPs implemented will depend on the type of discharge, types and concentrations of contaminants, and the volume of the flow.

The selection of the most effective BMPs will be based on site-specific considerations such as: facility size, climate, geographic location, geology/hydrology and the environmental setting of each facility, and volume and type of discharge generated. Each facility will be unique in that the source, type, and volume of contaminated storm water discharges will differ. In addition, the fate and transport of pollutants in these discharges will vary. EPA believes that the management practices discussed herein are well suited mechanisms to prevent or control the contamination of storm water discharges associated with printing and publishing facilities.

Part 1 group application data indicate that BMPs have not been widely implemented at the representative sampling facilities. Less than 10 percent of the sampling subgroup reported that they store some materials indoors; less than 10 percent store hazardous wastes under roof; and less than 5 percent cover drums or have sealed drums. However, 45 percent of the subgroup utilize some type of covering; 45 percent implement good housekeeping practices; and over 40 percent have training on pollution prevention.

The measures commonly used to reduce pollutants in storm water discharges associated with printing and publishing facilities are generally simple and easy to implement. Table X–3 identifies best management practices (BMPs) associated with different activities that routinely occur at printing and publishing facilities.

TABLE X–3.—GENERAL STORM WATER BMPS FOR PRINTING AND PUBLISHING FACILITIES[i,ii,iii,iv]

Activity	Best management practices (BMPs)
Plate Preparation	use aqueous-developed lithographic plates or wipe-on plates.
Printing	use press wipes as long as possible before discarding or laundering; dirty ones for the first pass, clean ones for the second pass.
	squeeze or centrifuge solvent out of dirty rags.
	set up an in-house dirty rag cleaning operation if warranted or send to approved industrial laundries, if available.
	dedicated press for inks with hazardous pigments/solvents.
	segregate used oil from solvents or other materials.
	use water-based inks in gravure and flexographic printing process.
Clean up	label sinks as to proper disposal of liquids.
	keep equipment in good condition.
	use doctor blades and squeegees to remove as much ink as possible prior to cleaning with solvent and rags.
	control solvent use during equipment cleaning, use only what you need.
	designate special areas for draining or replacing fluids.
	substitute nontoxic or less toxic cleaning solvents.
	recover waste solvents onsite with batch distillation if warranted or utilize professional solvent recyclers.
	centralize liquid solvent cleaning in one location.
	have refresher courses in operating and safety procedures.
Stencil Preparation for Screen Printing	recapture excess ink from silkscreen process before washing the screen to decrease amount of ink used and cleaning emulsion used
Material Handling and Storage Areas	store containerized materials (fuels, paints, inks, solvents, etc.) in a protected, secure location and away from drains.
	store reactive, ignitable, or flammable liquids in compliance with the local fire code.
	identify potentially hazardous materials, their characteristics, and use.
	eliminate/reduce exposure to storm water.
	control excessive purchasing, storage, and handling of potentially hazardous materials.
	keep records to identify quantity, receipt date, service life, users, and disposal routessecure and carefully monitor hazardous materials to prevent theft, vandalism, and misuse of materials.
	educate personnel for proper storage, use, cleanup, and disposal of materials.
	maintain good integrity of all storage tanks.
	inspect storage tanks to detect potential leaks and perform preventive maintenance.
	provide sufficient containment for outdoor storage areas for the larger of either 10 percent of the volume of all containers or 110 percent of the volume of the largest tank.
	use temporary containment where required by portable drip pans.
	use spill troughs for drums with taps
	train employees on proper filling and transfer procedures
	inspect piping systems (pipes, pumps, flanges, couplings, hoses, valves) for failures or leaks.
	handle solvents in designated areas away from drains, ditches, and surface waters. Locate designated areas preferably indoors or under a shed.
	if spills occur,
	stop the source of the spill immediately.
	contain the liquid until cleanup is complete.
	deploy oil containment booms if the spill may reach the water.
	cover the spill with absorbent material.
	keep the area well ventilated.
	dispose of cleanup materials properly.
	do not use emulsifier or dispersant.

[i] EPA, Pollution Prevention Programs, Opportunities in Printing. Philadelphia, PA. October 1990.
[ii] University of Pittsburgh Trust, Center for Hazardous Materials Research Fact Sheet, Pollution Prevention: Strategies for the Printing Industry.
[iii] EPA, Resource Conservation and Recovery Act (RCRA) document, Does Your Business Produce Hazardous Waste as Many Small Businesses Do. Printing and Allied Industries, EPA/530–SW–90–027g, April 15, 1990.
[iv] NPDES Storm Water Group Applications—Part 1. Received by EPA March 18, 1991 through December 31, 1992.

4. Storm Water Pollution Prevention Plan Requirements.

EPA believes that pollution prevention is the most effective approach for controlling contaminated storm water discharges from printing and publishing facilities. The requirements included in the pollution prevention plan provide a flexible framework for the development and implementation of site-specific controls to minimize the pollutants in storm water discharges. This flexibility is necessary because each facility is unique in that the source, type, and volume of contaminated storm water discharge will vary from site to site.

Under today's permit, all facilities must prepare and implement a storm water pollution prevention plan. The pollution prevention plan requirement reflects EPA's decision to allow operators of printing and publishing facilities to utilize BMPs as the BAT/BCT level of control for the storm water discharges covered by this section. The pollution prevention plan requirements in this section are consistent with the general requirements presented in the front of this fact sheet, which are based on EPA's storm water general permits finalized on September 9, 1992 (57 FR 41236), and September 25, 1992 (57 FR 44438), for discharges in nonauthorized NPDES States.

There are two major objectives to a pollution prevention plan: 1) to identify sources of pollution potentially affecting the quality of storm water discharges associated with industrial activity from a facility; and 2) to describe and ensure implementation of practices to minimize and control pollutants in storm water discharges associated with industrial activity from a facility.

Specific requirements for a pollution prevention plan for printing and publishing facilities are described below.

a. Contents of the Plan. Storm water pollution prevention plans are intended to aid operators of printing and publishing facilities to evaluate all potential prevention sources at a site, and assist in the selection and implementation of appropriate measures designed to prevent, or control, the discharge of pollutants in storm water runoff. EPA has developed guidance entitled Storm Water Management for Industrial Activities: ''Developing Pollution Prevention Plans and Best Management Practices,'' EPA, 1992, (EPA 832–R–92–006) to assist permittees in developing and implementing pollution prevention measures.

(1) Description of Potential Pollutant Sources. Each storm water pollution prevention plan must describe activities, materials, and physical features of the facility that may contribute pollutants to storm water runoff or, during periods of dry weather, result in dry weather flows. This assessment of potential storm water pollutant source will support subsequent efforts to identify and set priorities for necessary changes in materials, materials management practices, or site features, as well as aid in the selection of appropriate structural and nonstructural control techniques. Plans must describe the following elements:

(a) Site Map—The plan must contain a map of the site that shows the pattern of storm water drainage, structural and nonstructural features that control pollutants in storm water runoff and process wastewater discharges, surface water bodies (including wetlands), places where significant materials [100] are exposed to rainfall and runoff, and locations of major spills and leaks that occurred in the 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. The map must also indicate the direction of storm water flow. An outline of the drainage area for each outfall must be provided; the location of each outfall and monitoring points must be indicated; and the types of discharges contained in the drainage areas of the outfalls (e.g., storm water and air conditioner condensate) must be identified. An estimation of the total site acreage utilized for each industrial activity (e.g., storage of raw materials, waste materials, and used equipment) must be provided. These areas include liquid storage tanks, stockpiles, holding bins, used equipment, and empty drum storage. These areas are considered to be significant potential sources of pollutants at printing and publishing facilities.

(b) Inventory of Exposed Materials—Facility operators are required to carefully conduct an inspection of the site to identify significant materials that are or may be exposed to storm water discharges. The inventory must address materials that within 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit have been handled, stored, processed, treated, or disposed of in a manner to allow exposure to storm water. Findings of the inventory must be documented in detail in the pollution prevention plan. At a minimum, the plan must describe the method and location of onsite storage or disposal; practices used to minimize contact of materials with precipitation and runoff; existing structural and nonstructural controls that reduce pollutants in storm water; existing structural controls that limit process wastewater discharges; and any treatment the runoff receives before it is discharged to surface waters or through a separate storm sewer system. The description must be updated whenever there is a significant change in the type or amounts of materials, or material management practices, that may affect the exposure of materials to storm water.

(c) Significant Spills and Leaks—The plan must include a list of any significant spills and leaks of toxic or hazardous pollutants that occurred in the 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Significant spills include, but are not limited to, releases of oil or hazardous substances in excess of reportable quantities under Section 311 of CWA (see 40 CFR 110.10 and 117.21) or Section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (see 40 CFR 302.4). Significant spills may also include releases of oil or hazardous substances that are not in excess of reporting requirements and releases of materials that are not classified as oil or a hazardous substance.

(d) Non-storm Water Discharges—Each pollution prevention plan must include a certification, signed by an authorized individual, that discharges from the site have been tested or evaluated for the presence of non-storm water, the results of any test and/or evaluation conducted to detect such discharges, the test method or evaluation criteria used, the dates on which tests or evaluations were performed, and the onsite drainage points directly observed during the test or evaluation. Pollution prevention plans must identify and ensure the implementation of appropriate pollution prevention measures for any non-storm water discharges.

[100] Significant materials include, ''* * * but [are] not limited to: raw materials, fuels, materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; * * * hazardous substances designated under section 101(14) of CERCLA; any chemical facilities are required to report pursuant to section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharge.'' (40 CFR 122.26(b)(12)). Significant materials commonly found at transportation equipment, industrial or commercial machinery manufacturing facilities include raw and scrap metals; solvents; used equipment; petroleum based products; waste materials or by-products used or created by the facility.

(e) Sampling Data—Any existing data describing the quality or quantity of storm water discharges from the facility must be summarized in the plan. The description should include a discussion of the methods used to collect and analyze the data. Sample collection points should be identified in the plan and shown on the site map.

(f) Summary of Potential Pollutant Sources—The description of potential pollutant sources should clearly point to activities, materials, and physical features of the facility that have a reasonable potential to contribute significant amounts of pollutants to storm water. Any such activities, materials, or features must be addressed by the measures and controls subsequently described in the plan. In conducting the assessment, the facility operator must consider the following activities: raw materials (liquid storage tanks, stockpiles, holding bins), waste materials (empty drum storage), and used equipment storage areas. The assessment must list any significant pollutant parameter(s) (i.e., total suspended solids, oil and grease, etc.) associated with each source.

(2) Measures and Controls. Permittees must select, describe, and evaluate the pollution prevention measures, BMPs, and other controls that will be implemented at the facility. Source reduction measures include preventive maintenance, spill prevention, good housekeeping, training, and proper materials management. If source reduction is not an option, EPA supports the use of source control measures. These include BMPs such as material covering, water diversion, and dust control. If source reduction or source control are not available, then recycling or waste treatment are other alternatives. Recycling allows the reuse of storm water, while treatment lowers pollutant concentrations prior to discharge. Since the majority of printing and publishing activities occur indoors, the BMPs identified above are geared towards only those activities that occur outdoors or that otherwise have a potential to contribute pollutants to storm water discharges.

Pollution prevention plans must discuss the reasons each selected control or practice is appropriate for the facility and how each of the potential pollutant sources will be addressed. Plans must identify the time during which controls or practices will be implemented, as well the effect the controls or practices will have on storm water discharges from the site. At a minimum, the measures and controls must address the following components:

(a) Good Housekeeping—Permittees must describe protocols established to reduce the possibility of mishandling chemicals or equipment and training employees in good housekeeping techniques. Specifics of this plan must be communicated to appropriate plant personnel.

(b) Preventive Maintenance—Permittees are required to develop a preventive maintenance program that includes regular inspections and maintenance of storm water BMPs. Inspections should assess the effectiveness of the storm water pollution prevention plan. They allow facility personnel to monitor the components of the plan on a regular basis. The use of a checklist is encouraged, as it will ensure that all of the appropriate areas are inspected and provide documentation for recordkeeping purposes.

(c) Spill Prevention and Response Procedures—Permittees are required to identify proper material handling procedures, storage requirements, containment or diversion equipment, and spill removal procedures to reduce exposure of spills to storm water discharges. Areas and activities which are high risks for spills at printing and publishing facilities include raw material unloading and product loading areas, material storage areas, and waste management areas. These activities and areas and their drainage points must be described in the plan.

(d) Inspections—Qualified personnel must inspect designated equipment and areas of the facility at the proper intervals specified in the plan. The plan should identify areas which have the potential to pollute storm water for periodic inspections. Records of inspections must be maintained onsite.

(e) Employee Training—Permittees must describe a program for informing and educating personnel at all levels of responsibility of the components and goals of the storm water pollution prevention plan. A schedule for conducting this training should be provided in the plan. Where appropriate, contractor personnel must also be trained in relevant aspects of storm water pollution prevention. Topics for employee training should include good housekeeping, materials management, and spill response procedures. EPA recommends that facilities conduct training annually at a minimum. However, more frequent training may be necessary at facilities with high turnover of employees or where employee participation is essential to the storm water pollution prevention plan.

(f) Recordkeeping and Internal Reporting Procedures—Permittees must describe procedures for developing and retaining records on the status and effectiveness of plan implementation. This includes the success and failure of BMPs implemented at the facility.

(g) Sediment and Erosion Control—Permittees must identify areas, due to topography, activities, soils, cover materials, or other factors that have a high potential for soil erosion. Measures to eliminate erosion must be identified in the plan.

(h) Management of Runoff—Permittees must provide an assessment of traditional storm water management practices that divert, infiltrate, reuse, or otherwise manage storm water so as to reduce the discharge of pollutants. Based on this assessment, practices to control runoff from these areas must be identified and implemented as required by the plan.

(3) Comprehensive Site Compliance Evaluation. The storm water pollution prevention plan must describe the scope and content of comprehensive site evaluations that qualified personnel will conduct to: (1) Confirm the accuracy of the description of potential sources contained in the plan, (2) determine the effectiveness of the plan, and (3) assess compliance with the terms and conditions of this section. Comprehensive site compliance evaluations must be conducted once a year for printing and publishing facilities. The individual(s) who will conduct the evaluations must be identified in the plan and should be members of the pollution prevention team. Evaluation reports must be retained for at least 3 years after the date of the evaluation.

Based on the results of each evaluation, the description of potential pollution sources, and measures and controls, the plan must be revised as appropriate within 2 weeks after each evaluation. Changes in the measures and controls must be implemented on the site in a timely manner, never more than 12 weeks after completion of the evaluation.

5. Monitoring and Reporting Requirements

a. Monitoring Requirements. The regulatory modifications at 40 CFR 122.44 (i)(2) established on April 2, 1992, grant permit writers the flexibility to reduce monitoring requirements in storm water discharge permits. EPA has determined that the potential for storm water discharges to contain pollutants above benchmark levels, because of the industrial activities and materials exposed to precipitation, does not support sampling at printing and publishing facilities. Under the Storm Water Regulations at 40 CFR 122.26(b)(14), EPA defined ''storm water discharge associated with industrial activity''. The focus of today's permit is to address the presence of pollutants that are associated with the industrial activities identified in this definition and that might be found in storm water discharges. Under the methodology for determining analytical monitoring requirements, described in section VI.E.1 of this fact sheet, nitrate plus nitrite nitrogen is above the bench mark concentrations for the printing and publishing sector. After a review of the nature of industrial activities and the significant materials exposed to storm water described by facilities in this sector, EPA has determined that the higher concentrations of nitrate plus nitrite nitrogen are not likely to be caused by the industrial activity, but may be primarily due to non-industrial activities on-site. Today's permit does not require printing and publishing facilities to conduct analytical monitoring for this parameter. Based on a consideration of the BMPs typically used at these facilities, and generally low pollutant values from the application data, EPA believes that the pollution prevention plan with visual examinations of storm water discharges will help to ensure storm water contamination is minimized. Because permittees are not required to conduct sampling, they will be able to focus their resources on developing and implementing the pollution prevention plan.

Quarterly visual examinations of a storm water discharge from each outfall are required. The inspection must be of a grab sample collected from each storm water outfall. The examination of storm water grab samples shall include any observations of color, odor, turbidity, floating solids, foam, oil sheen, or other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on these samples.

The examination must be made at least once in each designated period during daylight hours unless there is insufficient rainfall or snow-melt to runoff. Where practicable, the same individual should carry out the collection and examination of discharges throughout the life of the permit to ensure the greatest degree of consistency possible. Examinations shall be conducted in each of the following periods for the purposes of inspecting storm water quality associated with storm water runoff and snow melt: January through March; April through June; July through September; October through December. Grab samples shall be collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff begins discharging. Reports of the visual examination include: the examination date and time, examination personnel, visual quality of the storm water discharge, and probable sources of any observed storm water contamination. The visual examination reports must be maintained onsite with the pollution prevention plan.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

EPA believes that this quick and simple assessment will help permittees to determine the effectiveness of their plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examinations. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and the effects of the management practices that are included in the plan.

When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

As discussed above, EPA does not believe that chemical monitoring is necessary for printing and publishing facilities. EPA believes that between quarterly visual examinations and site compliance evaluations potential sources of contaminants can be recognized, addressed, and then controlled with BMPs. In determining the monitoring requirements, EPA considered the nature of the industrial activities and significant materials exposed at these sites, and performed a review of data provided in Part 2 group applications.

Y. Storm Water Discharges Associated With Industrial Activity From Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries

1. Discharges Covered Under This Section

This section covers storm water discharges associated with industrial activity from rubber and miscellaneous plastic products facilities (commonly identified by Standard Industrial Classification (SIC) major group 30) and miscellaneous manufacturing industries, except jewelry, silverware, and plateware (commonly identified by SIC major group 39, except 391).

Rubber and miscellaneous plastic products manufacturing facilities specifically include manufacturers of tires and inner tubes, rubber and plastic footwear, rubber and plastic hose and belting, gaskets, packing and sealing devices, and miscellaneous fabricated rubber products. This group also includes miscellaneous plastic products such as unsupported plastic film, sheet, rods and tubes, laminated plastic plate, sheet and profile shapes, plastic pipe and bottles, plastic foam products such as cups, ice chests and packaging materials, plastic plumbing fixtures, and miscellaneous plastic products.

Miscellaneous manufacturing industries specifically include manufacturers of musical instruments, games, toys and athletic goods, pens, pencils and artists' supplies, buttons, pins and needles, and a wide variety of products not classified elsewhere.

The SIC codes of the facilities covered by this section are in category (xi) of the definition of storm water discharges associated with industrial activity. Storm water discharges from facilities in this category are only regulated where precipitation and storm water runon come into contact with areas associated with industrial activities, and significant materials. Significant materials include, but are not limited to, raw materials, waste products, fuels, finished products, intermediate products, by-products, and other materials associated with industrial activities.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Pollutants Found in Storm Water Discharges

a. Sources of Pollutants. As discussed above, the SICs of the facilities in this sector fall into category (xi) of the definition of ''storm water associated with industrial activity'' found at 40 Code of Federal Regulations (CFR) 122.26(b)(14). As noted in the preamble to the final storm water regulations of November 16, 1990, most of the actual manufacturing and processing activity at these types of facilities normally occurs indoors (55 FR 48008).

Additional information concerning these manufacturing processes and the industrial sector itself can be found in the following documents: ''Development Document for Effluent Limitations Guidelines and New Source Performance Standards for the Tire and Synthetic Rubber Processing Point Source Category,'' EPA 440/1–74–013a; ''Development Document for Effluent Limitations Guidelines and New Source Performance Standards for the Fabricated and Reclaimed Rubber Segment of the Rubber Processing Point Source Category,'' EPA 440/1–74/030a; and ''Development Document and Effluent Limitations Guidelines and Standards for the Plastics Molding and Forming Point Source Category,'' EPA 440/1–84/069.

The types of activities at these facilities where exposure to storm water may occur consist primarily of loading/unloading activities, and the storage and handling of raw materials, by-products, final products or waste products. A wide variety of materials are used at the facilities including solvents, acids and caustic, carbon black, plasticizers, paint, processing oils, resins, rubber compounds and solutions, fuels such as diesel or gasoline, adhesives, zinc and miscellaneous chemicals. However, it should also be noted that this is a cumulative list gathered from all the types of facilities in this sector and that individual facilities do not necessarily use all the materials on the list. Tanks, drums or bags of these materials may be exposed to storm water during loading/unloading operations, or through outdoor storage or handling at some facilities.

Other items which may be exposed to storm water include surplus processing machinery, scrap metal, scrap plastic and rubber, plastic pellets, PVC pipe and rags. Table Y–1 lists potential pollutant sources from activities that commonly take place at rubber, miscellaneous plastic products, and miscellaneous manufacturing industries.

TABLE Y–1.—COMMON POLLUTANT SOURCES

Activity	Pollutant source	Pollutants
Outdoor Material Loading/Unloading	Wooden pallets, spills/leaks from material handling equipment, solvents, resins.	TSS, oil and grease, organics.
Outdoor Material and Equipment Storage	Solvents, acids and caustic, plasticizers, paint, lubricating oils, processing oils, resins, rubber compounds, mineral spirits, zinc, scrap metal, scrap plastic and rubber, plastic pellets, PVC pipe, and rags.	Organics, zinc, hydrocarbons, oil and grease, acids, alkalinity.

Based on the wide variety of industrial activities and significant materials at the facilities included in this sector, EPA believes it is appropriate to divide the rubber and plastic product and miscellaneous manufacturing industry into subsectors to properly analyze sampling data and determine monitoring requirements. As a result, this sector has been divided into the following subsectors: rubber and miscellaneous plastic products manufacturing and miscellaneous manufacturing. Tables Y–2 and Y–3 below include data for the eight pollutants that all facilities were required to monitor for under Form 2F. The tables also list those parameters that EPA has determined merit further monitoring.

TABLE Y–2.—Statistics for Selected Pollutants Reported by Tires and Inner Tubes, Rubber and Plastics Footwear, Gaskets, Packing, and Sealing Devices and Rubber and Plastics Hose and Belting, Fabricated Rubber Products, Not Elsewhere Classified Manufacturing Facilities Submitting Part II Sampling Data[i] (mg/L)

Pollutant Samples type	No. of Facilities		No. of Sample		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	18	17	32	31	14.7	14.47	0.0	0.0	160.0	144.0	6.4	7.90	43.0	43.18	86.1	86.3
COD	18	17	32	31	105.2	77.7	13.0	0.0	812.0	321.0	52.0	63.0	271.5	335.7	499.0	737.6
Nitrate + Nitrite Nitrogen	18	17	32	31	0.72	1.69	0.04	0.05	2.49	32.0	0.58	0.65	2.61	4.12	5.30	9.63
Total Kjeldahl Nitrogen	18	17	32	31	1.98	1.44	0.37	0.0	8.55	6.48	1.38	1.11	5.55	4.07	9.87	7.20
Oil & Grease	18	N/A	32	N/A	5.3	N/A	0.0	N/A	76.0	N/A	1.5	N/A	16.5	N/A	37.5	N/A
pH	17	N/A	30	N/A	N/A	N/A	4.8	N/A	9.2	N/A	7.0	N/A	8.7	N/A	9.5	N/A
Total Phosphorus	18	17	32	31	0.35	0.51	0.00	0.0	1.65	8.65	0.22	0.17	1.17	1.38	2.31	3.19
Total Suspended Solids	18	17	32	31	185	129	0	0.0	1420	760	63	44	783	584	2143	1585
Zinc, Total	15	15	28	28	1.103	0.904	0.027	0.011	7.600	7.490	0.21	0.25	4.617	4.179	14.012	12.660

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.

[ii] Composite samples.

TABLE Y–3.—Statistics for Selected Pollutants Reported by Miscellaneous Plastics Products, Musical Instruments, Dolls, Toys, Games, and Sporting and Athletic Goods, Pens, Pencils, and Other Artists' Materials, Costume Jewelry, Costume Novelties, Buttons, and Miscellaneous Notions, Except Precious Metal, and Miscellaneous Manufacturing Facilities Submitting Part II Sampling Data[i] (mg/L)

Pollutant Samples type	No. of Facilities		No. of Sample		Mean		Minimum		Maximum		Median		95th Percentile		99th Percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	35	36	56	58	13.3	9.37	0.0	0.0	71.0	70.0	8.1	7.0	41.8	28.8	77.1	51.5
COD	35	35	56	56	100.6	69.0	0.0	0.0	600.0	640.0	57.0	36.5	789.2	201.2	2377.6	380.8
Nitrate + Nitrite Nitrogen	35	34	56	55	1.01	1.02	0.00	0.0	5.23	7.40	0.75	0.62	5.49	3.21	13.98	6.25
Total Kjeldahl Nitrogen	34	33	55	54	2.16	1.58	0.00	0.0	11.00	6.54	1.40	1.20	12.46	5.22	31.95	10.02
Oil & Grease	38	N/A	60	N/A	3.9	N/A	0.0	N/A	91.0	N/A	0.0	N/A	15.4	N/A	35.5	N/A
pH	32	N/A	54	N/A	N/A	N/A	2.6	N/A	10.1	N/A	7.3	N/A	9.6	N/A	10.9	N/A
Total Phosphorus	35	34	55	54	0.33	0.24	0.00	0.0	2.90	1.25	0.18	0.15	1.90	0.72	5.35	1.31
Total Suspended Solids	35	35	56	56	202	116	0	0	2008	2100	34	25	1777	433	8369	1235

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.

[ii] Composite samples.

3. Options for Controlling Pollutants

In evaluating options for controlling pollutants in storm water discharges, EPA must achieve compliance with the technology-based standards of the Clean Water Act [Best Available Technology (BAT) and Best Conventional Technology)]. The Agency does not believe that it is appropriate to establish specific numeric effluent limitations or a specific design or performance standard in this section for storm water discharges associated with industrial activity from rubber, miscellaneous plastic products and miscellaneous manufacturing industries to meet BAT/BCT standards of the Clean Water Act. Instead, this section establishes requirements for the development and implementation of site-specific storm water pollution prevention plans consisting of a set of Best Management Practices (BMPs) that are sufficiently flexible to address different sources of pollutants at different sites.

Certain BMPs are implemented to prevent and/or minimize exposure of pollutants from industrial activities to storm water discharges. EPA believes the most effective BMPs for reducing pollutants in storm water discharges are exposure minimization practices. Exposure minimization practices lessen the potential for storm water to come into contact with pollutants. Good housekeeping practices ensure that facilities are sensitive to routine and nonroutine activities which may increase pollutants in storm water discharges. The BMPs which address good housekeeping and exposure minimization are easily implemented, inexpensive, and require little, if any, maintenance. BMP expenses may include construction of roofs for storage areas or other forms of permanent cover and the installation of berms/dikes. Other BMPs such as detention/retention ponds and filtering devices may be needed at these facilities because of the contaminant level in the storm water discharges. The types of BMPs implemented will depend on the type of discharge, types and concentrations of contaminants, and the volume of the flow.

The selection of the most effective BMPs will be based on site-specific considerations such as: facility size, climate, geographic location, geology/hydrology and the environmental setting of each facility, and volume and type of discharge generated. Each facility will be unique in that the source, type, and volume of contaminated storm water discharges will differ. In addition, the fate and transport of pollutants in these discharges will vary. EPA believes that the management practices discussed herein are well suited mechanisms to prevent or control the contamination of storm water discharges associated with rubber, miscellaneous plastic products and miscellaneous manufacturing industries.

Part 1 group application data indicated that the most widely implemented BMP, used by approximately 36 percent of the sampling facilities, is dikes. Less than 10 percent of the sampling subgroup reported that they cover their storage or loading areas; approximately 12 percent have roofs over their raw materials; and less than 5 percent store raw materials indoors. Because BMPs described in part 1 data are limited, the Table Y–4 is provided to identify BMPs associated with activities that routinely occur at rubber, miscellaneous plastic products and miscellaneous manufacturing industries.

TABLE Y–4.—GENERAL STORM WATER BMPS FOR RUBBER, MISCELLANEOUS PLASTIC PRODUCTS, AND MISCELLANEOUS MANUFACTURING INDUSTRIES

Activity	Best management practices (BMPs)
Outdoor Unloading and Loading	Confine loading/unloading activities to a designated area. Consider performing loading/unloading activities indoors or in a covered area. Consider covering loading/unloading area with permanent cover (e.g., roofs) or temporary cover (e.g., tarps). Close storm drains during loading/unloading activities in surrounding areas. Avoid loading/unloading materials in the rain. Inspect the unloading/loading areas to detect problems before they occur. Inspect all containers prior to loading/unloading of any raw or spent materials. Consider berming, curbing, or diking loading/unloading areas. Dead-end sump where spilled materials could be directed. Drip pans under hoses. Use dry clean-up methods instead of washing the areas down. Train employees on proper loading/unloading techniques and spill prevention and response.
Outdoor Material Storage (including waste, and particulate emission management).	Confine storage of materials, parts, and equipment to designated areas.

TABLE Y–4.—GENERAL STORM WATER BMPS FOR RUBBER, MISCELLANEOUS PLASTIC PRODUCTS, AND MISCELLANEOUS MANUFACTURING INDUSTRIES—Continued

Activity	Best management practices (BMPs)
	Consider secondary containment using curbing, berming, or diking all liquid storage areas. Train employees on proper waste control and disposal. Train employees in spill prevention and response. Consider covering tanks. Ensure that all containers are closed (e.g., valves shut, lids sealed, caps closed). Wash and rinse containers indoors before storing them outdoors. If outside or in covered areas, minimize runon of storm water by grading the land to divert flow away from containers. Leak detection and container integrity testing. Direct runoff to onsite retention pond. Inventory all raw and spent materials. Clean around vents and stacks. Place tubs around vents and stacks to collect particulate. Inspect air emission control systems (e.g., baghouses) regularly, and repair or replace when necessary. Store wastes in covered, leak proof containers (e.g., dumpsters, drums). Consider shipping all wastes to offsite landfills or treatment facilities. Ensure hazardous waste disposal practices are performed in accordance with Federal, State, and local requirements.

Sources: NPDES Storm Water Group Applications—Part 1. Received by EPA, March 18, 1991, through December 31, 1992.
EPA, Office of Water. September 1992. ''Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices.'' EPA 832–R–92–006.

There are three major types of facilities in this sector: (1) Rubber products manufacturers, (2) manufacturers of miscellaneous plastic products, and (3) miscellaneous industries. In discussions with the rubber industry, the BMPs found in Table Y–5 were identified for rubber manufacturing to control discharges of zinc which was the most frequently reported toxic pollutant in the storm water sampling data:

TABLE Y–5.—BMPS FOR THE CONTROL OF ZINC AT RUBBER PRODUCTS MANUFACTURERS

Zinc source	BMPs
Poor housekeeping, bags of zinc stored outside, zinc spilled from trucks during unloading, spillage during emptying for plant use.	Employee training, spill cleanup, indoor storage, use of special large volume sacks with less potential for releases of zinc.
Zinc containers, rubber products, rags contaminated with zinc stearate discarded in outdoor dumpsters.	Cover the dumpsters, use linked dumpsters which do not leak or move dumpster inside.
Malfunctioning baghouses for dust collection	Repair or replace the baghouse, regular maintenance.
Grinding operations from which zinc dust may be released	Use dust collection system or reduce the amount of dust generated.
Drips of zinc stearate during coating operations	Spill prevention/response, use of alternate compounds.

4. Special Conditions

There are no additional requirements under this section other than those stated in Part III. of the permit.

5. Storm Water Pollution Prevention Plan Requirements

EPA believes that pollution prevention is the most effective approach for controlling contaminated storm water discharges from rubber, miscellaneous plastic products, and miscellaneous manufacturing industries. The requirements included in the pollution prevention plans provide a flexible framework for the development and implementation of site-specific controls to minimize the pollutants in storm water discharges. This flexibility is necessary because each facility is unique in that the source, type, and volume of contaminated storm water discharge will vary from site to site.

Under today's permit, all facilities must prepare and implement a storm water pollution prevention plan. The pollution prevention plan requirement reflects EPA's decision to allow operators of rubber, miscellaneous plastic products, and miscellaneous manufacturing industries to utilize BMPs as the BAT/BCT level of control for the storm water discharges covered by this section.

There are two major objectives to a pollution prevention plan: (1) To identify sources of pollution potentially affecting the quality of storm water discharges associated with industrial activity from a facility; and (2) to describe and ensure implementation of practices to minimize and control pollutants in storm water discharges associated with industrial activity from a facility.

Section 313 of EPCRA requires operators of manufacturing facilities that handle toxic chemicals in amounts exceeding threshold levels (listed at 40 CFR 372.25) to report to EPA on an annual basis. Because these types of facilities handle large amounts of toxic chemicals, EPA concluded that they have the increased potential to degrade the water quality of receiving streams. Consistent with Part VII.B. of this permit, Section 313 reporting facilities must fulfill specific requirements.

Except for the special controls discussed below for rubber products manufacturers, there are no additional Pollution Prevention Plan requirements other than those stated in Part IV of this permit.

a. Special Measures and Controls for Rubber Manufacturing Facilities. For rubber manufacturers, this section also requires permittees to develop specific BMPs to control discharges of zinc in storm water runoff. The principal sources of zinc in storm water runoff at these facilities were identified above in Section 3. EPA believes that sources of zinc merit special attention at rubber products manufacturing facilities due to its prevalence at such facilities and its toxicity in aquatic systems. This section requires that rubber products manufacturers review the possible sources of zinc listed below at their facilities and include as appropriate the accompanying BMPs in their storm water pollution prevention plans:

(1) Inadequate Housekeeping. Permittees are required to review the handling and storage of zinc bags at their facilities. The following BMPs must be considered in developing the storm water pollution prevention plan: employee training regarding the handling and emptying of zinc bags, indoor storage of zinc bags, thorough cleanup of zinc spills without washing the zinc into a storm drain. Facilities must also consider the use of 2,500 pound sacks (from which spills are less likely) rather than 50 to 100 pound sacks.

(2) Zinc in Dumpsters. The following BMPs must be considered to reduce this potential source of zinc: provide a cover for the dumpster or move the dumpster inside; provide a lining for the dumpster.

(3) Malfunctioning Dust Collectors or Baghouses. Permittees must review dust collectors and baghouses as possible sources of zinc. Improperly operating dust collectors or baghouses must be replaced or repaired as appropriate; the plan must also provide for regular maintenance of these facilities.

(4) Grinding Operations. Permittees must review dust generation from rubber grinding operations at their facility and as appropriate, install a dust collection system.

(5) Zinc Stearate Coating Operations. The plan must include measures to prevent and/or clean up drips or spills of zinc stearate slurry which may be released to a storm drain. Alternate compounds to zinc stearate must also be considered.

6. Numeric Effluent Limitations

There are no additional numeric effluent limitations beyond those described in Part V.B of today's permit.

7. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. EPA believes that rubber product manufacturing facilities may reduce the level of pollutants in storm water runoff from their sites through the development and proper implementation of the storm water pollution prevention plan requirements discussed in today's permit. Under the revised methodology for determining pollutants of concern for the various industrial sectors, the rubber product manufacturing subsector must monitor its storm water discharges. The monitoring requirements are presented in Table Y–6. The pollutant listed in Table Y–6 was found to be above the benchmark level. Because this pollutant has been reported at benchmark levels from rubber product manufacturing facilities, EPA is requiring monitoring after the pollution prevention plan has been implemented to assess the effectiveness of the pollution prevention plan and to help ensure that a reduction of pollutants is realized.

At a minimum, storm water discharges from rubber product manufacturing facilities must be monitored quarterly during the second year of permit coverage. Samples must be collected at least once in each of the following periods: January through March; April through June; July through September; and October through December. At the end of the second year of permit coverage, a facility must calculate the average concentration for each parameter listed in Table Y–6. If the permittee collects more than four samples in this period, then it must calculate an average concentration for each pollutant of concern for all samples analyzed.

TABLE Y–6

Pollutants of concern	Cut-off concentration
Total Recoverable Zinc	0.065 mg/L

If the average concentration for a parameter is less than or equal to the cut-off concentration, then the permittee is not required to conduct quantitative analysis for that parameter during the fourth year of the permit. If, however, the average concentration for a parameter is greater than the cut-off concentration, then the permittee is required to conduct quarterly monitoring for that parameter during the fourth year of permit coverage. Monitoring is not required during the first, third, and fifth year of the permit. The exclusion from monitoring in the fourth year of the permit is conditional on the facility maintaining industrial operations and BMPs that will ensure a quality of storm water discharges consistent with the average concentrations recorded during the second year of the permit. The schedule for monitoring is presented in Table Y–7.

TABLE Y–7.—SCHEDULE OF MONITORING

2nd Year of Permit Coverage	• Conduct quarterly monitoring. • Calculate the average concentration for all parameters analyzed during this period. • If average concentration is greater than the value listed in Table Y–6, then quarterly sampling is required during the fourth year of the permit. • If average concentration is less than or equal to the value listed in Table Y–6, then no further sampling is required for that parameter.
4th Year of Permit Coverage	• Conduct quarterly monitoring for any parameter where the average concentration in year 2 of the permit is greater than the value listed in Table Y–6. • If industrial activities or the pollution prevention plan have been altered such that storm water discharges may be adversely affected, quarterly monitoring is required for all parameters of concern.

In cases where the average concentration of a parameter exceeds the cut-off concentration, EPA expects permittees to place special emphasis on methods for reducing the presence of those parameters in storm water discharges. Quarterly monitoring in the fourth year of the permit will be used to reassess the effectiveness of the adjusted pollution prevention plan.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly chemical sampling.

b. Alternative Certification. Throughout today's permit, EPA has included monitoring requirements for facilities which the Agency believes have the potential for contributing significant levels of pollutants to storm water discharges. The alternative certification described below is necessary to ensure that monitoring requirements are only imposed on those facilities that do, in fact, have storm water discharges containing pollutants at concentrations of concern. EPA has determined that if materials and activities are not exposed to storm water at the site, then the potential for pollutants to contaminate storm water discharges does not warrant monitoring.

Therefore, a discharger is not subject to the monitoring requirements of this Part, provided the discharger makes a certification for a given outfall or on a pollutant-by-pollutant basis, in lieu of monitoring described in Table Y–6, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, significant materials from past industrial activity, and that are located in areas of the facility that are within the drainage area of the outfall are not presently exposed to storm water and will not be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan and submitted to EPA in lieu of monitoring reports required under paragraph (*c.*) below. The permittee is required to complete any and all sampling until the exposure is eliminated. If the facility is reporting for a partial year, the permittee must specify the date exposure was eliminated. If the permittee is certifying that a pollutant was present for part of the reporting period, nothing relieves the permittee from the responsibility to sample that parameter up until the exposure was eliminated and it was determined that no significant materials remained. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations. EPA does not expect facilities to be able to exercise this certification for indicator parameters, such as TSS and BOD.

c. Reporting Requirements. Permittees are required to submit all monitoring results obtained during the second and fourth year of permit coverage within 3 months of the conclusion of each year. For each outfall, one signed Discharge Monitoring Report Form must be submitted to the Director per storm event sampled. For facilities conducting monitoring beyond the minimum requirements, an additional signed Discharge Monitoring Report Form must be filed for each analysis. The permittee must include a measurement or estimate of the total precipitation, volume of runoff, and peak flow rate of runoff for each storm event sampled.

d. Sample Type. All discharge data shall be reported for grab samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable.

If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable, permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

e. Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluent. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

f. Quarterly Visual Examination of Storm Water Quality. Rubber, miscellaneous plastic products, and miscellaneous manufacturing facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted under paragraph (3) below. The examination(s) must be made at least once in each of the following 3-month periods: January through March, April through June, July through September, and October through December. The examination shall be made during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(*1*) Examinations shall be made of grab samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well-lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.

(*2*) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(*3*) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(*4*) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(*5*) EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

EPA believes that this quick and simple assessment will help the permittee to determine the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examinations. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and the effects of the management practices that are included in the plan.

Z. Storm Water Discharges Associated With Industrial Activity From Leather Tanning and Finishing Facilities

1. Discharges Covered Under This Section

Storm water discharges covered by this section include all discharges from leather tanning (commonly identified by Standard Industrial Classification (SIC) code 3111) and facilities which make fertilizer solely from leather scraps and leather dust where precipitation and storm water runon come into contact with significant materials including, but not limited to, raw materials, waste products, by-products, stored materials, and fuels. This includes storm water discharges from access roads, and rail lines used or traveled by carriers of raw materials, manufactured products, waste materials, or by-products created by the facility. This section does not cover any discharge subject to process wastewater effluent limitation guidelines, including storm water that combines with process wastewater.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

a. Industry Profile. The storm water permit application regulations define storm water discharge associated with industrial activity at 40 Code of Federal Regulations (CFR) 122.26(b)(14). Category (ii) of this definition includes facilities identified by SIC code 3111, establishments primarily engaged in tanning, currying, and finishing hides and skins into leather. Most tanneries are small family operations, although several are divisions of larger corporations. The leather tanning and finishing industry currently includes approximately one hundred fifty facilities. There are effluent limitations guidelines for the leather tanning industry based on 9 subcategories, as described in the ''Development Document for Effluent Limitations Guidelines and Standards for Leather Tanning and Finishing Point Source Category.'' (The subcategories were based on distinct combinations of raw materials and leather processing operations.)

Leather tanning or finishing is the conversion of animal hides or skins into leather. Leather is made from the inner layer of the animal skin, which consists primarily of the protein collagen. Tanning is the reaction of the collagen fibers with tannins, chromium, alum or other tanning agents. Tanning processes use chromium III, sulfuric acid and detergents and a variety of raw and intermediate materials.

There are three major processes required to make finished leather. These are beamhouse operations, tanyard processes and retanning and finishing processes. In general, most tanneries perform the entire tanning process, from beamhouse to wet finishing operations. A smaller number perform only beamhouse and tanyard operations and sell their unfinished product (wet ''blue'' stock) to other tanneries. These processes are described below:

Beamhouse Operations—These consist of four activities: side and trim; soak and wash; fleshing and unhairing. Side and trim is the cutting of the hide into two sides and trimming of areas which do not produce good leather. In soak and wash processes, the hides are soaked in water to restore moisture lost during curing. Washing removes dirt, salt, blood, manure, and nonfibrous proteins. Fleshing is a mechanical operation which removes excess flesh. The removed matter is normally recovered and sold for conversion to glue. Unhairing involves using calcium hydroxide, sodium sulfhydrate, and sodium sulfide to destroy the hair (hair pulp process) or remove hair roots. A mechanical unhairing machine can also be used to remove hair loosened by chemicals (hair save process). Beamhouse processes can account for approximately 60 percent of the pollutant load (except trivalent chromium) from a complete tannery. Pollutants that may be produced are proteinaceous organic and inorganic pollutants characterized by a high pH (10–12) and substantial amounts of Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Total Suspended Solids (TSS), Total Kjeldahl Nitrogen (TKN), and sulfides.

Tanyard Processes—These consist of bating, pickling, tanning, wringing, splitting, and shaving. Bating involves the addition of salts of ammonium sulfate or ammonium chloride used to convert the residual alkaline chemicals present from the unhairing process into soluble compounds which can be washed from the hides or skins. ''Pickling'' the hide with sulfuric acid provides the acid environment necessary for chromium tanning. In the tanning process, tanning agents such as trivalent chromium and vegetable tannins convert the hide into a stable product which resists decomposition. Wringing of the ''blue hides'' (hides tanned with trivalent chromium) removes excess moisture with a machine similar to a clothes wringer. Splitting adjusts the thickness of the tanned hide to the requirements of the finished product and produces a ''split'' from the flesh side of the hide. The hide is then shaved to remove any remaining fleshy matter. Wastewater from tanyard operations contain inorganic chemical salts, small amounts of proteinaceous hair and waste, and large amounts of ammonia from the bating process. Pickling generates a highly acidic waste (pH of 2.5–3.5) which contains salt. Spent chromium liquors contain high concentrations of trivalent chromium in acid solution with low concentrations of BOD and TSS. Vegetable tanning vat discharges are highly colored, and contain significant amounts of BOD, COD, and dissolved solids.

Retanning and Wet Finishing Processes—These include retanning, bleaching, coloring, fatliquoring, and finishing. The most common retanning agents are chromium, vegetable extracts and syntans (based upon naphthalene and phenol). Sodium bicarbonate and sulfuric acid are sometimes used to bleach leather. Coloring involves the use of dyes (usually aniline based) on the tanned skin. Animal or vegetable fatliquors are added to replace the natural oils lost in the beamhouse and tanyard processes. Finishing includes all operations performed on the hide after fatliquoring, and includes finishing to enhance color and resistance to stains and abrasions, smoothing and stretching of the skin, drying, conditioning, staking, dry milling, buffing and plating. These processes generate wastes with additional quantities of trivalent chromium, tannins, sulfonated oils, and spent dyes, which are low in BOD and TSS, and high in COD.

Table Z–1 lists potential storm water pollutant source activities that may take place at leather tanning facilities.

TABLE Z–1.—POLLUTANTS POTENTIALLY FOUND IN STORM WATER DISCHARGES AT LEATHER TANNING FACILITIES

Activity	Pollutant source	Pollutant
Outdoor storage of fresh and brine cured hides	Fresh & brine cured hides	Salt, organic materials (manure), biochemical oxygen demand.
Beamhouse Processes (trimming, soak & wash, fleshing, unhairing).	Chemical storage (drums or bags)	Depilatory chemicals.
	Empty containers of lime, depilatory chemicals.	Calcium hydroxide, sodium sulfhydrate, or sodium sulfide.
	Trim scraps, hair	BOD, COD, TSS.
Tanyards (bating, pickling, tanning, wringing, splitting, shaving).	Empty chemical containers	Trivalent chromium, vegetable tannins, enzymes, pickling acids (sulfuric acid), alum, syntans, chemical deliming agents, glutaraldehyde, heavy oils.
	''Blue'' hides, splits, trimmings, shavings	Trivalent chromium, leather fiber and dust, suspended solids.
Retan and Wet Finishing (retanning, bleaching & coloring, fatliquoring, buffing).	Empty chemical containers	Chromium tanning agents, vegetable extract, dyes, pigments, animal or vegetable based oils, synthetic oils made from modified mineral based oils.
	Leather dust containing chromium.	Leather fiber, trivalent chromium, suspended solids.
Dry finishing (Application of pigment to leather surface with water-based or solvent based finishes).	Emissions from spray booths and spent solvents.	Pigments, solvents-acetone, pylene, glycol ether.
Receiving and unloading areas	Hides	Trivalent chromium, salt.
	Chemical supplies	Depilatory chemicals, trivalent chromium, vegetable tannins, enzymes, pickling acids (sulfuric acid), alum, syntans, chemical deliming agents, glutaraldehyde, heavy oils, dyes, pigments, animal or vegetable based oils, synthetic oils, solvents and biocides.
	Leaking trucks	Oil & grease and waste materials.
	Accidental spills	Chemicals listed for supplies above.
Improper Connections to Storm Sewer	Floor drains-process wastewater, cleaning and washdown of process equipment and process areas.	Dependent on operations.
Outdoor Bulk Chemical Storage	Above ground tanks	Sulfuric acid, ferric chloride, finishing solvents (mineral spirits), hydrated lime, surfactant.
Outdoor Storage of coal	Coal piles	Oil & grease, TSS, copper, nickel, zinc.
Waste Management	Hoppers	Leather dust, scraps.
	Dumpsters	Empty bags & chemical containers.
	Sludge (wastewater treatment sludge stored in containers to diminish storm water contact, awaiting offsite disposal).	Lime, pieces of leather, hair, protein-like substances, floor sweepings, trivalent chromium, biochemical oxygen demand.

Sources: NPDES Storm Water Group Applications—Part 1. Received by EPA May 22, 1991—February 18, 1992.

EPA, Office of Water. November 1982. ''Development Document for Effluent Limitations Guidelines and Standards for the Leather Tanning and Finishing Point Source Category.'' EPA/440/1–82/016.

EPA, Office of Water Regulations and Standards and Office of Water Enforcement and Permits. September 1986. ''Guidance Manual for Leather Tanning and Finishing Pretreatment Standards.''

EPA, Office of Solid Waste Management Programs, SCS Engineers, Reston, VA. 1976. ''Assessment of Industrial Hazardous Waste Practices. Leather Tanning and Finishing Industry.'' EPA–68–01–3261.

2. Pollutants Found in Storm Water Discharges From Leather Tanning Operations

The impacts caused by storm water discharges from leather tanning facilities will depend on the geographic location of the facility, the types of industrial activities occurring onsite (e.g., beamhouse, tanyard, retan and wet finishing, dry finishing); the types of significant materials exposed to storm water (e.g., trivalent chromium tanned leather shavings, chemical containers etc.), the size of the operation; and the type, duration, and intensity of precipitation events. Other factors such as air emissions (i.e., settled dust), materials storage, spills, improperly dumped materials, and illicit conditions may also impact receiving waters. (Illicit connections are contributions of unpermitted non-storm water discharges to storm sewers.)

Part 1 group application information indicates that the industrial activities occurring at leather tanning facilities include leather tanning plant yards; unhairing (76.9 percent of samplers); chromium tanning (69.2 percent of samplers); splitting and shaving (76.9 percent) retanning (69.2 percent); wet hide finishing-buffing (76.9 percent); dry finishing; vegetable tanning (30.8 percent); immediate access roads and rail lines used or traveled by carriers of raw materials (38.5 percent of samplers), manufactured products, waste management (36.8 percent); material handling sites (23.1 percent); refuse sites; sites used for the application or disposal of process wastewaters (as defined at 40 CFR Part 401) sites used for residual treatment, storage or disposal (waste water treatment (30.8 percent)); shipping and receiving areas (69.2 percent of samplers); finished materials; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. (40 CFR 122.26(b)(14)).

Significant materials include raw materials, brine or salt cured hides and skins (7.7 percent), fuels (15.4 percent), materials such as solvents, detergents, finished materials; hazardous substances designated under Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), any chemical required to be reported pursuant to Section 313 of Title III of the Superfund Amendments and Reauthorization Act; fertilizers; pesticides; and waste products such as sludge (7.7 percent) that have the potential to be released with storm water discharge. (40 CFR 122.26(b)(12)). Other significant materials found at leather tanning facilities include leather shavings and dust (46.2 percent), leather scrap (30.8 percent), blue hides and splits (46.2 percent), empty chemical containers, spent solvents, emissions from spray booths, and wastes in dumpsters. Significant materials produced from various industrial activities occurring at leather tanning facilities are summarized in Table Z–1.

Based on the similarities of the facilities included in this sector in terms of industrial activities and significant materials, EPA believes it is appropriate to discuss the potential pollutants at leather tanning and finishing facilities as a whole and not subdivide this sector. Therefore, Table Z–2 lists data for selected parameters from facilities in the leather tanning and finishing sector. These data include the eight pollutants that all facilities were required to monitor for under Form 2F.

TABLE Z–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY LEATHER TANNING AND FINISHING FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	12	12	31	31	33.1	22.3	0.0	0.0	320.0	92.0	11.0	10.0	105.8	78.05	217.9	145.3
COD	12	12	31	31	205.5	91.94	0.0	0.0	2100.0	460.0	82.0	50.0	597.0	296.0	1247.4	577.2
Nitrate + Nitrite Nitrogen	12	12	31	31	1.86	1.88	0.06	0.30	11.00	9.60	1.20	0.90	6.12	5.01	11.97	9.01
Total Kjeldahl Nitrogen	12	12	31	31	7.70	6.22	0.70	0.90	46.00	38.0	4.30	3.50	26.49	19.7	55.80	39.18
Oil & Grease	12	N/A	31	N/A	13.9	N/A	0.0	N/A	130.0	N/A	0.0	N/A	56.4	N/A	124.5	N/A
pH	12	N/A	31	N/A	N/A	N/A	4.6	N/A	9.0	N/A	7.4	N/A	8.9	N/A	9.8	N/A
Total Phosphorus	12	12	31	31	0.36	0.83	0.00	0.03	3.00	18.0	0.16	0.18	1.11	1.51	2.34	3.66
Total Suspended Solids	12	12	31	31	310	115	0	0	4000	670	49	86	1302	520	4071	1209

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.

[ii] Composite samples.

Table Z-3 lists the potential pollutant sources for common pollutants found at leather tanning and finishing facilities.

TABLE Z–3.—LIST OF POTENTIAL POLLUTANT SOURCES

Parameter	Pollutant sources
Oil and Grease	Degreasing processes, oils used in leather processing (fatliquoring).
COD	Complex organic and inorganic process chemicals, dyes, vegetable tannins, extraneous hide substances.
BOD_5	Carbonaceous organic materials such as dissolved or pulped hair and other extraneous hide substances, nitrites, ammonia from residual bating chemicals and from hydrolytic deamination of proteinaceous hair and hide substances.
pH	Acidic or alkaline materials.
TSS	Leather dust, scraps, hair.
Total phosphorus	Detergents.
Nitrate nitrite nitrogen	Spent bating liquors and breakdown of organic proteins (dissolved hair and dermal matter).
Total Kjeldahl nitrogen	Dissolved or pulped proteinaceous hair.
Chromium	Blue hides, leather scraps and dust, waste materials such as empty containers, sludge.

3. Options for Controlling Pollutants

The measures implemented to reduce pollutants in storm water associated with leather tanning operations are generally uncomplicated practices. The following table identifies Best Management Practices (BMPs) associated with different activities that take place at leather tanning facilities. The most effective BMPs will be selected on the basis of site-specific considerations (e.g., facility size, industrial processes performed geographic location, significant materials, volume and type of discharge generated). Because of the industrial processes involved in leather tanning, BMPs that concentrate on source reduction, recycling and containment/diversion will be the most helpful for reducing pollution in storm water runoff.

Source reduction BMPs include good housekeeping, materials management practices, preventive maintenance, spill prevention and response activities and employee training. Activities associated with good housekeeping include:

Operation and Maintenance—Keep floors clean and dry, regularly pick up garbage and waste materials, make sure equipment is working properly, routinely inspect for leaks or conditions that could lead to discharges of chemicals or contact of storm water with raw materials, intermediate materials, waste materials etc., reduce chemical spills resulting from carelessness and prepare program to control spills and carry out cleanups. Ensure that spill cleanup procedures are understood by employees. Eliminate unnecessary uses of water such as leaving hoses running.

Materials Storage and Maintenance—Store containers away from direct traffic routes to prevent accidental spills, stack containers according to manufacturers instructions to avoid damaging containers, store containers on pallets to prevent corrosion of containers, assign responsibility of hazardous material inventories to a limited number of people who are trained to handle hazardous materials.

Material Inventory Procedures—Identify all chemical substances present in the work place, label all containers, clearly mark on the inventory hazardous materials that require special handling, storage or use.

Preventive Maintenance—Identify equipment, systems and facility areas that should be inspected, schedule periodic inspections of the equipment and systems, timely adjustments, repair, or replacement of equipment and systems. Maintain complete records on inspections, equipment, and systems. Install automatic monitoring devices to detect abnormal discharge of gases and hazardous substances.

Containment/diversion BMPs involve segregating areas of concern by covering or berming the activity and controlling dust. Diversion dikes, curbs and berms are temporary or permanent diversion structures that prevent runoff from passing beyond a certain point, and divert runoff away from its intended path. Dikes, curbs and berms are already in use at some leather tanning facilities.

Part 1 group application data indicate that BMPs have not been widely implemented at the representative sampling facilities. The most commonly listed material management practice is roofing and covers. Table Z–4 lists BMPs associated with different activities that take place at leather tanning facilities.

TABLE Z–4.—LIST OF BEST MANAGEMENT PRACTICES

Activity	Best management practices
Temporary Outdoor Storage of fresh or brine cured hides.	Store hides indoors if possible. Cover the hides with a roof or temporary covering (e.g., polyethylene, tarpaulin etc.). Minimize storm water runon by enclosing the area or building a berm around the area. Inspect area regularly for proper implementation of good housekeeping and control measures.
Beamhouse Operations	Store chemical drums & bags and empty lime & depilatory chemical containers indoors if possible, preventive maintenance. Cover chemical drums & bags, empty lime & depilatory chemical containers and leather scraps with roof or temporary covering (e.g., tarpaulins, polyethylene) and store on elevated impermeable surface. Curbing, containment dikes around chemical storage, empty lime & depilatory chemical containers and leather scrap storage area. Inspect area regularly for leaking drums, broken bags, proper implementation of good housekeeping and control measures, (broken cracked dikes), material inventory, material storage and operation & maintenance. Clean up leaks & spills quickly & completely, use drip pans for leaking equipment. Good Housekeeping—all paved areas should be swept regularly, eliminate unnecessary flushing with water and label chemical drums and containers. Employee training on good housekeeping, proper handling of chemicals.
Tanyards	BMPs for Tanyards (empty chemical containers and hides, leather dust, shavings) are the same as those listed above for Beamhouse Activities.
Retan and wet finish	Dust reduction through frequent inspection of vacuum, collector (bag & cyclone), and filter systems. Dust reduction through enclosure and covering. Preventive maintenance/inspection of dust collection systems. Good Housekeeping-regular sweeping of paved areas, eliminate unnecessary flushing with water and label chemical drums and containers. Employee training on good housekeeping, proper handling of chemicals.
Dry Finish	Preventive maintenance, inspection of spray booths. Employee training on proper disposal of spent solvents.
Receiving and shipping	Cover shipping & receiving area. Cover trucks. Vehicle positioning—locating trucks while transferring materials to prevent spills onto the ground surface. Grade berm or curb area to prevent storm water runon contamination, divert rain gutters away from loading area. Clean spills immediately. Inspect trucks for leaks. Employee training in spill prevention.
Liquid Storage in Above Ground Tanks	Clearly tag valves to avoid human error. Install overflow protection devices on tank systems to warn operator or to automatically shut down transfer pumps when tanks reach full capacity. Secondary containment around tanks.

TABLE Z–4.—LIST OF BEST MANAGEMENT PRACTICES—Continued

Activity	Best management practices
	Employee training. Inspection of tank foundations, connections, coatings, valves and piping systems. Comply with existing spill prevention, cleanup and countermeasure plans (SPCC plan) and State and Federal laws. Integrity testing by qualified professional.
Improper connections to storm sewers	Plug all floor drains connected to sanitary or storm sewer. Perform smoke or dye testing to determine if interconnections exist between sanitary water system and storm sewer system. Update facility schematics to accurately reflect all plumbing connections. Install a safeguard against washwaters from processing areas entering the storm sewer unless permitted. Train employees on proper disposal practices for all materials.
Waste Management	Conduct waste reduction assessment—develop guidelines for the elimination of waste generation emissions. Institute industrial waste source reduction and recycling BMPs. Move waste management activities indoors (after safety concerns are addressed) and cover waste piles, dumpsters, hoppers, place on impermeable elevated surfaces. Prevent storm water runon by curbing, building berms. Cover trucks & inspect for leaking wastes. Inspection of waste management areas for leaking containers, spills, damaged containers, uncovered waste piles, dumpsters, hoppers. Inspection of roof areas & outside equipment. Develop and maintain proper erosion control or site stabilization measures. Train employees on proper disposal practices for all materials.

Sources: NPDES Storm Water Group Applications—Part 1.

EPA, Office of Water. September 1992. ''Storm Water Management for Industrial Activities—Developing Pollution Prevention Plans and Best Management Practices.'' EPA 832–R–92–006.

EPA, Office of Research and Development. January 1993. ''Investigation of Inappropriate Pollutant Entries into Storm Drainage Systems. A User's Guide.'' EPA/600/R–92/238.

4. Special Conditions

There are no additional requirements beyond those described in Part VI.B. of this fact sheet.

5. Storm Water Pollution Prevention Plan Requirements

All facilities covered by this section must prepare and implement a storm water pollution prevention plan. The establishment of a pollution prevention plan requirement reflects EPA's decision to allow operators of leather tanning facilities to select BMPs as the Best Available Technology/Best Control Technology (BAT/BCT) level of control for the storm water discharges covered by this section. The requirements included in pollution prevention plans provide a flexible framework for the development and implementation of site specific controls to minimize pollutants in storm water discharges.

EPA believes that pollution prevention is the most effective approach for controlling contaminated storm water discharges from leather tanning facilities. Pollution prevention plans allow the operator of a facility to select BMPs based on site-specific considerations such as facility size, climate, geographic location, the environmental setting of the facility, and volume and type of discharge generated. This flexibility is necessary because each facility will be unique in that the source, type, and volume of contaminated surface water discharges will differ from site to site.

There are two major objectives to a pollution prevention plan (1) to identify sources of pollution potentially affecting the quality of storm water discharges associated with industrial activity from a facility; and (2) to describe and ensure implementation of practices to minimize and control pollutants in storm water discharges associated with industrial activity from a facility. Specific requirements for a pollution prevention plan for leather tanning facilities and facilities which make fertilizer solely from leather scraps and dust are described below.

a. Contents of the Plan. Storm water pollution prevention plans are intended to help leather tanners evaluate all potential pollution sources at a site, and assist in the selection and implementation of appropriate measures designed to prevent, or control the discharge of pollutants in storm water runoff. EPA has developed guidance entitled ''Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices,'' EPA, 1992 (EPA 832–R–92–006), to assist permittees in developing and implementing pollution prevention measures.

(1) Description of Potential Pollutant Sources. Each storm water pollution prevention plan must describe activities, materials, and physical features of the facility that may contribute to storm water runoff or, during periods of dry weather result in dry weather flows. This assessment of storm water pollution will support subsequent efforts to identify and set priorities for necessary changes in materials, materials management practices, or site features, as well as aid in the selection of appropriate structural and nonstructural control techniques. Plans must describe the following elements:

(a) Drainage—The plan must contain a map of the site that shows the pattern of storm water drainage, structural features that control pollutants in storm water runoff and process wastewater discharges, surface water bodies (including wetlands), places where significant materials are exposed to rainfall and runoff, and locations of major spills and leaks that occurred in the 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. The map also must show areas where the following activities take place: fueling, vehicle and equipment maintenance and/or cleaning, loading and unloading, material storage (including tanks or other vessels used for liquid or waste

storage), material processing, and waste disposal, haul roads, access roads, and rail spurs. In addition the site map must also identify the location of all outfalls covered under this permit. The facility must prepare an inventory of the types of discharges contained in each outfall. This inventory may be kept as an attachment to the site map.

(b) Inventory of Exposed Materials—Facility operators are required to carefully conduct an inspection of the site and related records to identify significant materials that are or may be exposed to storm water. The inventory must address materials that within 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit have been handled, stored, processed, treated, or disposed of in a manner to allow exposure to storm water. Findings of the inventory must be documented in detail in the pollution prevention plan. At a minimum, the plan must describe the method and location of onsite storage or disposal; practices used to minimize contact of materials with rainfall and runoff; existing structural and nonstructural controls that reduce pollutants in storm water runoff; existing structural controls that limit process wastewater discharges; and any treatment the runoff receives before it is discharged to surface waters or a separate storm sewer system. The description must be updated whenever there is a significant change in the types or amounts of materials, or material management practices, that may effect the exposure of materials to storm water.

(c) Significant Spills and Leaks—The plan must include a list of any significant spills and leaks of toxic or hazardous pollutants that occurred in the 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Significant pills include, but are not limited to, releases of oil or hazardous substances in excess of quantities that are reportable under Section 311 of CWA (see 40 CFR 110.0 and 40 CFR 117.21) or Section 102 of CERCLA (see 40 CFR 302.4). Significant spill may also include releases of oil or hazardous substances that are not in excess of reporting requirements and release of materials that are not classified as oil or a hazardous substance. The list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—Any existing data on the quality or quantity of storm water discharges from the facility must described in the plan. The description should include a discussion of the methods used to collect and analyze the data. Sample collection points should be identified in the plan and shown on the site map.

(e) Risk Identification and Summary of Potential Pollutant Sources—The description of potential pollution sources culminates in a narrative assessment of the risk potential that sources of pollution pose to storm water quality. This assessment should clearly point to activities, materials, and physical features of the facility that have a reasonable potential to contribute significant amounts of pollutants to storm water. Any such activities, materials, or features must be addressed by the measures and controls subsequently described in the plan. In conducting the assessment, the operator of the facility must consider the following activities: loading and unloading operations; outdoor storage activities; outdoor processing activities; significant dust or particulate generating processes; and onsite waste disposal practices. The assessment must list any significant pollution sources at the site and identify the pollutant parameter or parameters (i.e., total suspended solids, biochemical oxygen demand, etc.) associated with each source.

(2) Measures and Controls. Under the description of measures and controls in the storm water pollution prevention plan requirements, this section proposes that all areas that may contribute pollutants to storm water discharges shall be maintained in a clean, orderly manner. This section also proposes that the following areas must be specifically addressed:

(a) Areas to be Addressed.

(i) Storage Areas for Raw, Semiprocessed, or Finished Tannery By-products—Pallets and/or bales of raw, semiprocessed, or finished tannery by-products (e.g., splits, trimmings, shavings, etc.) that are stored where there is potential storm water contact, must be stored indoors or protected by polyethylene wrapping, tarpaulins, roofed storage area or other suitable means. Materials should be placed on an impermeable surface, the area should be enclosed or bermed or other equivalent measures should be employed to prevent runon or runoff of storm water.

(ii) Material Storage Areas—Label storage units of all materials (e.g., specific chemicals, hazardous materials, spent solvents, waste materials). Maintain such containers and units in good condition. Describe measures that prevent or minimize contact with storm water. The facility must consider indoor storage and/or installation of berming and diking around the area to prevent runon or runoff of storm water.

(iii) Buffing/Shaving Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff with leather dust from buffing/shaving areas. The facility may consider dust collection enclosures, preventive inspection/maintenance programs or other appropriate preventive measures.

(iv) Receiving, Loading, and Storage Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from receiving, unloading, and storage areas. Exposed receiving, unloading and storage areas for hides and chemical supplies should be protected by a suitable cover, diversion of drainage to the process sewer, directing rain gutters away from loading/receiving areas, grade berming or curbing area to prevent runon of storm water or other appropriate preventive measures.

(v) Outdoor Storage of Contaminated Equipment—The plan must describe measures that minimize contact of storm water with contaminated equipment. Equipment should be protected by suitable cover, diversion of drainage to the process sewer, thorough cleaning prior to storage or other appropriate preventive measures.

(vi) Waste Management—The plan must describe measures that prevent or minimize contamination of the storm water runoff from waste storage areas. The facility may consider inspection/maintenance programs for leaking containers or spills, covering dumpsters, moving waste management activities indoors, covering waste piles with temporary covering material such as tarpaulin or polyethylene, and minimizing storm water runon by enclosing the area or building berms around the area.

(vii) Vehicle Maintenance and Fueling—Permittees must follow all applicable requirements described in Part XI.P. for controlling storm water discharges from vehicle maintenance and refueling areas.

(viii) Improper Connections to Storm Sewers—The plan must describe measures which prevent and prohibit washwaters from processing areas from entering storm sewers. The facility must install safeguards against wash waters entering storm sewers and train employees on proper disposal practices for disposal of all process waste materials.

These areas are sources of pollutants in storm water from leather tanning facilities. EPA believes that the incorporation of BMPs such as those suggested, in conjunction with the pollution prevention plan, will substantially reduce the potential of storm water contamination from these areas. Based upon the information provided in part 1 of the group application process, some of the suggested management processes are being used at leather tanning facilities. In addition, EPA believes that these requirements continue to provide the necessary flexibility to address the variable risk for pollutants in storm water discharges associated with different facilities. Further, many facilities will find that management measures that they have already incorporated into the facilities operation, such as the use of covers and roofing, containers, and berms and dikes will meet the requirements of this section.

(b) Preventive Maintenance—Under the preventive maintenance requirements of the pollution prevention plan, permittees are required to develop a preventive maintenance program that includes regular inspections and maintenance of storm water BMPs. The maintenance program requires periodic removal of debris from discharge diversions. Permittees using ponds to control their effluent limitation frequently use impoundments or sedimentation ponds as their BAT/BCT. Maintenance schedules and maintenance measures for these ponds must be provided in the pollution prevention plan.

The purpose of the inspections is to check on the accuracy of the description of potential pollution sources contained in the plan, determine the effectiveness of the plan and implementation of the storm water pollution prevention plan. The inspections allow facility personnel to monitor the success or failure of elements of the plan on a regular basis. The use of an inspection checklist is recommended. The checklist will ensure that all required areas are inspected, as well as help to meet the record keeping requirements. Based on the results of each inspection, the description of potential pollution sources, and measures and controls, the plan must be revised as appropriate within 2 weeks after each inspection. Changes in the measures and controls must be implemented on the site in a timely manner, and never more than 12 weeks after completion of the inspection.

(c) Inspections—Under the inspection requirements of the storm water pollution prevention plan elements, qualified facility personnel shall be identified to inspect designated areas of the facility, at a minimum of every 3 months. The individual or individuals who will conduct the inspections must be identified in the plan and should be members of the pollution prevention team. The following areas shall be included in all inspections: storage areas for equipment and vehicles awaiting maintenance, facility yard area where outdoor storage occurs, receiving and unloading areas and waste management areas. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained and the pollution prevention plan modified where necessary.

In addition, qualified personnel must conduct quarterly visual inspections of all BMPs. The inspections shall include an assessment of the effectiveness and need for maintenance of storm water roofing and covers, dikes and curbs, discharge diversions, sediment control and collection systems and all other BMPs.

Quarterly visual inspections must be made at least once in each of the following designated periods during daylight hours. January–March (storm water runoff or snow melt), April–June (storm water runoff), July–September (storm water runoff), and October–December (snow melt runoff). Records shall be maintained as part of the pollution prevention plan.

(d) Employee Training—Under the employee training component of the storm water pollution prevention plan requirements, the permittee is required to identify annual (once per year) dates for training. Employee training must, at a minimum, address the following areas when applicable to a facility: general good housekeeping practices, spill prevention and control, waste management, inspections, preventive maintenance, detection of non-storm water discharges and other areas. EPA requires that facilities conduct training annually at a minimum. However, more frequent training may be necessary at facilities with high turnover of employees or where employee participation is essential to the storm water pollution prevention plan.

(e) Recordkeeping and Internal Reporting—Permittees must describe procedures for developing and retaining records on the status and effectiveness of plan implementation. The plan must address spills, monitoring, and BMP inspection and maintenance activities. Ineffective BMPs must be reported and the date of their corrective action recorded. Employees must report incidents of leaking fluids to facility management and these reports must be incorporated into the plan.

(f) Storm Water Management—The permittee must evaluate the appropriateness of each storm water BMP that diverts, infiltrates, reuses, or otherwise reduces the discharge of contaminated storm water. In addition, the permittee must describe the storm water pollutant source or activity (i.e., loading and unloading operations, raw material storage piles, waste piles, etc.) to be controlled by each storm water management practice.

(3) Comprehensive Site Compliance Evaluation. The storm water pollution prevention plan must describe the scope and content of comprehensive site evaluation that qualified personnel will conduct to: 1) confirm the accuracy of the description of potential pollution sources contained in the plan; 2) determine the effectiveness of the plan; and 3) assess compliance with the terms and conditions of this section. Comprehensive site compliance evaluations must be conducted once a year for leather tanning facilities. These evaluations are intended to be more in depth than the quarterly visual inspections. The individual or individuals who will conduct the evaluation must be identified in the plan and should be members of the pollution prevention team. Evaluation reports must be retained for at least 3 years after the date of the evaluation. Based on the results of each evaluation, the description of potential pollution sources, and measures and controls, the plan must be revised as appropriate within 2 weeks after each inspection. Changes in the measures and controls must be implemented on the site in a timely manner, and never more than 12 weeks after completion of the evaluation.

6. Numeric Effluent Limitations

There are no numeric effluent limitations for storm water discharges from leather tanning facilities beyond those described in Part VI.E. of the fact sheet.

7. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. The regulatory modifications at 40 CFR 122.44 (i)(2) established on April 2, 1992, grant permit writers the flexibility to reduce monitoring requirements in storm water discharge permits. EPA has determined that the potential for storm water discharges to contain pollutants above benchmark levels, because of the industrial activities and materials exposed to precipitation, does not support sampling at leather tanning and finishing facilities. Under the Storm Water Regulations at 40 CFR 122.26(b)(14), EPA defined ‘‘storm water discharge associated with industrial activity''. The focus of today's permit is to address the presence of pollutants that are associated with the industrial activities identified in this definition and that might be found in storm water discharges. Under the methodology for determining analytical monitoring requirements, described in section VI.E.1 of this fact sheet, nitrate plus nitrite nitrogen is above the bench mark concentrations for the leather tanning and finishing sector. After a review of the nature of industrial activities and the significant materials exposed to storm water described by facilities in this sector, EPA has determined that the higher concentrations of nitrate plus nitrite nitrogen are not likely to be caused by the industrial activity, but may be primarily due to non-industrial activities on-site. Today's permit does not require leather tanning and finishing facilities to conduct analytical monitoring for this parameter. Based on a consideration of the BMPs typically used at these facilities, and generally low pollutant values from the application data, EPA believes that the pollution prevention plan with visual examinations of storm water discharges will help to ensure storm water contamination is minimized. Because permittees are not required to conduct sampling, they will be able to focus their resources on developing and implementing the pollution prevention plan.

b. Quarterly Visual Examination of Storm Water Quality. Quarterly visual examinations of a storm water discharge from each outfall are required for leather tanning and finishing facilities. The examination must be of a grab sample collected from each storm water outfall. The examination of storm water grab samples shall include any observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, or other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on these samples.

The examination must be made at least once in each of the following three-month periods: January through March; April through June; July through September; and October through December during daylight unless there is insufficient rainfall or snow-melt to runoff. EPA expects that, whenever practicable, the same individual should carry out the collection and examination of discharges throughout the life of the permit to ensure the greatest degree of consistency possible. Grab samples shall be collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff begins discharging. Reports of the visual examination include: the examination date and time, examination personnel, visual quality of the storm water discharge, and probable sources of any observed storm water contamination. The visual examination reports must be maintained onsite with the pollution prevention plan.

When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

EPA believes that this quick and simple assessment will allow the permittee to approximate the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examinations. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and the effects of the management practices that are included in the plan.

AA. Storm Water Discharges Associated With Industrial Activity From Fabricated Metal Products Industry

1. Discharges Covered Under this Section

On November 16, 1990 [55 Federal Register (FR) 47990], the U.S. Environmental Protection Agency (EPA) promulgated the regulatory definition of ''storm water discharges associated with industrial activity.'' This section of today's final permit covers storm water discharges associated with industrial activities from metal fabrication processes and operations. Fabricated metal and processing facilities eligible for coverage under this section include the following types of operations: fabricated metal products, except machinery and transportation equipment (Standard Industrial Classification (SIC) codes 3429, 3441, 3442, 3443, 3444, 3451, 3452, 3462, 3471, 3479, 3494, 3496 and 3449); and jewelry, silverware, and plated ware (SIC code 391).

This section covers establishments engaged in fabricating ferrous and nonferrous metal products, such as metal cans, tinware, general hardware, automotive parts, tanks, road mesh, structural metal products, nonelectrical equipment, and a variety of metal and wire products from purchased iron or steel rods, bars, or wire materials. This section does not cover discharges from establishments engaged in manufacturing and rolling of ferrous and nonferrous metals, forgings or stampings, electrolytic or other processes for refining copper from ore. These establishments are addressed in a separate section of today's final permit.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

Impacts caused by storm water discharges from fabricating operations will vary from one facility to the next. Several factors influence to what extent significant materials from fabricators will affect water quality. Specifically, the use of indoor operations as opposed to outdoor storage facilities; discharges to Publicly Owned Treatment Works (POTWs); recycling programs; product choice in the various operations; and the number of operations that take place at a given facility based on customer needs; and use of storm water controls.

This section does not cover any discharge subject to process wastewater effluent limitation guidelines.

2. Industrial Profile

There are two major subcategories of facilities covered by this sector: fabricated metal products excluding coating and fabricated metal coating and engraving. These facilities are engaged in the manufacturing of a variety of products that are constructed primarily by using metals. The operations performed usually begin with materials in the form of raw rods, bars, sheet, castings, forgings, and other related materials and can progress to the most sophisticated surface finishing operations. There are typically several operations that take place at a fabrication facility: machining operations, grinding, cleaning and stripping, surface treatment and plating, painting, and assembly. The machining operation involves turning, drilling, milling, reaming, threading, broaching, grinding, polishing, cutting and shaping, and planing. Grinding is the process using abrasive grains such as aluminum oxide, silicon carbide, and diamond to remove stock from a workpiece. Cleaning and stripping is a preparatory process involving solvents for the removal of oil, grease and dirt. Both alkaline and acid cleaning are employed. Surface treatment and plating is a major component that involves batching operations to increase corrosion or abrasion resistance. This is generally in the form of galvanizing. Painting is generally practiced at most facilities to provide decoration and protection to the product or item. Assembly is the fitting together of previously manufactured parts into a complete unit or structure.

Industrial activities and storm water management practices vary among the fabricating industry, mostly in the type of chemicals used in the processes and the final product. Some industries involve only dry operations and others include wet operations. Examples of products being fabricated in this industry include: aircraft engines, screws, nuts, bolts, automotive parts (drive shafts, struts, gears, rods), tanks, hand tools, doors, and bridge grates.

Many of the operations in this industry take place indoors. The major activities evaluated for purposes of storm water contamination and control measures include: waste storage, outside product storage, use of pickling acids, storage of cutoff scrap metal, aluminum scraps, hazardous materials, galvanized steel components, solvent storage, waste paper storage, machinery storage, used absorbent materials, wood materials dunnage/pallets, and maintenance of existing Best Management Practices (BMPs). The table below lists the most likely wastes to be generated at a steel fabricating facility.

TABLE AA–1.—WASTES GENERATED FROM FABRICATED METALS INDUSTRIES

Activity	Pollutant source	Pollutant
Tool workpiece interface/shaving, chipping	Used metal working fluid with fine metal dust.	TSS, COD, oil and grease.
Parts/tools cleaning, sand blasting, metal surface cleaning, removal of applied chemicals.	Solvent cleaners abrasive cleaners, alkaline cleaners, acid cleaners, rinse waters.	Spent solvents, TSS, acid/alkaline waste, oil.
Making structural components	Cuttings, scraps, turnings, fines	Metals.
Painting operations	Paint and paint thinner spills, sanding, spray painting.	Paints, spent solvents, heavy metals, TSS.
Cleanup of spills and drips	Used absorbent materials	TSS, spilled material.
Transportation or storage of materials	Wood dunnage/pallets	BOD, TSS.

3. Storm Water Sampling Results

Based on the wide variety of industrial activities and significant materials at the facilities included in this sector, EPA believes it is appropriate to divide the fabricated metal industry into subsectors to properly analyze sampling data and determine monitoring requirements. As a result, this sector has been divided into the following subsectors: fabricated metal products except coating and fabricated metal coating and engraving. Tables AA–2 and AA–3 below include data for the eight pollutants that all facilities were required to monitor for under Form 2F. The tables also list those parameters that EPA has determined merit further monitoring.

TABLE AA–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY CUTLERY, HANDTOOLS, AND GENERAL HARDWARE, FABRICATED STRUCTURAL METAL PRODUCTS, SCREW MACHINE PRODUCTS, AND BOLTS, NUTS, SCREWS, RIVETS, AND WASHERS, METAL FORGINGS AND STAMPINGS, ELECTROPLATING, PLATING, POLISHING, ANODIZING, AND COLORING, MISCELLANEOUS FABRICATED METAL PRODUCTS, JEWELRY, SILVERWARE, AND PLATED WARE MANUFACTURING FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	51	49	70	69	19.6	11.6	0.0	0.0	380.0	57.0	8.4	8.0	53.5	32.6	106.2	55.8
COD	51	48	70	68	143.2	115.2	0.0	0.0	1380.0	962.0	63.0	63.0	435.4	358.5	885.1	713.7
Nitrate + Nitrate Nitrogen	51	49	70	69	1.66	1.31	0.00	0.0	14.90	9.17	0.94	0.87	5.85	4.58	12.74	9.22
Total Kjeldahl Nitrogen	51	49	70	69	3.24	2.05	0.00	0.0	29.30	9.12	1.76	1.40	9.77	5.99	19.16	10.52
Oil & Grease	50	N/A	69	N/A	9.2	N/A	0.0	N/A	86.0	N/A	6.0	N/A	31.3	N/A	62.1	N/A
pH	45	N/A	63	N/A	N/A	N/A	3.3	N/A	9.0	N/A	7.1	N/A	9.4	N/1	10.7	N/A
Total Phosphorus	50	49	69	69	1.13	1.03	0.00	0.0	10.50	10.8	0.22	0.2	3.39	3.36	8.96	9.12
Total Suspended Solids	51	49	70	69	214	169	0	0	2340	3235	104	53	1014	650	2832	1801
Aluminum, Total	15	15	16	16	89.68	10.37	0.00	0.00	1400.0	130.00	0.96	0.92	74.83	24.71	365.47	80.82
Iron, Total	25	23	32	29	4.9	3.1	0.0	0.0	25.1	26.0	1.5	0.9	28.3	13.2	92.2	35.5
Zinc, Total	27	25	38	35	6.407	3.451	0.000	0.007	157.00	22.80	0.72	0.44	18.234	20.001	64.196	79.412

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.

[ii] Composite samples.

TABLE AA–3.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY COATING, ENGRAVING, AND ALLIED SERVICES FACILITIES SUBMITTING PART II SAMPLING DATA[i] (mg/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp[ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	13	13	16	16	12.0	6.06	0.0	0.0	81.0	17.0	7.5	6.0	39.3	15.8	74.4	24.58
COD	13	13	16	17	68.8	56.9	12.0	0.0	320.0	160.0	45.0	49.0	194.4	262.7	349.4	559.3
Nitrate + Nitrate Nitrogen	13	13	16	17	1.82	1.60	0.21	0.0	7.70	12.5	0.96	0.80	5.64	4.44	10.91	8.67
Total Kjeldahl Nitrogen	13	13	16	17	2.36	1.52	0.00	0.0	7.20	5.2	1.35	0.80	6.87	4.41	12.12	7.68
Oil & Grease	13	N/A	16	N/A	1.7	N/A	0.0	N/A	9.0	N/A	0.0	N/A	9.4	N/A	18.2	N/A
pH	11	N/A	14	N/A	N/A	N/A	5.5	N/A	8.2	N/A	6.6	N/A	8.0	N/A	8.7	N/A
Total Phosphorus	13	13	16	17	1.91	0.90	0.00	0.0	16.00	12.0	0.16	0.15	6.30	2.77	23.91	9.37
Total Suspended Solids	13	13	16	17	112	88	0	0	461	990	26	21	474	272	1215	764
Zinc, Total	10	10	13	14	0.489	0.218	0.050	0.000	2.100	0.830	0.32	0.15	1.481	0.800	2.758	1.632

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.

[ii] Composite samples.

4. Options for Controlling Pollutants

The measures to control pollutants at metal fabricating operations should focus primarily on the storage of waste and raw materials; chemical storage areas; and equipment storage and service areas. Since most of the operations occur indoors, procedures are necessary in the handling and transporting of materials to minimize exposure of pollutants to storm water runoff. Of primary importance is the control of activities and use of chemicals that have been identified as potential sources of pollutants. The most effective discharge controls for these facilities are BMPs targeted toward source control. This includes utilizing inside storage as much as possible; and implementing programs for recycling scrap materials. Many of these practices require the use of covers, indoor storage, and indoor operations. Some structural measures would provide an additional control to reduce the potential for exposure at these facilities. These include source reduction diversion dikes, grass swales, vegetative covers, and sedimentation ponds. Preventive controls are typically low in cost and relatively easy to implement, as the majority of the facilities in this industry already employ these practices. In addition, directing flows to privately owned treatment works or retention ponds will be the most effective measure. The industry also must give consideration to the non-storm water discharges associated with improper disposal of materials from the indoor processes due to the extensive use of chemicals in the preparation and finishing phases of metal preparation and fabrication. The industry also involves grinding, welding, and sanding operations that will require special consideration to control potential pollutants that could accumulate and be subject to storm water runoff. Most of the measures commonly implemented to reduce pollutants in storm water associated with the fabricated metals industry are generally uncomplicated practices. Some of the practices may be predicated on the size of the operation, the types of processes that are exercised from a full-scale plant operation to a more specialized company that conducts only a portion of the operations usually found in the fabricating industry. Table AA–4 below is an outline of the most common activities and sources that may produce pollutants associated with different activities that routinely take place at fabricated metal industries. Following the table is a brief list of BMPs that EPA believes will help reduce and control the potential pollutant sources at fabricating facilities from contaminating storm water.

TABLE AA–4.—POLLUTANTS POTENTIALLY FOUND IN STORM WATER DISCHARGES ASSOCIATED WITH THE FABRICATED METAL INDUSTRY

Activity	Pollutant source	Pollutant
Metal preparation	Grinding, welding, sawing, shaving, brazing, bending, cutting, etching.	Steel scraps, aluminum scraps, brass, copper, dust, chips and borings, steel scale, teflon, manganese.
Parts cleaning	Solvents, cold and hot dips, cleaning parts, degreasing.	Acid, coolants, clean composition, degreaser, mineral spirits, pickle liquor, spent caustic, sludge.
Surface Treatment	Finishing, plating, case hardening, chemical coating, coating, polishing, rinsing, abrasive cleaning, electroplating.	Acid, aromatic solvent, corn cob, lubricants, sand, oil, pH, nitrates, nitrites, carbon, phosphates, borates, nitrogen, oily sludge, nickel, chromium, hydrofluoric acid.
Galvanizing	Spills, leaks, transporting materials	Acid solution, phosphates, zinc chromate, hexavalent chromium, nickel.
Painting	Empty containers, paint application wastes, spills, over spraying, storage areas.	Paint wastes, thinner, varnish, heavy metals, spent chlorinated solvents
Heavy equipment use and storage	Leaking fluids, fluids replacement, washing equipment, use on poor surface area, soil disturbance.	Oil, heavy metals, organics, fuels, TSS, hydraulic oil, diesel fuel, gasoline
Equipment maintenance	Leaking fluids, fluids replacement, washing equipment.	Oil, grease
Storage of uncoated structural steel	Stored on porous pavement	Aluminum, lead, zinc, copper, iron, oxide, oil, nickel, manganese.
Storing galvanized steel directly on the ground	Galvanizing material drippage or leaching	Metals: zinc, nickel, cadmium, chromium.
Vehicle/equipment traffic	Soil disturbance and erosion	TSS from erosion, hydraulic fluid loss/spillage
Cleaning equipment/vehicles	Chemicals disposed improperly, spillage	Oil, grease, surfactants, chromates, acid, hydroxide, nitric acid.

TABLE AA–4.—POLLUTANTS POTENTIALLY FOUND IN STORM WATER DISCHARGES ASSOCIATED WITH THE FABRICATED METAL INDUSTRY—Continued

Activity	Pollutant source	Pollutant
Storage areas	Unidentifiable drums, extended exposure to weather conditions, tank corrosion, open containers.	Benzene, toluene, xylene, pyrene, and other volatile organics, solvents.
Equipment usage	Malfunctioning equipment, stockpiled obsolete equipment.	Oil, grease, lead
Above ground storage tanks	Installation problems, spills, external corrosion and structural failure.	Fuel oil and various chemicals.

Table AA–4 above shows the potential pollutants that could end up in storm water runoff if the activities typically found at a fabricating facility are not handled properly. Many of the fabricating facilities in the group application indicated several of the activities listed as a part of the normal operations carried out at the facility. Many of the pollutants involved in these activities are potentially of concern if exposed to precipitation and storm water runoff. Consideration of control measures is needed to assure that the activities minimize exposure to the potential pollutants of concern as it relates to each activity identified and control the potential sources that may generate pollutants as part of the management practices used.

5. Special Conditions

The permit conditions that apply to the fabricated metals industry build upon the base permit requirements set forth in the front of today's permit. The discussion that follows, therefore, only addresses conditions that differ from those base requirements.

Due to the concern that many non-storm water discharges may be present at metal fabricators, EPA is requiring that all facilities provide proof that these discharges are not commingled and are appropriately controlled so as to protect all receiving waters.

Today's permit clarifies in Part XI.AA.2. (Prohibition of Non-storm Water Discharges) that non-storm water discharges, including metal fabricator operations, are not authorized by this section. The operators of such non-storm water discharges must obtain coverage under a separate National Pollutant Discharge Elimination System (NPDES) permit if discharged to waters of the United States or through a municipal separate storm sewer system. In a related requirement under the storm water pollution prevention plan requirements, the permittee is required to attach a copy of the NPDES permit issued for metal acid baths, sludge disposal, scrap disposal or recycling or, if an NPDES permit has not yet been issued, a copy of the pending application plan. Facilities that pretreat and discharge the waste water into a POTW system must notify the operator and a copy of the notification must be attached to the plan. With regard to all the acid baths, wash waters, and any other non-storm water discharges must be considered in the plan. Some facilities may use retention ponds, recycling, collecting and hauling as methods of disposal. Other facilities discharge into separate storm sewer systems. In these instances, the facility is required to attach the disposal plans and operations to the plan.

6. Storm Water Pollution Prevention Plan Requirements

Each storm water pollution prevention plan must stipulate activities, materials, and physical features of the facility that may contribute pollutants to storm water runoff or, during periods of dry weather, result in dry weather flows. The metals fabricating industry plan focuses primarily on storage areas, unloading and loading areas, and any other areas where outside operations occur.

Under the description of measures and controls in the storm water pollution prevention plan requirements, facilities are required to address the identified pollutant sources by identifying and implementing appropriate storm water pollution management controls. Such controls much address the areas listed below, as appropriate.

a. Facility Areas to be Addressed in the Storm Water Pollution Prevention Plan.

(1) Metal Fabricating Areas. These areas should be kept clean by frequent sweeping to avoid heavy accumulation of steel ingots, fines, and scrap. Dust is a byproduct of many processes in the fabricating areas and therefore should be absorbed through a vacuum system to avoid accumulation on roof tops and onto the ground. Tracking of metal dusts and metal fines outdoors may be minimized by employing these management practices: sweep on a regular basis all accessible paved areas; maintain floors in a clean and dry condition; remove waste and dispose of regularly; remove obsolete equipment expeditiously; sweep fabrication areas; and train employees on good housekeeping measures.

(2) Storage Areas for Raw Metal. The storage of raw materials should be under a covered area whenever possible and protected from contact with the ground. The amount of material stored should be minimized to avoid corrosive activity from long-term exposed materials. Diking or berming the area to prevent or minimize runon may be considered. Long-term exposure to weather conditions results in oxidation of the metals. Also, dirt, oil, and grease buildup on the metal are potential sources of pollutants. The following measures should be considered: check raw metals for corrosion; keep area neat and orderly, stack neatly on pallets or off the ground; and cover exposed materials.

(3) Receiving, Unloading, and Loading Areas. These areas should be enclosed where feasible using either curbing, berming, diking or other accepted containment systems in case of spills during delivery of chemicals such as lubricants, coolants, rust preventatives, solvents, oil, sodium hydroxide, hydrochloric acid, calcium chloride, polymers, sulfuric acid, and other chemicals used in the metal fabricating processes. Directing roof down spouts away from loading sites and equipment and onto grassy or vegetated areas should help prevent storm water contamination by pollutants that have accumulated in these areas. The following measures should be considered: clean up spills immediately; check for leaks and remedy problems regularly; and unload under covered areas when possible.

(4) Storage of Heavy Equipment. Vehicles should be stored indoors when possible. If stored outdoors the use of gravel, concrete or other porous surfaces should be considered to minimize or prevent heavy equipment from creating ditches or other conveyances that would

cause sedimentation runoff and increase TSS loadings. Also directing the flow toward the area by the use of grass swales or filter strips will reduce the runoff of materials. Directing drainage systems away from high traffic areas into collection systems will help to reduce the TSS loadings caused by exposed and eroding open areas. The following measures should be considered: clean prior to storage or store under cover; store indoors; and divert drainage to the grass swales, filter strips, retention ponds, or holding tanks.

(5) Metal Working Fluid Areas. Due to the toxicity of metal working fluids as well as the contamination of fluids by metal fines and dusts, spillage and loss of metal working fluids used to cleanse or prepare the steel components should be controlled throughout the process. Collection systems and storage areas need special consideration. The following measures should be considered: store used metal working fluid with fine metal dust indoors; use tight sealing lids on all fluid containers; use straw, clay absorbents, sawdust, or synthetic absorbents to confine or contain any spills, or other absorbent material; and establish recycling programs for used fluids when possible.

(6) Unprotected Liquid Storage Tanks. Storing these tanks (this does not include products that are gaseous at atmospheric pressure) indoors will reduce potential waste or spills from contaminating storm water. Berming outdoor areas when unable to store inside will contain potential pollutants. Cleaning up spills is essential to minimizing buildup in these areas. EPA believes that this will significantly reduce the potential for major discharges into the water of the United States during storm runoff. The following measures should be considered: cover all tanks whenever possible; berm tanks whenever possible; dike area or install grass filters to contain spills; keep area clean; and check piping, valves and other related equipment on a regular basis.

(7) Chemical Cleaners and Rinse Water. Proper disposal and use of cleaners in various activities will minimize the amount of liquid exposed to storm water by reducing the need to store contaminated liquids for an extended period of time. Controlling potential contamination of pollutants by employing simple control devices during the activity will prevent potential contamination in storm water runoff. Recycling or reuse of these materials whenever possible serves as a source reduction by reducing the necessary amount of new materials. The following measures should be considered: use drip pans and other spill devices to collect spills or solvents and other liquid cleaners; recycle waste water; store recyclable waste indoors or in covered containers; and substitute nontoxic cleaning agents when possible.

(8) Raw Steel Collection Areas. The collection areas must be kept clean. Materials should be kept in a covered storage bin or kept inside until pickup. The use of pitched-structures should be considered. The following measures should be considered: collect scrap metals, fines, iron dust and store under cover and recycle.

(9) Paints and Painting Equipment. Facilities using tarps, drip pans, or other spill collection devices to contain and collect spills of paints, solvents or other liquid material. Blasting in windy weather increases the potential for runoff. Enclosing outdoor sanding areas with tarps or plastic sheeting contains the metal fines. Immediate collection of any waste and proper disposal may significantly contribute to the reduction of storm water runoff. Training employees to use the spray equipment properly may reduce waste and decrease the likelihood of accidents, as well as, reduce the amount of solvents needed to complete the job. The following measures should be considered: paint and sand indoors when possible; avoid painting and sandblasting operations outdoors in windy weather conditions; if done outside, enclose sanding and painting areas with tarps or plastic sheeting; and use water-based paints when possible.

(10) Vehicle and Equipment Maintenance Areas. Changing fluids or parts should be done indoors when possible. If maintenance is performed outdoors, fluids used in maintaining these vehicles should be contained in the area by using drip pans, large plastic sheets, canvas or other similar controls under the vehicles, or berming the area. Hydraulic fluids should be properly stored to prevent leakage and storm water contamination. The following measures should be considered: berm area or use other containment device to control spills; use drip pans, plastic sheeting and other similar controls; and discard fluids properly or recycle if possible.

(11) Hazardous Waste Storage Areas. All hazardous waste must be stored in sealed drums. Establishing centralized drum-storage satellite areas throughout the complex to store these materials will decrease the potential for mishandling drums. Berming the enclosed structures is added protection in case of spills. Spills or leaks that are contained within an area are easier to contain and prevent storm water contamination or runoff. Checks for corrosion and leakage of storage containers is important. Proper labeling for proper handling should be considered. All other applicable Federal, State, and local regulations must be followed. The following measures should be considered: store indoors; label materials clearly; check for corrosion and leaking; properly dispose of outdated materials; dike or use grass swales, ditches or other containment to prevent runon or runoff in case of spills; post notices prohibiting dumping of materials into storm drains; store containers, drums, and bags away from direct traffic routes; do not stack containers in such a way as to cause leaks or damage to the containers; use pallets to store containers when possible; store materials with adequate space for traffic without disturbing drums; maintain low inventory level of chemicals based on need.

(12) Transporting Chemicals to Storage Areas. Proper handling of drums is needed to avoid damaging drums causing leaks. Storage areas should be as close as possible to operational buildings. The following measures should be considered: forklift operators should be trained to avoid puncturing drums; store drums as close to operational building as possible; and label all drums with proper warning and handling instructions.

(13) Finished Products (Galvanized) Storage. Improper storage of finished products can contribute pollutants to storm water discharges. Materials should be stored in such a way to minimize contact with precipitation and runoff. The following measures should be considered: store finished products indoors, on a wooden pallets concrete pad, gravel surface, or other impervious surface.

(14) Wooden Pallets and Empty Drums. The following measures should be considered: clean contaminated wooden pallets; cover empty drums; cover contaminated wooden pallets; store drums and pallets indoors; clean empty drums; and store pallets and drums on concrete pads.

(15) Retention Ponds (Lagoon). Creating and maintaining retention ponds as a treatment system for settling out TSS would help to reduce the concentrations of these pollutants in storm water runoff. The following measures should be considered: provide routine maintenance; remove excess sludge periodically; and aerate periodically to maintain pond's aerobic character and ecological balance.

b. Comprehensive Site Compliance Evaluation. The storm water pollution prevention plan must describe the scope and content of comprehensive site evaluations that qualified personnel will conduct to (1) confirm the accuracy of the description of potential pollution sources contained in the plan, (2) determine the effectiveness of the plan, and (3) assess compliance with the terms and conditions of this section. Comprehensive site compliance evaluations should be conducted at least once a year. The individual or individuals that will conduct the evaluations must be identified in the plan and should be members of the pollution prevention team. Evaluation reports must be retained for at least 3 years after the date of the evaluation.

Based on the results of each evaluation, the description of potential pollution sources, and measures and controls, the plan must be revised as appropriate within 2 weeks after each evaluation. Changes in the measures and controls must be implemented on the site in a timely manner, and never more than 12 weeks after completion of the evaluation.

7. Numeric Effluent Limitations

There are no additional numeric effluent limitations beyond those described in Part V.B. of today's permit.

8. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. EPA believes that fabricated metal and processing facilities may reduce the level of pollutants in storm water runoff from their sites through the development and proper implementation of the storm water pollution prevention plan requirements discussed in today's final permit. In order to provide a tool for evaluating the effectiveness of the pollution prevention plan and to characterize the discharge for potential environmental impacts, Tables AA–5 and AA–6 list the pollutants that fabricated metal products except coating and fabricated metal coating and engraving facilities are required to analyze for in their storm water discharges in accordance with the activities onsite. The pollutants listed in Tables AA–5 and AA–6 were found to be above levels of concern for a significant portion of fabricating facilities that submitted quantitative data in the group application process. Because these pollutants have been reported at levels of concern from fabricated metal and processing facilities, EPA is requiring monitoring after the pollution prevention plan has been implemented to assess the effectiveness of the pollution prevention plan and to help ensure that a reduction of pollutants is realized.

Permittees can exercise the alternative certification on a pollutant-by-pollutant basis as described under Section 8.b. If there are any pollutant(s) for which the facility is unable to certify to no exposure the facility must, at a minimum, monitor storm water discharges on a quarterly basis during the second year of permit coverage. Samples must be collected at least once in each of the following periods: January through March; April through June; July through September; and October through December. At the end of the second year of permit coverage, a facility must calculate the average concentration for each parameter listed in the applicable table (Table AA–5 or Table AA–6). If the permittee collects more than four samples in this period, then they must calculate an average concentration for each pollutant of concern for all samples analyzed.

TABLE AA–5.—MONITORING REQUIREMENTS FOR FABRICATED METAL PRODUCTS EXCEPT COATING

Pollutants of concern	Monitoring cut-off concentration
Total Recoverable Iron	1.0 mg/L.
Total Recoverable Zinc	0.065 mg/L.
Total Recoverable Aluminum	0.75 mg/L.
Nitrate plus Nitrite Nitrogen	0.68 mg/L.

TABLE AA–6.—MONITORING REQUIREMENTS FOR FABRICATED METAL COATING AND ENGRAVING

Pollutants of concern	Monitoring cut-off concentration
Total Recoverable Zinc	0.065 mg/L.
Nitrate plus Nitrite Nitrogen	0.68 mg/L.

If the average concentration for a parameter is less than or equal to the appropriate cut-off concentration, then the permittee is not required to conduct quantitative analysis for that parameter during the fourth year of the permit. If, however, the average concentration for a parameter is greater than the cut-off concentration listed in Table AA–5 or Table AA–6, then the permittee is required to conduct quarterly monitoring for that parameter during the fourth year of permit coverage. Monitoring is not required during the first, third, and fifth year of the permit. The exclusion from monitoring in the fourth year of the permit is conditional on the facility maintaining industrial operations and BMPs that will ensure a quality of storm water discharges consistent with the average concentrations recorded during the second year of the permit.

TABLE AA–7.—SCHEDULE OF MONITORING

2nd Year of Permit Coverage.	• Conduct quarterly monitoring. • Calculate the average concentration for all parameters analyzed during this period. • If average concentration is greater than the value listed in Tables AA–5 or AA–6, then quarterly sampling is required during the fourth year of the permit. • If average concentration is less than or equal to the value listed in Tables AA–5 or AA–6, then no further sampling is required for that parameter.
4th Year of Permit Coverage.	• Conduct quarterly monitoring for any parameter where the average concentration in year 2 of the permit is greater than the value listed in Tables AA–5 or AA–6. • If industrial activities or the pollution prevention plan have been altered such that storm water discharges may be adversely affected, quarterly monitoring is required for all parameters of concern.

In cases where the average concentration of a parameter exceeds the cut-off concentration, EPA expects permittees to place special emphasis on methods for reducing the presence of those parameters in storm water discharges. Quarterly monitoring in the fourth year of the permit will reassess the effectiveness of the adjusted pollution prevention plan.

The monitoring cut off concentrations listed in Tables AA–5and AA–6 are not numerical effluent limitations. These values represent a level of pollutant discharge which facilities may achieve through the implementation of pollution prevention plans. At least half of the facilities which submitted Part 2 data, reported concentrations greater than or equal to the values listed in the applicable table (Tables AA–5 or AA–6). Facilities that achieve average discharge concentrations which are less than or equal to the appropriate cut-off concentration values are not relieved from the pollution prevention plan requirements or any other requirements of the permit.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly chemical sampling.

b. Alternative Certification. Throughout today's permit, EPA has included monitoring requirements for facilities which the Agency believes have the potential for contributing significant levels of pollutants to storm water discharges. The alternative described below is necessary to ensure that monitoring requirements are only imposed on those facilities that do, in fact, have storm water discharges containing pollutants at concentrations of concern. EPA has determined that if materials and activities are not exposed to storm water at the site, then the potential for pollutants to contaminate storm water discharges does not warrant monitoring.

Therefore, a discharger is not subject to the monitoring requirements of this Part provided the discharger makes a certification for a given outfall, or on a pollutant-by-pollutant basis in lieu of monitoring described in Tables AA–5 and AA–6, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, significant materials from past industrial activity that are located in areas of the facility that are within the drainage area of the outfall are not presently exposed to storm water and will not be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan and submitted to EPA. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph *c* below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations. EPA does not expect facilities to be able to exercise this certification for indicator parameters, such as TSS and BOD.

c. Reporting Requirements. Permittees are required to submit all monitoring results obtained during the second and fourth year of permit coverage within 3 months of the conclusion of each year. For each outfall, one signed Discharge Monitoring Report Form must be submitted per storm event sampled. For facilities conducting monitoring beyond the minimum quarterly requirements an additional Discharge Monitoring Report Form must be filed for each analysis.

d. Sample Type. All discharge data shall be reported for grab samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable.

If storm water discharges associated with industrial activity commingle with process or non-process water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

e. Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluent. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

f. Quarterly Visual Examination of Storm Water Quality. Quarterly visual examinations of storm water discharges from each outfall are required at fabricated metal products facilities. The examinations must be of a grab sample collected from each storm water outfall. The examination of storm water grab samples shall include any observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, or other obvious indicators of storm water pollution. The examinations must be conducted in a well lit area. No analytical tests are required to be performed on these samples.

The examination must be made at least once in each of the following periods during daylight, unless there is insufficient rainfall or snow-melt to runoff: January through March; April through June; July through September; and October through December. Where practicable, the same individual should carry out the collection and examination of discharges throughout the life of the permit to ensure the greatest degree of consistency possible. Grab samples shall be collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 60 minutes) of when the runoff begins discharging. Reports of the visual examination include: the examination date and time, examination personnel, visual quality of the storm water discharge, and probable sources of any observed storm water contamination. The visual examination reports must be maintained onsite with the pollution prevention plan.

When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

EPA believes that this quick and simple assessment will allow the permittee to approximate the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examinations. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and the effects of the management practices that are included in the plan.

AB. Storm Water Discharges Associated With Industrial Activity From Facilities That Manufacture Transportation Equipment, Industrial, or Commercial Machinery

1. Industry Profile

On November 16, 1990 (55 FR 47990), EPA promulgated the regulatory definition of "storm water discharge associated with industrial activity." This definition includes point source discharges of storm water from eleven categories of facilities, including "* * * (xi) facilities classified as Standard Industrial Classification (SIC) codes * * * 35 (except SIC 357), 37 (except SIC 373), * * *" Facilities eligible for coverage under this section of today's permit include the following manufacturing facilities: engines and turbines (SIC Code 351); farm and garden machinery and equipment (SIC Code 352); construction, mining, and materials handling machinery and equipment (SIC Code 353); metalworking machinery and equipment (SIC Code 354); special industry machinery, except metalworking machinery (SIC Code 355); general industrial machinery and equipment (SIC Code 356); refrigeration and service industry machinery (SIC Code 358); miscellaneous industrial and commercial machinery and equipment (SIC Code 359); motor vehicles and motor vehicle equipment (SIC Code 371); aircraft and parts (SIC Code 372); motorcycles, bicycles, and parts (SIC Code 375); guided missiles and space vehicles and parts (SIC Code 376); and miscellaneous transportation equipment (SIC Code 379).

This section establishes special conditions for storm water discharges associated with industrial activities at facilities which manufacture transportation equipment, industrial or commercial machinery. The SIC codes of these facilities are in category (xi) of the definition of storm water discharges associated with industrial activity. Storm water discharges from facilities in this category are only regulated where precipitation or storm water runon come into contact with areas associated with industrial activities, and significant materials. Significant materials include, but are not limited to, raw materials, waste products, fuels, finished products, intermediate products, by-products, and other materials associated with industrial activities.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

There are approximately 14,000 facilities which handle and process ferrous and nonferrous metals to manufacture transportation equipment, industrial or commercial machinery. These facilities vary in size, age, number of employees and the types of operations performed. The manufacturing processes for these facilities are similar, although the finished products may vary. The general manufacturing process is conducted indoors, and includes activities such as cutting, shaping, grinding, cleaning, coating, forming, and finishing. Specific processes are referred to as "unit operations," and there are approximately 45 unit operations utilized by facilities that manufacture transportation equipment, industrial, or commercial machinery. Since these operations occur predominately indoors, contamination of storm water discharges from the manufacturing process is unlikely. Unit operations include the following: electroplating, electroless plating, anodizing, chemical conversion coating, etching and chemical milling, cleaning, machining, grinding, polishing, barrel finishing, burnishing, impact deformation, pressure deformation, shearing, heat treating, thermal cutting, welding, brazing, soldering, flame spraying, sand blasting, abrasive jet machining, electrical discharge machining, electrochemical machining, electron beam machining, laser beam machining, plasma arc machining, ultrasonic machining, sintering, laminating, hot dip coating, sputtering, vapor plating, thermal infusion, salt bath descaling, solvent degreasing, paint stripping, painting, electrostatic painting, electropainting, vacuum metalizing, assembly, calibration, testing, and mechanical plating.

Facilities which manufacture transportation equipment, industrial and commercial machinery will utilize many of the same unit operations listed above. Aside from the specific unit operations, other types of industrial activity are shared by facilities covered by this section. For example, the majority of these facilities have outdoor material handling and storage activities, and share the same types of raw, scrap, and waste materials.

The primary raw materials utilized by this industry group include ferrous and nonferrous metals, such as aluminum, copper, iron, steel and alloys of these metals; either in raw form or as intermediate products. These metals are typically received at loading/unloading docks and are taken to outdoor storage areas (e.g., stockpiles, holding bins) before manufacturing.

Besides metals, other raw materials are utilized in the manufacturing process. These materials include paints, solvents (e.g., paint thinners, degreasers), chemicals (e.g., acids, bases, liquid gases), fuels (e.g., gasoline and diesel fuel), lubricating and cutting oils, and plastics. These materials are typically stored in bins, tanks, and/or 55 gallon drums outdoors on wooden pallets or concrete pads. They are used during the unit operations to cool and lubricate the metals (oils), clean metal parts (solvents, acids, bases), and coat metal parts before shipment (plastics, paints). Intermediate products are also sometimes stored outdoors before shipment or further manufacturing.

These products may have residues of oils, solvents and metal particles, which are potential sources of pollutants to storm water discharges. Similarly, scrap metal will have the same residues, and is almost always stored outdoors in bins before being sold to scrap metal recyclers.

The manufacturing process produces several types of hazardous and nonhazardous wastes. Hazardous wastes including paint wastes, solvent wastes, and sludge wastes are generated in small quantities at the facilities within this industrial group. Paint wastes result from painting operations and consist of paints and paint thinners. Solvent wastes result from metal cutting, shaping, and cleaning operations. As the metals are manufactured into different parts and treated with various chemicals, the different assembly parts must be cleaned with solvents to remove any chemical residues and rinsed with water. The metal parts are subject to more cleaning with detergents to remove the solvents and chemical residues and rinsed again with water to remove the detergents. Sludge wastes are generated when wastewater discharges from painting, plating, finishing and parts cleaning operations are treated, and is generally shipped offsite for disposal. Hazardous wastes are stored in 55 gallon drums outdoors before shipment and may be exposed to storm water discharges.

Nonhazardous wastes from this industry group include glass, tires, used wooden pallets, used equipment and machinery, as well as plastics and rubber wastes. All of these waste materials are stored outdoors and have the potential to pollute storm water discharges. Storm water runoff from these materials could include solids, oils, solvents and other pollutants generated in the manufacturing process.

Air emissions from stacks and ventilation systems are potential areas for exposure of materials to storm water discharges. Facilities which have high levels of engine exhaust from the manufacturing equipment, paint residue, and particulates in fumes from metal processing activities such as cutting, grinding, shaping, and welding, are subject to having particulate in the air emissions that may pollute storm water discharges.

Material handling activities such as loading and unloading areas may be exposed to storm water discharges. These are areas where significant materials are received and shipped at the facilities. Exposure of these materials to storm water may be minimized by having shipping/receiving areas under cover.

For those facilities engaged in fueling and vehicle maintenance, gasoline and diesel fuel are frequently stored outdoors in aboveground storage tanks and 55 gallon drums. Most vehicles and equipment also require oil, hydraulic fluids, antifreeze, and other fluids that may leak and contaminate storm water discharges. The discharges from these areas are addressed elsewhere in today's permit.

2. Pollutants Found in Storm Water Discharges From Facilities Which Manufacture Transportation Equipment, Industrial or Commercial Machinery

The impact of industrial activities at facilities which manufacture transportation equipment, industrial or commercial machinery on storm water discharges will vary. Factors at a site which influence the water quality include geographic location, hydrogeology, the industrial activities exposed to storm water discharges, the facility's size, the types of pollution prevention measures/best management practices in place, and the type, duration, and intensity of storm events. Taken together or separately, these factors determine how polluted the storm water discharges will be at a given facility. For example, scrap piles may be a significant source of pollutants at some facilities, while particulate stack emissions may be the primary pollutant source at others. Additionally, pollutant sources other than storm water, such as illicit connections, spills, and other improperly dumped materials, may increase the pollutant loading discharged into Waters of the United States.

Table AB–1 lists industrial activities that commonly occur at transportation equipment, industrial or commercial machinery manufacturers, the pollutant sources at these facilities, and pollutants that are associated with these activities. Table AB–1 identifies oil and grease, TSS, organics, and other parameters as potential pollutants associated with facilities covered by this section.

TABLE AB–1.—DESCRIPTION OF INDUSTRIAL ACTIVITIES, POTENTIAL POLLUTANT SOURCES, AND POSSIBLE POLLUTANTS

Activity	Pollutant source	Pollutants
Outdoor Material Loading/Unloading	Wooden pallets, castings, foundry sand, limestone, spills/leaks from material handling equipment, solvents.	TSS, turbidity, dust, oil and grease, organics.
Outdoor Material and Equipment Storage.	Foundry sand, limestone, used equipment, above ground tanks, scrap metal, oil and grease, raw materials (e.g., aluminum, steel, iron, copper), castings, solvents, acids, and paints.	TSS, turbidity, dust, oil and grease, heavy metals, and organics.

Source: NPDES Storm Water Group Applications—Part 1. Received by EPA, March 18, 1991 through December 31, 1992.

Based on the similarities of the facilities included in this sector in terms of industrial activities and significant materials, EPA believes it is appropriate to discuss the potential pollutants at industrial and commercial machinery and transportation equipment manufacturing facilities as a whole and not subdivide this sector. Therefore, Table AB–2 lists data for selected parameters from facilities in the industrial and commercial machinery and transportation equipment manufacturing sector. These data include the eight pollutants that all facilities were required to monitor for under Form 2F, as well as any additional pollutants with median concentrations higher than the benchmarks.

TABLE AB–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY INDUSTRIAL AND COMMERCIAL MACHINERY AND TRANSPORTATION EQUIPMENT MANUFACTURING FACILITIES SUBMITTING PART II SAMPLING DATA [i] (mg/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp [ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	118	113	207	199	12.5	7.32	0.0	0.0	513.0	226.0	6.0	5.0	33.3	23.10	63.8	43.90
COD	119	114	204	194	68.2	47.20	0.0	0.0	940.0	610.0	37.6	30.50	228.9	142.4	469.7	261.9
Nitrate + Nitrite Nitrogen	119	113	206	193	1.13	1.20	0.00	0.0	19.20	28.0	0.58	0.46	4.00	3.74	8.79	8.43
Total Kjeldahl Nitrogen	118	113	204	194	2.30	1.68	0.00	0.0	55.00	30.0	1.30	1.00	6.57	4.57	12.68	8.11
Oil & Grease	122	N/A	213	N/A	7.1	N/A	0.0	N/A	223.0	N/A	0.0	N/A	28.1	N/A	92.6	N/A
pH	113	N/A	201	N/A	N/A	N/A	4.1	N/A	9.1	N/A	7.1	N/A	8.6	N/A	9.5	N/A
Total Phosphorus	120	115	206	198	0.50	0.48	0.00	0.00	42.00	19.0	0.15	0.13	1.21	1.17	2.70	2.66
Total Suspended Solids	117	112	203	194	153	97	0	0	6453	3600	30	19	507	339	1501	1022
Zinc, Total	61	57	109	103	0.515	0.354	0.000	0.000	8.800	9.000	0.21	0.14	2.070	1.836	5.443	5.297

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as nondetect or below detection limit were assumed to be 0.
[ii] Composite samples.

3. Options for Controlling Pollutants

In evaluating options for controlling pollutants in storm water discharges, EPA must achieve compliance with the technology-based standards of the Clean Water Act (Best Available Technology (BAT) and Best Conventional Technology). The Agency does not believe that it is appropriate to establish specific numeric effluent limitations or a specific design or performance standard in this sections for storm water discharges associated with industrial activity from facilities which manufacture transportation equipment, industrial or commercial machinery to meet BAT/BCT standards of the Clean Water Act. Instead, this section establishes requirements for the development and implementation of site-specific storm water pollution prevention plans consisting of a set of Best Management Practices (BMPs) that are sufficiently flexible to address different sources of pollutants at different sites.

Certain BMPs are implemented to prevent and/or minimize exposure of pollutants from industrial activities to storm water discharges. EPA believes the most effective BMPs for reducing pollutants in storm water discharges are exposure minimization practices. Exposure minimization practices lessen the potential for storm water to come into contact with pollutants. Good housekeeping practices ensure that facilities are sensitive to routine and nonroutine activities which may increase pollutants in storm water discharges. The BMPs which address good housekeeping and exposure minimization are easily implemented, inexpensive, and require little, if any, maintenance. BMP expenses may include construction of roofs for storage areas or other forms of permanent cover and the installation of berms/dikes. Other BMPs such as detention/retention ponds and filtering devices may be needed at these facilities because of the contaminant level in the storm water discharges. The types of BMPs implemented will depend on the type of discharge, types and concentrations of contaminants, and the volume of the flow.

The selection of the most effective BMPs will be based on site-specific considerations such as: facility size, climate, geographic location, geology/hydrology and the environmental setting of each facility, and volume and type of discharge generated. Each facility will be unique in that the source, type, and volume of contaminated storm water discharges will differ. In addition, the fate and transport of pollutants in these discharges will vary. EPA believes that the management practices discussed herein are well suited mechanisms to prevent or control the contamination of storm water discharges associated with transportation equipment, industrial or commercial machinery manufacturers.

Part 1 group application data indicate that BMPs have not been widely implemented at the representative sampling facilities. Less than 25 percent of the sampling subgroup reported that they store some materials indoors; less than 10 percent cover loading areas, dumpsters, drums, or above ground tanks; less than 5 percent of the representative facilities utilize waste minimization practices (e.g., recycling or reusing materials).[101] Because BMPs described in part 1 data are limited, the following table is provided to identify BMPs that should be considered at facilities which manufacture transportation equipment, industrial or commercial machinery.

TABLE AB–3.—GENERAL STORM WATER BMPS FOR FACILITIES WHICH MANUFACTURE TRANSPORTATION EQUIPMENT, INDUSTRIAL, OR COMMERCIAL MACHINERY

Activity	Best management practices (BMPs)
Outdoor Unloading and Loading	Confine loading/unloading activities to a designated area. Consider performing loading/unloading activities indoors or in a covered area. Consider covering loading/unloading area with permanent cover (e.g., roofs) or temporary cover (e.g., tarps). Close storm drains during loading/unloading activities in surrounding areas. Avoid loading/unloading materials in the rain. Inspect the unloading/loading areas to detect problems before they occur. Inspect all containers prior to loading/unloading of any raw or spent materials. Consider berming, curbing, or diking loading/unloading areas. Use dry clean-up methods instead of washing the areas down. Train employees on proper loading/unloading techniques.
Outdoor Material Storage (including waste, and particulate emission management).	Confine storage of materials, parts, and equipment to designated areas.

[101] These percentages were based on the information reported in the Part 1 group applications. However, some facilities which utilize these BMPs as part of their daily activities may not recognize these practices as BMPs and as a result did not report this information in their applications.

TABLE AB–3.—GENERAL STORM WATER BMPS FOR FACILITIES WHICH MANUFACTURE TRANSPORTATION EQUIPMENT, INDUSTRIAL, OR COMMERCIAL MACHINERY—Continued

Activity	Best management practices (BMPs)
	Consider curbing, berming, or diking all liquid storage areas. Train employees on proper waste control and disposal. Consider covering tanks. Ensure that all containers are closed (e.g., valves shut, lids sealed, caps closed). Wash and rinse containers indoors before storing them outdoors. If outside or in covered areas, minimize runon of storm water by grading the land to divert flow away from containers. Inventory all raw and spent materials. Clean around vents and stacks. Place tubs around vents and stacks to collect particulate. Inspect air emission control systems (e.g., baghouses) regularly, and repair or replace when necessary. Store wastes in covered, leak proof containers (e.g., dumpsters, drums). Consider shipping all wastes to offsite landfills or treatment facilities. Ensure hazardous waste disposal practices are performed in accordance with Federal, State, and local requirements.

Sources: NPDES Storm Water Group Applications—Part 1. Received by EPA, March 18, 1991 through December 31, 1992.
EPA, Office of Water. September 1992. ''Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices.'' EPA 832–R–92–006.

4. Special Conditions

There are no additional requirements under this section other than those stated in Part III of today's permit .

5. Storm Water Pollution Prevention Plan Requirements

EPA believes that pollution prevention is the most effective approach for controlling contaminated storm water discharges from facilities which manufacture transportation equipment, industrial or commercial machinery. The requirements included in the pollution prevention plans provide a flexible framework for the development and implementation of site-specific controls to minimize the pollutants in storm water discharges. This flexibility is necessary because each facility is unique in that the source, type, and volume of contaminated storm water discharge will vary from site to site.

Under today's permit, all facilities must prepare and implement a storm water pollution prevention plan. The pollution prevention plan requirement reflects EPA's decision to allow operators of transportation equipment, industrial or commercial machinery manufacturing facilities to utilize BMPs as the BAT/BCT level of control for the storm water discharges covered by this section.

There are two major objectives of a pollution prevention plan: 1) to identify sources of pollution potentially affecting the quality of storm water discharges associated with industrial activity from a facility; and 2) to describe and ensure implementation of practices to minimize and control pollutants in storm water discharges associated with industrial activity from a facility.

Specific requirements for a pollution prevention plan for transportation equipment, industrial or commercial machinery manufacturing facilities are described below. These requirements must be implemented in addition to the common pollution prevention plan provisions discussed in section VI.C. of today's fact sheet.

a. Contents of the Plan. Storm water pollution prevention plans are intended to aid operators of transportation equipment, industrial or commercial machinery manufacturing facilities to evaluate all potential prevention sources at a site, and assist in the selection and implementation of appropriate measures designed to prevent, or control, the discharge of pollutants in storm water runoff. EPA has developed guidance entitled ''Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices,'' EPA, 1992, (EPA 832–R–92–006) to assist permittees in developing and implementing pollution prevention measures.

(1) Description of Potential Pollutant Sources. Each storm water pollution prevention plan must describe activities, materials, and physical features of the facility that may contribute pollutants to storm water runoff or, during periods of dry weather, result in dry weather flows. This assessment of potential storm water pollutant source will support subsequent efforts to identify and set priorities for necessary changes in materials, materials management practices, or site features, as well as aid in the selection of appropriate structural and nonstructural control techniques. Plans must describe the following elements:

(a) Site Map—The plan must contain a map of the site that shows the pattern of storm water drainage, structural and nonstructural features that control pollutants in storm water runoff and process wastewater discharges, surface water bodies (including wetlands), places where significant materials [102] are exposed to rainfall and runoff, and locations of major spills and leaks that occurred in the 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. The map must also indicate the direction of storm water flow. An outline of the drainage area for each outfall must be provided; and the location of each outfall and monitoring points must be indicated. An estimate of the total site acreage utilized for each industrial activity (e.g., storage of raw materials, waste materials, and used equipment) must be provided. These areas include liquid storage tanks, stockpiles, holding bins, used equipment, and empty drum storage.

[102] Significant materials include, ''* * * but [are] not limited to: raw materials, fuels, materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; * * * hazardous substances designated under section 101(14) of CERCLA; any Chemical facilities are required to report pursuant to section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharge.'' (40 CFR 122.26(b)(12)). Significant materials commonly found at transportation equipment, industrial or commercial machinery manufacturing facilities include raw and scrap metals; solvents; used equipment; petroleum based products; waste materials or by-products used or created by the facility.

These areas are considered to be significant potential sources of pollutants at facilities which manufacture transportation equipment, industrial or commercial machinery. The site map must also indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls (e.g. storm water and air conditioner condensate). In order to increase the readability of the map, the inventory of the types of discharges contained in each outfall may be kept as an attachment to the site map.

(b) Inventory of Exposed Materials—Facility operators are required to carefully conduct an inspection of the site to identify significant materials that are or may be exposed to storm water discharges. The inventory must address materials that within 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit have been handled, stored, processed, treated, or disposed of in a manner to allow exposure to storm water. Findings of the inventory must be documented in detail in the pollution prevention plan. At a minimum, the plan must describe the method and location of onsite storage or disposal; practices used to minimize contact of materials with precipitation and runoff; existing structural and nonstructural controls that reduce pollutants in storm water; existing structural controls that limit process wastewater discharges; and any treatment the runoff receives before it is discharged to surface waters or through a separate storm sewer system. The description must be updated whenever there is a significant change in the type or amounts of materials, or material management practices, that may affect the exposure of materials to storm water.

(c) Significant Spills and Leaks—The plan must include a list of any significant spills and leaks of toxic or hazardous pollutants that occurred in the 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Significant spills include, but are not limited to, releases of oil or hazardous substances in excess of reportable quantities under Section 311 of CWA (see 40 CFR Section 110.10 and Section 117.21) or Section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (see 40 CFR Section 302.4). Significant spills may also include releases of oil or hazardous substances that are not in excess of reporting requirements and releases of materials that are not classified as oil or a hazardous substance.

(d) Non-storm Water Discharges—Each pollution prevention plan must include a certification, signed by an authorized individual, that discharges from the site have been tested or evaluated for the presence of non-storm water, the results of any test and/or evaluation conducted to detect such discharges, the test method or evaluation criteria used, the dates on which tests or evaluations were performed, and the onsite drainage points directly observed during the test or evaluation. Pollution prevention plans must identify and ensure the implementation of appropriate pollution prevention measures for any non-storm water discharges.

(e) Sampling Data—Any existing data describing the quality or quantity of storm water discharges from the facility must be summarized in the plan. The description should include a discussion of the methods used to collect and analyze the data. Sample collection points should be identified in the plan and shown on the site map.

(f) Summary of Potential Pollutant Sources—The description of potential pollutant sources should clearly point to activities, materials, and physical features of the facility that have a reasonable potential to contribute significant amounts of pollutants to storm water. Any such activities, materials, or features must be addressed by the measures and controls subsequently described in the plan. In conducting the assessment, the facility operator must consider the following activities: raw materials (liquid storage tanks, stockpiles, holding bins), waste materials (empty drum storage), and used equipment storage areas. The assessment must list any significant pollutant parameter(s) (i.e., total suspended solids, oil and grease, etc.) associated with each source.

(2) Measures and Controls. Permittees must select, describe, and evaluate the pollution prevention measures, BMPs, and other controls that will be implemented at the facility. Source reduction measures include preventive maintenance, spill prevention, good housekeeping, training, and proper materials management. If source reduction is not an option, EPA supports the use of source control measures. These include BMPs such as material covering, water diversion, and dust control. If source reduction or source control are not available, then recycling or waste treatment are other alternatives. Recycling allows the reuse of storm water, while treatment lowers pollutant concentrations prior to discharge. Since the majority of transportation equipment, industrial or commercial machinery manufacturing occurs indoors, the BMPs identified above are geared towards only those activities occurring outdoors or otherwise have a potential to contribute pollutants to storm water discharges.

Pollution prevention plans must discuss the reasons each selected control or practice is appropriate for the facility and how each of the potential pollutant sources will be addressed. Plans must identify the time during which controls or practices will be implemented, as well the effect the controls or practices will have on storm water discharges from the site. At a minimum, the measures and controls must address the following components:

(a) Good Housekeeping—Permittees must describe protocols established to reduce the possibility of mishandling chemicals or equipment and training employees in good housekeeping techniques. Specifics of this plan must be communicated to appropriate plant personnel.

(b) Preventive Maintenance—Permittees are required to develop a preventive maintenance program that includes regular inspections and maintenance of storm water BMPs. Inspections should assess the effectiveness of the storm water pollution prevention plan. They allow facility personnel to monitor the components of the plan on a regular basis. The use of a checklist is encouraged, as it will ensure that all of the appropriate areas are inspected and provide documentation for recordkeeping purposes.

(c) Spill Prevention and Response Procedures—Permittees are required to identify proper material handling procedures, storage requirements, containment or diversion equipment, and spill removal procedures to reduce exposure of spills to storm water discharges. Areas and activities which are high risks for spills at transportation equipment, industrial or commercial machinery manufacturing facilities include raw material unloading and product loading areas, material storage areas, and waste management areas. These activities and areas and their drainage points must be described in the plan.

(d) Inspections—Qualified personnel must inspect designated equipment and areas of the facility at the proper intervals specified in the plan. The plan should identify areas which have the potential to pollute storm water for periodic inspections. Records of inspections must be maintained onsite.

(e) Employee Training—Permittees must describe a program for informing and educating personnel at all levels of

responsibility of the components and goals of the storm water pollution prevention plan. A schedule for conducting this training should be provided in the plan. Where appropriate, contractor personnel must also be trained in relevant aspects of storm water pollution prevention. Topics for employee training should include good housekeeping, materials management, and spill response procedures. EPA recommends that facilities conduct training annually at a minimum. However, more frequent training may be necessary at facilities with high turnover of employees or where employee participation is essential to the storm water pollution prevention plan.

(f) Recordkeeping and Internal Reporting Procedures—Permittees must describe procedures for developing and retaining records on the status and effectiveness of plan implementation. This includes the success and failure of BMPs implemented at the facility.

(g) Sediment and Erosion Control—Permittees must identify areas, due to topography, activities, soils, cover materials, or other factors that have a high potential for soil erosion. Measures to eliminate erosion must be identified in the plan.

(h) Management of Runoff—Permittees must provide an assessment of traditional storm water management practices that divert, infiltrate, reuse, or otherwise manage storm water so as to reduce the discharge of pollutants. Based on this assessment, practices to control runoff from these areas must be identified and implemented as required by the plan.

(3) Comprehensive Site Compliance Evaluation. The storm water pollution prevention plan must describe the scope and content of comprehensive site inspections that qualified personnel will conduct to: (1) Confirm the accuracy of the description of potential sources contained in the plan, (2) determine the effectiveness of the plan, and (3) assess compliance with the terms and conditions of this section. Comprehensive site compliance evaluations must be conducted once a year for transportation equipment, industrial or commercial machinery manufacturing facilities. The individual(s) who will conduct the evaluations must be identified in the plan and should be members of the pollution prevention team. Evaluation reports must be retained for at least 3 years after the date of the evaluation.

Based on the results of each evaluation, the description of potential pollution sources, and measures and controls, the plan must be revised as appropriate within 2 weeks after each evaluation. Changes in the measures and controls must be implemented on the site in a timely manner, never more than 12 weeks after completion of the evaluation.

6. Numeric Effluent Limitation

There are no additional numeric effluent limitations under this section other than those included in part V.B of the permit.

7. Monitoring and Reporting Requirements

a. Monitoring Requirements. The regulatory modifications at 40 CFR 122.44 (i)(2) established on April 2, 1992, grant permit writers the flexibility to reduce monitoring requirements in storm water discharge permits. EPA has determined that the potential for storm water discharges to contain pollutants above benchmark levels, because of the industrial activities and materials exposed to precipitation, does not support sampling at facilities that manufacture transportation equipment, industrial, or commercial machinery. Based on a consideration of the BMPs typically used at these facilities, and generally low pollutant values from the application data, EPA believes that the pollution prevention plan with visual examinations of storm water discharges will help to ensure storm water contamination is minimized. Under the Storm Water Regulations at 40 CFR 122.26(b)(14), EPA defined ‘‘storm water discharge associated with industrial activity’’. The focus of today's permit is to address the presence of pollutants that are associated with the industrial activities identified in this definition and that might be found in storm water discharges. Under the methodology for determining analytical monitoring requirements, described in section VI.E.1 of this fact sheet, zinc is above the bench mark concentrations for the industrial and commercial machinery and transportation equipment sector. After a review of the nature of industrial activities and the significant materials exposed to storm water described by facilities in this sector, EPA has determined that the higher concentrations of zinc are not likely to be caused by the industrial activity, but may be primarily due to non-industrial activities on-site. Today's permit does not require industrial and commercial machinery and transportation equipment facilities to conduct analytical monitoring for this parameter. Because permittees are not required to conduct sampling, they will be able to focus their resources on developing and implementing the pollution prevention plan.

Quarterly visual examinations of a storm water discharge from each outfall are required at transportation equipment, industrial, or commercial machinery manufacturing facilities. The examination must be of a grab sample collected from each storm water outfall. The examination of storm water grab samples shall include any observations of color, odor, turbidity, floating solids, foam, oil sheen, or other obvious indicators of storm water pollution. The examinations must be conducted in a well lit area. No analytical tests are required to be performed on these samples.

The examination must be made at least once in each designated period during daylight hours unless there is insufficient rainfall or snow-melt to runoff. EPA expects that, whenever practicable, the same individual should carry out the collection and examination of discharges throughout the life of the permit to ensure the greatest degree of consistency possible. Examinations shall be conducted in each of the following periods for the purposes of inspecting storm water quality associated with storm water runoff and snow melt: January through March; April through June; July through September; October through December. Grab samples shall be collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff begins discharging. Reports of the visual include: the examination date and time, examination personnel, visual quality of the storm water discharge, and probable sources of any observed storm water contamination. The visual examination reports must be maintained onsite with the pollution prevention plan.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

EPA believes that this quick and simple assessment will help the permittee to determine the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examinations. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and the effects of the management practices that are included in the plan.

When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

As discussed above, EPA does not believe that chemical monitoring is necessary for facilities that manufacture transportation equipment, industrial, or commercial machinery. EPA believes that between quarterly visual examinations and site compliance evaluations potential sources of contaminants can be recognized, addressed, and then controlled with BMPs. In determining the monitoring requirements, EPA considered the nature of the industrial activities and significant materials exposed at these sites, and performed a review of data provided in Part 2 group applications.

AC. Storm Water Discharges Associated With Industrial Activity From Facilities That Manufacture Electronic and Electrical Equipment and Components, Photographic and Optical Goods

1. Discharges Covered Under This Section

This sector covers storm water discharges associated with industrial activity from electronic and electrical equipment manufacturing facilities (SIC major group 36); measuring, analyzing, and controlling instruments, photographic, medical and optical goods, and watches and clocks manufacturing facilities (SIC major group 38); and computer and office equipment manufacturing facilities (SIC 357).

More specifically, the group of electronic and electrical equipment and components manufacturers includes manufacturers of electricity distribution equipment such as transformers and switch-gear, electrical industrial equipment such as motors and generators, household appliances, electric lighting and wiring equipment such as light bulbs and lighting fixtures, and audio and video equipment including phonograph records and audio tapes and disks. Also included are manufacturers of communication equipment including telephone and telegraph equipment, radio and television equipment, electronic components such as printed circuit boards and semiconductors and related devices, and miscellaneous electrical items such as batteries and electrical equipment for automobiles.

The group of analyzing, and controlling instruments, photographic, medical and optical goods, and watches and clocks manufacturers includes facilities which manufacture search, detection, navigation, or guidance systems such as radar and sonar equipment, measurement and control instruments and laboratory apparatus, surgical, medical and dental instruments and supplies, photographic equipment and supplies, and watches and clocks.

The computer and office equipment manufacturers group includes manufacturers of computers, computer storage devices, and peripheral equipment for computers such as printers and plotters. Manufacturers of miscellaneous office machines are also included in this group.

The SIC codes of the facilities covered by this section are in category (xi) of the definition of storm water discharges associated with industrial activity. Storm water discharges from facilities in this category are only regulated where precipitation and storm water runon come into contact with areas associated with industrial activities, and significant materials. Significant materials include, but are not limited to, raw materials, waste products, fuels, finished products, intermediate products, by-products, and other materials associated with industrial activities.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Pollutants Found in Storm Water Discharges

a. Sources of Pollutants. As noted in the preamble to the final storm water application regulations of November 16, 1990, most of the actual manufacturing and processing activity at these types of facilities normally occurs indoors (55 FR 48008).

Additional information concerning these manufacturing processes and the industrial sector itself can be found in the following documents: ''Development Document for Effluent Limitations Guidelines and Standards for the Electrical and Electronics Components Point Source Category, Phase I,'' EPA 440/1–83/075; ''Development Document for Effluent Limitations Guidelines and Standards for the Electrical and Electronic Components Point Source Category, Phase II,'' EPA 440/1–84/075; ''Development Document for Existing Source Pretreatment Standards for the Electroplating Point Source Category,'' EPA 440/1–79/003; and ''Development Document for Effluent Limitations Guidelines and Standards for the Metal Finishing Point Source Category,'' EPA 440/1–83/091.

The types of activities at these facilities where exposure to storm water may occur consist primarily of loading/unloading activities, and the storage and handling of raw materials, by-products, final products or waste products. A wide variety of materials are used at these facilities including metals, acids used for chemical etching, alkaline solutions, solvents, various oils and fuels and miscellaneous chemicals. Tanks or drums of these materials may be exposed to storm water during loading/un-loading operations, or through outdoor storage or handling at some facilities.

Liquid wastes which may be exposed at least temporarily include spent solvents and acids, miscellaneous chemicals and oily wastes. These wastes may be contaminated with a variety of heavy metals and chlorinated hydrocarbons. Used equipment, scrap metal and wire, soiled rags and sanding materials may also be exposed to storm water and constitute a potential source of pollutants. In addition, some facilities reported that dumpsters containing nonhazardous wastes or manufacturing debris may be exposed to storm water.

Table AC–1 lists potential pollutant sources from activities that commonly take place at facilities which manufacture electronic and electrical equipment and components, photographic and optical goods.

TABLE AC–1.—COMMON POLLUTANT SOURCES

Activity	Pollutant source	Pollutants
Outdoor Material Loading/Unloading	Wooden pallets, spills/leaks from material handling equipment, raw materials, finished products, solvents.	TSS, oil and grease, organics.
Outdoor Material and Equipment Storage	Sulfuric acid, alkaline solutions, solvents miscellaneous chemicals, oily wastes, lead, silver, copper, zinc, spent solvents and acids, scrap metal and wire, oily rags.	Organics, oil and grease, acids, alkalinity, heavy metals.

b. Storm Water Sampling Results. Based on the similarities of the facilities included in this sector in terms of industrial activities and significant materials, EPA believes it is appropriate to discuss the potential pollutants at electronic and electric equipment and photographic and optical goods manufacturing facilities as a whole and not subdivide this sector. Therefore, Table AC–2 lists data for selected parameters from facilities in the electronic and electric equipment and photographic and optical goods manufacturing sector. This data includes the eight pollutants which all facilities were required to monitor for under Form 2F, as well as the pollutants that EPA has determined may merit further monitoring.

TABLE AC–2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY ELECTRONIC AND ELECTRICAL EQUIPMENT AND PHOTOGRAPHIC AND OPTICAL GOODS MANUFACTURING FACILITIES SUBMITTING PART II SAMPLING DATA [i] (mg/L)

Pollutant of sample type	No. facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp [ii]	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD_5	25	22	64	56	8.8	7.48	0.0	0.0	54.0	139.0	5.5	5.10	27.2	17.92	48.9	30.08
COD	25	22	65	56	59.2	36.3	0.0	0.0	450.0	220.0	46.0	24.0	173.3	122.2	304.9	235.5
Nitrate + Nitrite Nitrogen	25	22	64	57	0.83	0.66	0.00	0.0	6.97	2.54	0.51	0.51	2.63	1.56	4.99	2.40
Total Kjeldahl Nitrogen	25	22	64	58	1.45	1.34	0.00	0.0	10.20	13.6	1.05	1.01	4.26	4.22	7.41	7.68
Oil & Grease	25	N/A	69	N/A	0.6	N/A	0.0	N/A	9.0	N/A	0.0	N/A	3.5	N/A	8.3	N/A
pH	25	N/A	69	N/A	N/A	N/A	5.0	N/A	8.8	N/A	7.5	N/A	9.0	N/A	9.7	N/A
Total Phosphorus	24	21	64	57	1.50	1.02	0.00	0.0	80.10	44.4	0.13	0.16	1.86	1.72	4.93	4.40
Total Suspended Solids	24	22	63	56	89	67	0	0	610	716	29	14	424	262	1209	722
Aluminum, Total	4	4	4	4	3.05	0.60	0.00	0.00	9.40	1.00	1.40	0.70	15.37	1.34	29.78	1.75
Zinc, Total	16	14	51	48	0.163	0.152	0.000	0.000	1.101	1.200	0.09	0.09	0.563	0.500	1.060	0.940

[i] Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.

[ii] Composite samples.

3. Options for Controlling Pollutants

In evaluating options for controlling pollutants in storm water discharges, EPA must achieve compliance with the technology-based standards of the Clean Water Act [Best Available Technology (BAT) and Best Conventional Technology]. The Agency does not believe that it is appropriate to establish specific numeric effluent limitations or a specific design or performance standard in this section for storm water discharges associated with industrial activity from facilities which manufacture electronic and electrical equipment and components, and photographic and optical goods to meet BAT/BCT standards of the Clean Water Act. Instead, this section establishes requirements for the development and implementation of site-specific storm water pollution prevention plans consisting of a set of Best Management Practices (BMPs) that are sufficiently flexible to address different sources of pollutants at different sites.

Certain BMPs are implemented to prevent and/or minimize exposure of pollutants from industrial activities to storm water discharges. EPA believes the most effective BMPs for reducing pollutants in storm water discharges are exposure minimization practices. Exposure minimization practices lessen the potential for storm water to come into contact with pollutants. Good housekeeping practices ensure that facilities are sensitive to routine and nonroutine activities which may increase pollutants in storm water discharges. The BMPs which address good housekeeping and exposure minimization are easily implemented, inexpensive, and require little, if any, maintenance. BMP expenses may include construction of roofs for storage areas or other forms of permanent cover and the installation of berms/dikes. Other BMPs such as detention/retention ponds and filtering devices may be needed at these facilities because of the contaminant level in the storm water discharges. The types of BMPs implemented will depend on the type of discharge, types and concentrations of contaminants, and the volume of the flow.

The selection of the most effective BMPs will be based on site-specific considerations such as: facility size, climate, geographic location, geology/hydrology and the environmental setting of each facility, and volume and type of discharge generated. Each facility will be unique in that the source, type, and volume of contaminated storm water discharges will differ. In addition, the fate and transport of pollutants in these discharges will vary. EPA believes that the management practices discussed herein are well suited mechanisms to prevent or control the contamination of storm water discharges associated with manufacturers of electronic and electrical equipment and components, and photographic and optical goods.

Part 1 group application data indicated that the most widely implemented BMPs are spill prevention and response techniques (used by approximately 68 percent of the sampling facilities) and waste minimization practices (employed by approximately 54 percent of the sampling facilities). However, less than

30 percent of the sampling subgroup reported that they use covering; approximately 3 percent have roofs over their raw materials; and less than 3 percent store raw materials indoors.[103] Because BMPs described in part 1 data are generally limited, Table AC–3 is provided to identify BMPs associated with activities that routinely occur at manufacturers of electronic and electrical equipment and components, and photographic and optical goods.

TABLE AC–3.—GENERAL STORM WATER BMPS FOR MANUFACTURERS OF ELECTRONIC AND ELECTRICAL EQUIPMENT AND COMPONENTS, PHOTOGRAPHIC AND OPTICAL GOODS

Activity	Best management practices (BMPs)
Outdoor Unloading and Loading	Confine loading/unloading activities to a designated area. Consider performing loading/unloading activities indoors or in a covered area. Consider covering loading/unloading area with permanent cover (e.g., roofs) or temporary cover (e.g., tarps). Close storm drains during loading/unloading activities in surrounding areas. Avoid loading/unloading materials in the rain. Inspect the unloading/loading areas to detect problems before they occur. Inspect all containers prior to loading/unloading of any raw or spent materials. Consider berming, curbing, or diking loading/unloading areas. Dead-end sump where spilled materials could be directed. Drip pans under hoses. Use dry clean-up methods instead of washing the areas down. Train employees on proper loading/unloading techniques and spill prevention and response.
Outdoor Material Storage (including waste, and particulate emission management).	Confine storage of materials, parts, and equipment to designated areas. Consider secondary containment using curbing, berming, or diking all liquid storage areas. Train employees in spill prevention and response techniques. Train employees on proper waste control and disposal. Consider covering tanks. Ensure that all containers are closed (e.g., valves shut, lids sealed, caps closed). Wash and rinse containers indoors before storing them outdoors If outside or in covered areas, minimize runon of storm water by grading the land to divert flow away from containers. Leak detection and container integrity testing. Direct runoff to onsite retention pond. Inventory all raw and spent materials. Clean around vents and stacks. Place tubs around vents and stacks to collect particulate. Inspect air emission control systems (e.g., baghouses) regularly, and repair or replace when necessary. Store wastes in covered, leak proof containers (e.g., dumpsters, drums). Consider shipping all wastes to offsite landfills or treatment facilities. Ensure hazardous waste disposal practices are performed in accordance with Federal, State, and local requirements.

Sources: NPDES Storm Water Group Applications—Part 1. Received by EPA, March 18, 1991, through December 31,1992.
EPA, Office of Water. September 1992. ''Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices.'' EPA 832–R–92–006.

4. Special Conditions

There are no additional requirements under this section other than those stated in Part VI.B of this fact sheet.

5. Storm Water Pollution Prevention Plan Requirements

There are no additional requirements beyond those described in Part VI.C. of this fact sheet.

6. Numeric Effluent Limitations

No numeric effluent limitations are included for facilities in this sector, beyond those described in Part V.B. of today's permit.

7. Monitoring and Reporting Requirements

a. Monitoring Requirements. The regulatory modifications at 40 CFR 122.44 (i)(2) established on April 2, 1992, grant permit writers the flexibility to reduce monitoring requirements in storm water discharge permits. EPA has determined that the potential for storm water discharges to contain pollutants above benchmark levels, because of the industrial activities and materials exposed to precipitation, does not support sampling at facilities that manufacture electronic and electrical equipment and components, photographic, and optical goods. Under the Storm Water Regulations at 40 CFR 122.26(b)(14), EPA defined ''storm water discharge associated with industrial activity''. The focus of today's permit is to address the presence of pollutants that are associated with the industrial activities identified in this definition and that might be found in storm water discharges. Under the methodology for determining analytical monitoring requirements, described in section VI.E.1 of this fact sheet, aluminum and zinc are above the bench mark concentrations for the electronic, electric, photographic and optical goods sector. After a review of the nature of industrial activities and the significant materials exposed to storm water described by facilities in this sector, EPA has determined that the higher concentrations of aluminum and zinc

[103] These percentages were based on the information reported in the Part 1 group applications. However, some facilities which utilize these BMPs as part of their daily activities may not recognize these practices as BMPs and as a result did not report this information in their applications.

are not likely to be caused by the industrial activity, but may be primarily due to non-industrial activities on-site. Today's permit does not require electronic, electric, photographic and optical goods facilities to conduct analytical monitoring for these parameters.

Based on a consideration of the BMPs typically used at these facilities, and generally low pollutant values from the application data, EPA believes that the pollution prevention plan with visual examinations of storm water discharges will help to ensure storm water contamination is minimized. Because permittees are not required to conduct analytical monitoring, they will be able to focus their resources on developing and implementing the pollution prevention plan.

Quarterly visual examination of a storm water discharge from each outfall are required. The examination must be of a grab sample collected from each storm water outfall. The examination of storm water grab samples shall include any observations of color, odor, turbidity, floating solids, foam, oil sheen, or other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on these samples.

The examination must be made at least once in each designated period during daylight hours unless there is insufficient rainfall or snow-melt to runoff. Whenever practicable, the same individual should carry out the collection and examination of discharges throughout the life of the permit to ensure the greatest degree of consistency possible. Examinations shall be conducted in each of the following periods for the purposes of inspecting storm water quality associated with storm water runoff and snow melt: January through March; April through June; July through September; October through December. Grab samples shall be collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff begins discharging. Reports of the visual examination include: the examination date and time, examination personnel, visual quality of the storm water discharge, and probable sources of any observed storm water contamination. The visual examination reports must be maintained onsite with the pollution prevention plan.

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

EPA believes that this quick and simple assessment will help the permittee to determine the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual inspection will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the inspections. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and the effects of the management practices that are included in the plan.

When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

As discussed above, EPA does not believe that analytical monitoring is necessary for facilities that manufacture electronic and electrical equipment and components, photographic, and optical goods. EPA believes that between quarterly visual examinations and site compliance evaluations potential sources of contaminants can be recognized, addressed, and then controlled with BMPs. In determining the monitoring requirements, EPA considered the nature of the industrial activities and significant materials exposed at these sites, and performed a review of data provided in Part 2 group applications.

IX. Paperwork Reduction Act

EPA has reviewed the requirements imposed on regulated facilities in this proposed multi-sector general permit under the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 et seq. The information collection requirements in today's permit have already been approved by the Office of Management and Budget (OMB) in previous submissions made for the NPDES permit program under the provisions of the Clean Water Act.

X. 401 Certification

Section 401 of the CWA provides that no Federal license or permit, including NPDES permits, to conduct any activity that may result in any discharge into navigable waters, shall be granted until the State in which the discharge originates certifies that the discharge will comply with the applicable provisions of Sections 301, 302, 303, 306, and 307 of the CWA. The Section 401 certification process has been completed for all States, Indian lands, and Federal facilities covered by today's general permit. The following summary indicates where additional permit requirements have been added as a result of the certification process and also provides a more detailed discussion of additional requirements for the District of Columbia, Louisiana, New Mexico, Oklahoma, Texas, Arizona, and Washington State.

Region I

Connecticut: Indian lands only, no 401 conditions.
Maine: No 401 conditions.
Maine Indian lands: No 401 conditions.
Massachusetts: No 401 conditions.
Massachusetts: Indian lands only, no 401 conditions.
New Hampshire: no 401 conditions.
New Hampshire: Indian lands only, no 401 conditions.
Rhode Island: Indian lands only, no 401 conditions.
Vermont: Indian lands only, no 401 conditions.
Vermont: Federal facilities only, no 401 conditions.

Region II

Puerto Rico: no 401 conditions.
Puerto Rico: Federal facilities only, no 401 conditions.

Region III

District of Columbia: see the following and Part XII of the permit for 401 conditions.

The District of Columbia has added the following permit conditions in order to protect water quality in the District. A copy of all storm water pollution prevention plans required under the permit shall be submitted to the District of Columbia's Department of Consumer and Regulatory Affairs, Environmental

Regulation Administration, for review and approval.

District of Columbia: Federal facilities only, see the following and Part XII for 401 conditions.

The District of Columbia has added the following permit conditions for Federal facilities in order to protect the quality of waters in the District and surrounding areas including the Chesapeake Bay. Any Federal facility regulated by this permit shall include in its storm water management plan required by this permit the following additional items: current nitrogen and phosphorus loads, current fertilizer usage, current exterior pesticide usage, and current urea for deicing usage; volume of any storm water diverted to the sanitary sewer from roof leaders or other connections and the volume of any ground water diverted to the sanitary sewer; proposed reductions in nutrient and pesticides loads in accordance with the Chesapeake Bay Restoration goals; any Federal facility regulated by this permit, which manages significant quantities of animals or animal wastes, shall provide in the storm water management plan an accounting of these animal wastes, and nutrient control measures for avoiding, reducing, or eliminating runoff of these animal wastes; and any Federal facility regulated by this permit whose storm water discharges to a combined sewer shall study, or contribute to any joint study, the impact of its storm water discharge(s) on combined sewer overflows, and address potential solution(s) to avoid, reduce, or eliminate the combined sewer overflows caused by its storm water discharge(s). In addition, a copy of all storm water pollution prevention plans required under the permit shall be submitted to the District of Columbia's Department of Consumer and Regulatory Affairs, Environmental Regulation Administration, for review and approval.

Delaware: Federal facilities only, no 401 conditions.

Region IV

Florida: no 401 conditions.

Region VI

Louisiana: see the following and Part XII of the permit for 401 conditions.

In accordance with the Louisiana Coastal Zone Management Program (LRS 49:214), all facilities whose activities occur in, or have an effect on, the designated costal zone of Louisiana, must obtain an individual coastal zone consistency concurrence, permit, or waiver from the Coastal Management Division of the Louisiana Department of Natural Resources. These facilities are provided with an address to help in determining if they have responsibilities for obtaining clearance from the Louisiana Department of Natural Resources. These facilities cannot be eligible for coverage under this NPDES permit unless they have fulfilled their responsibilities under the Louisiana Coastal Zone Management Program. This is a condition of certification from the State of Louisiana (letter June 29, 1995).

As a condition for certification under Section 401 of the CWA, the State of Louisiana (letter dated February 1, 1995) required inclusion of the following limitations necessary to insure compliance with State water quality standards. These limitations are required under Louisiana Annotated Code 33:IX.708 (LAC 33:IX.708).

(1) General Limitations become effective on the effective date of the permit.

Parameter	Daily maximum (mg/l)
Total Organic Carbon (TOC)	50
Oil & Grease	15

(2) Oil & Gas Exploration and Production Facility requirements become effective on the effective date of the permit.

Parameter	Daily maximum (mg/l)
Chemical Oxygen Demand (COD)	100
Total Organic Carbon (TOC)	50
Oil & Grease	15

Chlorides: (a) Maximum chloride concentration of the discharge shall not exceed two times the ambient concentration of the receiving water in brackish marsh areas.

(b) Maximum chloride concentration of the discharge shall not exceed 500 mg/l in freshwater or intermediate marsh areas and upland areas.

Monitoring requirements for Total Organic Carbon (TOC) and Oil and Grease have been added to all facilities required to monitor annually or semi-annually. Facilities without monitoring requirements must insure the pollution prevention plan will insure compliance with these effluent limitations. The definitions of brackish marsh, freshwater marsh, intermediate marsh, upland area, and saline marsh at LAC 33:IX.708 have been included in Part X. of the permit.

Louisiana: Federal Indian Reservations only, no 401 conditions.

New Mexico: see the following and Part XII of the permit for 401 conditions.

As a condition for certification under Section 401 of the CWA, the State of New Mexico required inclusion of the following conditions necessary to insure compliance with State water quality standards (letter dated June 16, 1995). These conditions apply to permittees with facilities discharging into waters of the State of New Mexico. This testing requirement is in addition to any other monitoring required under the permit.

Results of the testing requirement is to be reported only to the State of New Mexico at the address given in the permit. A copy of the data shall be kept with the Pollution Prevention Plan.

New Mexico: Federal Indian Reservations only, no 401 conditions.

Oklahoma: see the following and Part XII of the permit for 401 conditions.

Under section 301 of the CWA and 40 CFR 122.44, EPA is required to include permit conditions necessary to insure compliance with more stringent conditions of State law. The proposed permit included requirements based on the 1988 Oklahoma Water Quality Standards, prohibiting new point source discharges to several classes of high quality waterbodies of the State. The final permit conditions reflect the requirements of Oklahoma Annotated Code Title 785, chapter 45 (OAC 785:45–5–25), effective June 25, 1992.

In order to comply with OAC 785:45–5–25, the permit will not authorize any new point source discharge of storm water associated with industrial activity to ''new'' point source discharges of storm water associated with industrial activity (those commencing after the June 25, 1992, effective date of the Oklahoma Water Quality Standards—OAC 785:45) to the following waters:

(i) Waterbodies designated as ''outstanding Resource Waters'' and/or ''Scenic Rivers'' in appendix A of the Oklahoma Water Quality Standards;

(ii) Oklahoma waterbodies located within the watersheds of waterbodies designated as ''Scenic Rivers'' in appendix A of the Oklahoma Water Quality Standards; and

(iii) Waterbodies located within the boundaries of Oklahoma Water Quality Standards appendix B areas which are specifically designated as ''Outstanding Resource Waters'' in appendix A of the Oklahoma Water Quality Standards.

In addition to this general permit exclusion on coverage, the Agency would like to emphasize the OAC 785:45–5–25 also prohibits the issuance of any NPDES discharge permit (other than for storm water runoff from temporary construction activity) for new point source discharges to ORWs or

Scenic Rivers, that commences after June 25, 1992.

Outstanding Resource Waters and Scenic Rivers are located in the following river basins identified in Oklahoma Water Quality Standards.

Basin 1—Middle Arkansas River: Barren Fork and certain listed tributaries; and the Upper Illinois River above Barren Fork confluence and certain listed tributaries.

Basin 2—Lower Arkansas River: Lee Creek and certain listed tributaries.

Basin 4—Lower Red River: Upper Mountain Fork River and certain listed tributaries.

For specific applicability, or a complete listing of affected waterbodies, permittees should refer to the Oklahoma Water Quality Standards, appendices A and B, or contact the Oklahoma Water Resources Board.

Oklahoma: Federal Indian Reservations only, no 401 conditions.

Texas: see the following and Part XII of the permit for 401 conditions.

As a condition for certification under section 401 of the CWA, the State of Texas required inclusion of the following conditions necessary to insure compliance with State water quality standards.

The following effluent limitations are required under the Texas Water Quality Standards (31 TAC 319.22 and 319.23). All pollution prevention plans developed pursuant to this permit must enable the discharger to comply with the limitations listed below.

All Discharges to Inland Waters

The maximum allowable concentrations of each of the hazardous metals, stated in terms of milligrams per liter (mg/l), for discharges to inland waters are as follows:

Total metal	Monthly average	Daily composite	Single grab
Arsenic	0.1	0.2	0.3
Barium	1.0	2.0	4.0
Cadmium	0.05	0.1	0.2
Chromium	0.5	1.0	5.0
Copper	0.5	1.0	2.0
Lead	0.5	1.0	1.5
Manganese	1.0	2.0	3.0
Mercury	0.005	0.005	0.01
Nickel	1.0	2.0	3.0
Selenium	0.05	0.1	0.2
Silver	0.05	0.1	0.2
Zinc	1.0	2.0	6.0

All Discharges to Tidal Waters

The maximum allowable concentrations of each of the hazardous metals, stated in terms of milligrams per liter (mg/l), for discharges to tidal waters are as follows:

Total metal	Monthly average	Daily composite	Single grab
Arsenic	0.1	0.2	0.3
Barium	1.0	2.0	4.0
Cadmium	0.1	0.2	0.3
Chromium	0.5	1.0	5.0
Copper	0.5	1.0	2.0
Lead	0.5	1.0	1.5
Manganese	1.0	2.0	3.0
Mercury	0.005	0.005	0.01
Nickel	1.0	2.0	3.0
Selenium	0.1	0.2	0.3
Silver	0.05	0.1	0.2
Zinc	1.0	2.0	6.0

The definitions of ‘‘inland’’ and ‘‘tidal’’ waters has been included in part XI.E of the Texas permit. Inland waters are those not defined as tidal waters. Tidal waters include those waters of the Gulf of Mexico within the jurisdiction of the State of Texas, bays and estuaries thereto, and those portions of the river systems which are subject to the ebb and flow of the tides, and to the intrusion of marine waters.

All facilities that have demonstrated significant lethality, which has not been controlled, shall continue to perform WET testing in accordance with the State specified requirements. The Texas Surface Water Quality Standards contain a whole effluent toxicity standard requiring discharges to exhibit greater than 50% survival of the appropriate test organisms in 100% effluent for a 24-hour period (i.e., 24-hr LC50 > 100%). As a condition for certification, the State required modification of the toxicity test protocol contained in the permit to conform to that specified to demonstrate compliance with the State standard. The results of the toxicity testing will be used to insure that facilities which have exhibited toxicity in the past will be required to continue monitoring for whole effluent toxicity and identify discharges that will require more stringent pollution prevention plans and/or individual or alternative general permit coverage.

Texas: Federal Indian Reservations only, no 401 conditions.

Region IX

Arizona: see the following and Part XII of the permit for 401 conditions.

Arizona: Federal facilities only, see the following and Part XII of the permit for 401 conditions.

In order to ensure compliance with the requirements of the State of Arizona, discharges authorized by this permit shall not cause or contribute to a violation of any applicable water quality standard of the State of Arizona (Arizona Administrative Code, Title 18, Chapter 11). Notices of Intent, Notices of Termination, and for those facilities subject to monitoring and reporting requirements, Discharge Monitoring Report Form(s) and other required monitoring information shall be submitted to the State of Arizona Department of Environmental Quality at the following address: Storm Water Coordinator, Arizona Department of Environmental Quality, 3033 N. Central Avenue, Phoenix, Arizona 85012.

NOIs submitted to the State of Arizona shall include the well registration number if storm water associated with industrial activity is discharged to a dry well or an injection well.

SARA Section 313 (Community Right to Know) Facilities are subject to the following additional requirement: liquid storage areas for Section 313 water priority chemicals shall be operated to minimize discharges of Section 313 chemicals. Appropriate measures to minimize discharges of Section 313 chemicals shall include secondary containment provided for at least the entire contents of the largest tank plus sufficient freeboard to allow for the *25-year, 24-hour precipitation event*, a strong spill contingency and integrity testing plan, and/or other equivalent measures.

All facilities with any portion of the facility that is located at or below the Base Elevation shall delineate on the site map those portions of the facility that are located at or below the Base Elevation.

The following definitions are added to Part X of the permit:

''Significant Sources of Non-Storm Water''—includes, but is not limited to discharges which could cause or contribute to violations of water quality standards of the State of Arizona, and discharges which could include releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (see 40 CFR 110.10 and CFR 117.21) or Section 102 of CERCLA (see CFR 302.4).

''Base Elevation''—elevation of a surface waterbody having a one percent chance of being equaled or exceeded during any given year.

Arizona: Federal Indian Reservations only (including those portions of the Navajo Reservation located outside Arizona), no 401 conditions.

California: Federal Indian Reservations only, no 401 conditions.

Nevada: Federal Indian Reservations only (including those portions of the Duck Valley, Fort McDermitt, and Goshute Reservations located outside Nevada), no 401 conditions.

Johnston Atoll: no 401 conditions.

Johnston Atoll: Federal facilities only, no 401 conditions.

Midway and Wake Island: no 401 conditions.

Midway and Wake Island: Federal facilities only, no 401 conditions.

Region X

Alaska: Federal Indian Reservations only, no 401 conditions.

Idaho: no 401 conditions.

Idaho: Federal Indian Reservations only (except the Duck Valley Reservation lands which are handled by Region IX), no 401 conditions.

Idaho: Federal facilities only, no 401 conditions.

Oregon: Federal Indian Reservations only, no 401 conditions.

Washington: Federal Indian Reservations only, no 401 conditions.

Washington: Federal facilities only, see the following and Part XII of the permit for 401 conditions.

In order to ensure compliance with the requirements of the State of Washington, discharges authorized by this permit shall not cause or contribute to a violation of any applicable water quality standard of the State of Washington, specifically Chapter 173–201A WAC Surface Water Quality Standards, Chapter 173–204 WAC Sediment Standards, and the National Toxics Rule for human health related to water quality standards.

XI. Regulatory Flexibility Act

Under the Regulatory Flexibility Act, 5 U.S.C. 601 et seq., EPA is required to prepare a Regulatory Flexibility Analysis to assess the impact of rules on small entities. Under 5 U.S.C. 605(b), no Regulatory Flexibility Analysis is required where the head of the Agency certifies that the rule will not have a significant economic impact on a substantial number of small entities.

Today's permit will provide any small entity the opportunity to obtain storm water permit coverage as a result of the group application process. Group applications provided small entities a mechanism to reduce their permit application burden by grouping together with other industrial facilities and submitting a common permit application with reduced monitoring requirements and shared costs. The group application information submitted to EPA provided a basis for the development of storm water permit conditions tailored specifically for each industry. The permit requirements have been designed to minimize significant administrative and economic impacts on small entities and should not have a significant impact on industry in general. Moreover, the permit reduces a significant burden on regulated sources of applying for individual permits.

Accordingly, I hereby certify pursuant to 5 U.S.C. 605(b) that this permit will not have a significant impact on a substantial number of small entities.

Authority: Clean Water Act, 33 U.S.C. 1251 *et seq.*

XII. Unfunded Mandates Reform Act

Under section 202 of the Unfunded Mandates Reform Act of 1995 (''Unfunded Mandates Act''), which was signed into law on March 22, 1995, EPA must prepare a written statement to accompany any rules with Federal mandates that may result in estimated costs to State, local, or tribal governments in the aggregate, or to the private sector, of $100 million or more in any one year. When such a statement is required for EPA rules, under section 205 of the Unfunded Mandates Act, EPA must identify and consider alternatives, including the least costly, most cost-effective or least burdensome alternative that achieves the objective of such a rule. EPA must select that alternative, unless the Administrator explains in the final rule why it was not selected or it is inconsistent with law. Before EPA establishes regulatory requirements that significantly or uniquely affect small governments, including tribal governments, it must develop under section 203 of the Unfunded Mandates Act a small government agency plan. The plan must provide for meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising them on compliance with the regulatory requirements.

In response to the requirements of the Unfunded Mandates Act, the Act generally excludes from the definition of a ''Federal intergovernmental mandate'' (in sections 202, 203, and 205) duties that arise from participation in a voluntary Federal program. A municipal discharger of storm water associated with industrial activity may voluntarily elect to seek coverage under today's multi-sector general permit rather than obtain an individual permit or coverage under a baseline general permit. Coverage under today's permit, therefore, is voluntary in that the permit does not automatically apply to any particular entity. Thus, it imposes no Federal intergovernmental mandate within the meaning of the Act.

Small government agency plans under section 203, on the other hand, are required when small governments may be significantly or uniquely affected by regulatory requirements. ''Regulatory requirements'' arguably include the requirements of this permit should a municipality seek to be covered under the permit. EPA envisions that some municipalities may elect to seek coverage under this permit for certain storm water discharges, for example, from the following types of industrial activity: hazardous waste treatment, storage, and disposal; industrial landfills, land application sites and open dumps; scrap and waste material recycling; steam electric power generation; ground transportation (local and suburban transit, interurban highway passenger transportation, including railroads, petroleum bulk stations, and motor freight transportation); air transportation; domestic waste water treatment; and water transportation. Any such permit requirements, however, do not significantly affect small governments because they are subject to the same requirements as other entities whose duties result from today's rule. Permit requirements also do not uniquely affect small governments because compliance with the permit's conditions affects small governments in the same manner as other entities seeking coverage under the permit. Thus, any applicable requirements of section 203 have been satisfied.

The regulated community that may seek coverage under this general permit, including small governments, have been involved in the development of this permit and, therefore, have had notice of the requirements that they may incur under this permit. EPA has prepared permit Fact Sheets to accompanying this permit in order to inform and educate permit applicants about how to comply with the terms of the permit. EPA has already published instructional guidance: Developing Pollution Prevention Plans for Construction and (other) Industrial Activity (1992), NPDES Storm Water Sampling Guidance Document, 833/B–92–001 (July 1992), and Guidance for the Preparation of Discharge Monitoring Reports: Facilities required to Report Semi-annual Monitoring Results Under NPDES Storm Water General Permits, 833/B–93–002 (rev. April 1994). Therefore, EPA encourages any small governments that may seek coverage under this multi-sector general permit to refer to that instructional guidance, as well as contact EPA Regional storm water coordinators listed in the Permit Fact Sheet for any additional assistance such small governments may require.

Accordingly, I hereby certify pursuant to the provisions of the Regulatory Flexibility Act, that these permits will not have a significant impact on a substantial number of small entities.

Authority: Clean Water Act, 33 USC 1251 *et seq.*

Dated: August 29, 1995.

Marley Laing,

Acting Regional Administrator, Region I.

Accordingly, I hereby certify pursuant to the provisions of the Regulatory Flexibility Act, that these permits will not have a significant impact on a substantial number of small entities.

Authority: Clean Water Act, 33 USC 1251 *et seq.*

Dated: August 16, 1995.

Jeanne M. Fox,

Regional Administrator, Region II.

Accordingly, I hereby certify pursuant to the provisions of the Regulatory Flexibility Act, that these permits will not have a significant impact on a substantial number of small entities.

Authority: Clean Water Act, 33 USC 1251 *et seq.*

Dated: September 11, 1995.

Stanley L. Laskowski,

Acting Regional Administrator, Region III.

Accordingly, I hereby certify pursuant to the provisions of the Regulatory Flexibility Act, that these permits will not have a significant impact on a substantial number of small entities.

Authority: Clean Water Act, 33 USC 1251 *et seq.*

Dated: September 11, 1995.

Patrick M. Tobin,

Acting Regional Administrator, Region IV.

Accordingly, I hereby certify pursuant to the provisions of the Regulatory Flexibility Act, that these permits will not have a significant impact on a substantial number of small entities.

Authority: Clean Water Act, 33 USC 1251 *et seq.*

Dated: September 12, 1995.

William G. Laxton,

Acting Regional Administrator, Region VI.

Accordingly, I hereby certify pursuant to the provisions of the Regulatory Flexibility Act, that these permits will not have a significant impact on a substantial number of small entities.

Authority: Clean Water Act, 33 USC 1251 *et seq.*

Dated: August 24, 1995.

Alexis Strauss,

Acting Regional Administrator, Region 9.

Accordingly, I hereby certify pursuant to 5 U.S.C. 605(b) that this permit will not have a significant impact on a substantial number of small entities.

Dated: September 11, 1995.

Chuck Clarke,

Regional Administrator, Region 10.

Appendix A—Summary of Responses to Public Comments on the November 19, 1993, Proposed Draft Multi-Sector Storm Water General Permit

The following discussion is a summary of the major issues identified by EPA that were raised regarding the storm water multi-sector industrial general permit during the public comment period, along with EPA's response to each major issue. This summary aggregates comments by similarity of the issues and does not discuss each and every public comment that was received on the proposed permit. A comprehensive discussion of each comment that was raised is provided in a separate detailed response to comment document which is maintained by EPA as a part of the record for this permit issuance action. The first part of this appendix responds to the major issues raised by commenters during the comment period and the second part responds to key industry-specific issues.

Eligibility of Non-Group Members

As proposed, the multi-sector storm water general permit may provide discharge authorization for any industrial activity described in the coverage sections of the twenty-nine industrial sectors that have point source discharges of storm water to waters of the United States or to a municipal separate storm sewer system and which meet the general eligibility provisions of the permit. Coverage under the permit, as proposed, was allowed for owners and operators of these types of industrial activities regardless of whether or not they participated in a group application. Several commenters expressed concern that owners/ operators of facilities which did not participate in the group application process will be eligible for coverage under the multi-sector general permit, and suggested that only those facilities that participated in the group process be allowed coverage under the permit.

EPA set forth the storm water permit application process (including group applications) in the storm water regulations published in November, 1990 (55 FR 47990). EPA's strategy, as stated in this notice, was to regulate storm water discharges from industrial activity by promulgating a baseline general permit for most industrial dischargers (Tier 1), and then to develop more specific industry and/or watershed general permits (Tiers 2 & 3). An integral part of the process to develop the multi-sector storm water general permit, which is similar to a Tier 3 permit (industry-specific), was the assimilation of the industry-specific data gathered from the group applications. It was always EPA's intention to utilize this information in the development of permits to cover all applicable facilities, and to provide the resulting permit as a model to States for use in State permitting programs. In the preamble to these regulations on pages 48027 and 48028, EPA made it clear that the group application process would lead to either general permits for large groups of similar discharges or to individual permits for individual facilities. EPA did not commit to issue permits that were open only to group members. The concept of the general permit implies wide-ranging issuance to all eligible facilities.

Given the large number of group applications and the similarity between groups, EPA chose to develop and propose one general permit with twenty-nine different industry sectors covering all the industries represented in the group applications, rather than issue twenty-nine separate sector general permits, one by one, to each and every group. Likewise, EPA chose not to issue a separate and distinct ''group'' permit to each and every group because of the similarity between groups, in the industrial activities, significant materials stored exposed to storm water and the material management practices employed, as reported in the group application information. Given the similarity of the industrial activities represented in the group applications, twenty-nine sectors represented were determined by EPA as a reasonable grouping of the industries that participated in the group process. EPA further believes that the use of the twenty-nine sectors provides a fair and reasonable method for permitting each industry group that participated in the group application process.

To make the best use of the proposed multi-sector general permit, EPA chose not to limit coverage under this general permit to those facilities that only participated in the group process. The application information provided by the groups was extremely valuable in preparing the permit and has resulted in an accurate and more applicable industrial permit for the types of facilities represented in the applications. EPA is not precluded or restricted from utilizing information gathered from particular types of applications submitted to the Agency during the application process, and accordingly, coverage under today's general permit will remain available to all industrial facilities that meet the eligibility criteria of the permit, whether or not they participated in a group application.

Choice Between Baseline and Multi-Sector Permit

In the fact sheet for the proposed multi-sector general permit, EPA stated that group applicants could seek coverage under the baseline general permit rather than under this multi-sector general permit, but noted that certain deadlines for pollution prevention plan preparation and implementation had already expired for existing facilities under the baseline permit. Commenters supported the option that group applicants be allowed to chose coverage under either the multi-sector general permit or the baseline general permit once the multi-sector permit is issued in final. In addition, commenters requested that group applicants choosing to obtain coverage under the baseline general permit not be required to prepare a pollution prevention plan prior to submitting an NOI. These comments raise two issues: (1) Should group applicants be allowed to apply for coverage under the baseline general permit after the permit's October 1, 1992 deadline for existing facilities to apply for coverage; and (2) should the deadlines in the baseline general permit for pollution prevention plan preparation and implementation, sampling, etc. be waived for facilities filing for coverage after the October 1, 1992 deadline.

EPA will allow group applicants to submit an NOI for coverage under either today's multi-sector general permit or the baseline general permit. Although Part II.A.6 of the baseline general permit currently allows existing facilities to submit an NOI for coverage after October 1, 1992, the Agency reserves the right to limit coverage under the baseline general permit at a later date.

EPA will not, however, extend compliance deadlines in the baseline general permit for facilities that participated in the group application process. Group applicants had the opportunity to apply for the baseline general permit in a timely manner. It would be inappropriate for EPA to favor group applicants over facilities that complied with the baseline general permit by allowing them more time to come into compliance. Additionally, extending the baseline permit deadlines would require a modification of the baseline general permit, which is beyond the scope of today's final rule.

Consolidation of the Group Applications Into 29 Industry Sectors

Over 1,200 group applications were submitted to EPA pursuant to the group application option contained in 40 CFR 122.26(c)(2). As the group application option progressed, many of the groups dropped out leaving approximately 700 groups. Based on the similarity of many of the groups, and to maintain a manageable number of permits to be issued, EPA consolidated the approximately 700 groups into 29 industrial sectors, and developed BMP and monitoring requirements for each sector.

EPA received 50 comments regarding the consolidation of group applications. Thirty-eight comments objected to consolidation, while 12 comments expressed support. Another 38 comments suggested that the 29 industrial sectors should be divided into additional subsectors. Some commenters that objected to consolidation suggested that the use of SIC codes as one of the underpinnings for consolidation was inappropriate because SIC codes are based on economic activity, and are not meant to be indicative of an industry sector's affect on the quality of storm water runoff. Some commenters suggested that the consolidation process failed to take into account the climatic variations of different geographic regions across the country. Other commenters objected to the consolidation process on the basis that it represented a significant departure from the group application process as described in the preamble to the storm water permit application regulations published on November 16, 1990 (55 FR 48024). Some comments expressed disappointment that the group applications were not handled in a more ''individualized'' manner, and one comment suggested that the group application consolidation process violated the Administrative Procedure Act (APA).

Many of the commenters that expressed objections to the consolidation of the group applications offered alternative suggestions. Most recommended that additional sectors or subsectors be established, and it was also suggested that the general permit include a provision allowing industries the option of petitioning for the creation of subsectors during the term of the permit. Other suggestions included establishing minimum activity requirements that trigger monitoring requirements, or deleting the priority/nonpriority monitoring structure altogether.

For the final general permit, EPA has retained the 29 industrial sectors as listed in the proposed rule, with the addition of supplementary subsectors that establish specific monitoring requirements for different types of facilities within industrial sectors. In response to comments expressing concern over monitoring requirements that apply to all facilities within the priority sectors, the Agency re-evaluated the monitoring data submitted by facilities in the 29 industrial sectors, and modified the methodology for determining the types of facilities that are required to conduct storm water monitoring. Accordingly, the final general permit has been changed to focus monitoring requirements on industrial sub-sectors which, according to the submitted monitoring data, pose the greatest potential risk to storm water runoff quality. The final permit also provides the opportunity for facilities in sub-sectors that are subject to storm water monitoring to apply the alternative certification provisions (see section VI.E.3 of the Fact Sheet). The alternative certification provisions provide facilities an opportunity to reduce or avoid storm water monitoring requirements under certain circumstances and is discussed in more detail below.

As noted above, some commenters questioned whether the consolidation process was consistent with NPDES and APA regulations. EPA conducted a thorough review of the consolidation process for consistency with the NPDES regulations. Section 122.28(a)(2)(i) allows EPA to issue general permits for ‘‘storm water point sources;’’ this section does not in any way limit or qualify the types of sources subject to regulation. EPA also has broad regulatory discretion regarding geographic boundaries pursuant to section 122.28(a)(1). In developing the general permit, the Agency attempted to strike a balance between recognizing the variety of facilities that comprise the group applicants and developing a permitting process that could be administered without an undue expenditure of Agency resources. In summary, all actions taken by EPA, including the consolidation process, are also within the discretion accorded to the Agency under the Clean Water Act and NPDES regulations.

In regards to consistency with the APA, Section 553 of the APA requires that public notice and opportunity for public comment be provided for all rulemakings. EPA published the proposed NPDES General Permit for Storm Water Discharges From Industrial Activities in the Federal Register and provided a 90-day comment period on November 19, 1993 (58 FR 61146). Public hearings were also held in the EPA Regions. Furthermore, EPA invited comment on the 29 sector consolidation. These efforts by the Agency are consistent with the provisions of the APA.

As noted earlier, some commenters suggested that the use of SIC codes were inappropriate as a basis for consolidating industrial facilities into 29 industrial sectors. EPA notes that the nature of the industrial activities, as described in the group application information, in conjunction with SIC codes are an appropriate basis for sector consolidation. Although SIC codes are used to categorize industries based on economic activities, these codes are generally grouped together based on similar industrial activities. In addition, EPA was aware of the differences and similarities among the facilities included in a particular sector based upon the group application data that was submitted by the participants. Using this information in conjunction with the activity descriptors in the SIC codes, EPA was able to appropriately group similar industrial activities into the 29 sectors.

Credit for Group Members

EPA requested and received 75 comments that addressed the issue of whether EPA should grant some form of credit for facilities that participated in the group application process. Specifically, these commenters objected to EPA developing a permit that applies not only to group applicants but also to facilities that did not participate in the group application process. Thus, many of these commenters are seeking credit for the costs they incurred in the preparation of group permit applications.

A majority of the commenters expressed a desire for reduced monitoring as compensation for completing the sampling requirements and submitting the data for Part 1 and Part 2 of the application process. Specific suggestions included exemptions from one of the four samples taken during the first year, from the second year of monitoring, or from the first five years of monitoring. Other commenters suggested that EPA allow the monitoring requirements to be left to the discretion of the States and that civil fines be waived for inadvertent non-compliance of group members. In response to these comments, EPA wants to clarify that it is not allowing exemptions from monitoring requirements based on whether a facility participated in the group application process. EPA based the monitoring requirements in the permit on data submitted during the application process and does not intend to allow those facilities to conduct less frequent monitoring because of their participation in the group application process. Rather, facilities that participated in the group application process are actually in a position to benefit from the permit in the sense that this permit is tailored directly to their industrial sector and is based specifically on information provided in their group application. Facilities that did not participate in group applications will be required to comply with the permit conditions regardless of their site-specific circumstances.

Many commenters also expressed concern that the multi-sector permit would be available to non-group members. Although EPA regrets that the group application process did not produce the results that some participants hoped for, it would be a misuse of tax dollars to limit coverage under the multi-sector permit to group members and then develop another permit for non-group members. However, EPA would like to point out that facilities that participated in the group application process are in compliance with the permit application requirements under the storm water program, whereas facilities that did not participate in a group application and that are not covered under another permit are not in compliance and remain subject to enforcement action until covered by a permit.

Several other commenters suggested providing compensation for group members by waiving permit fees equal to the amount spent on data collection fees. In response, EPA is unable to devise an equitable manner for credit to be provided in this way.

Finally, some commenters advocated that group members be either exempted from the NOI submittal requirement or allowed to at least submit one NOI for the group. Other commenters suggested that the dates for submitting NOIs be extended for group members and that previously submitted NOIs be accepted. In today’s general permit requirements, EPA requires each facility seeking coverage under the permit to submit their own NOI form. This requirement allows EPA to successfully track every facility covered by the permit. It will also increase the likelihood that facility operators will read the permit and makes enforcement actions easier to implement. EPA believes this is a justifiable requirement because the NOI form is a simple one-page form that requires little effort to complete.

In summary, EPA believes that credit has been provided to the group application members through the group application process. This included a reduced burden in submitting a permit application over the individual application option and reduced storm water sampling requirements for the application. With industry-specific information upon which to base the proposed multi-sector storm water permit, group applicants will be issued a more applicable and tailored storm water discharge permit which better takes into account the characteristics of each industry sector.

Storm Water Runon

The owner or operator of a regulated industrial facility with point source discharges of storm water is responsible for the storm water discharges that leave its property and enter waters of the U.S. or a municipal separate storm sewer system. There are instances, however, whereby the storm water that is discharged at least partially consists of storm water flowing onto the facility from a nearby facility or property (referred to here as ''runon'').

Commenters have requested clarification of the permit language on the issue of runon. One commenter asked for a provision to be added to the permit that would relieve facilities from any responsibility for pollutants present in storm water runon which is eventually discharged from their property. The commenter also indicated that runon from adjacent sites cannot always be separated from onsite discharges.

Today's general permit does not change the provisions related to runon. Facilities that discharge point sources of storm water associated with industrial activity, even if it includes offsite runon, remain responsible for the permitting of those discharges. Such facilities which seek coverage under today's permit must address storm water runon in their storm water pollution prevention plan (storm water pollution prevention plan). If a facility cannot effectively address the runon problem in their storm water pollution prevention plan, then the facility should contact their NPDES permitting authority for assistance on how to deal with the runon problem. In addition, the facility may chose to monitor the runon to document that the source of pollutants is offsite. By doing so, a facility with a runon problem may be better able to show that the pollutant source is offsite and that their pollution prevention plan is adequately addressing all onsite sources. Offsite facilities which are the source of the contaminated runon could be designated by the permitting authority as a co-permittee with the adjacent facility and jointly develop a storm water pollution prevention plan, and perform any monitoring which may be required to address the situation. They may also be designated as a separate permittee by the permitting authority.

Acceptance of Group Application in Lieu of an NOI

A number of commenters suggest EPA exempt members of approved group applications from the Notice of Intent (NOI) submittal requirements. The commenters indicate these facilities should automatically be covered under today's permit because they have already satisfied the NPDES storm water application requirements.

EPA cannot exempt members of the approved group application from the NOI submittal requirements. Federal regulations under 40 CFR 122.28(b)(2) require an NOI for all NPDES general permits for the discharge of storm water associated with industrial activity. EPA cannot assume that all members of the approved group applications wish to be covered by today's permit, or that they satisfy the eligibility provisions of the permit.

Encourage NPDES States To Accept Group Applications

Several commenters requested that EPA require or encourage NPDES-authorized States to accept the group applications and/or issue permits based on the multi-sector model.

EPA has, and continues, to encourage States to make use of the multi-sector general permit for permitting industrial activities. EPA has encouraged States by sending them the original permit and fact sheet and by supporting them with additional information necessary to issue the permit within their States. EPA has also given NPDES States databases of the group application members which allows each State to identify group applicants within their States. EPA will make available to all NPDES authorized States a copy of the final multi-sector general permit. In addition, EPA will make available group application information to any NPDES States that request it. However, EPA cannot require NPDES-authorized States to accept group applications and to utilize the multi-sector permit as a model for developing a State permit. This would be inconsistent with previously stated EPA position. The response to comments for the final storm water regulations (55 CFR 48028) specifically noted that NPDES-authorized States were free to adopt the group application process, ''* * * but is not required to.'' EPA also recommended that ''(b)efore submitting a group application, facilities should ascertain from the State permitting authority whether that State intends to issue permits based on a group application * * *.'' The Agency believes general permits offer an efficient means of providing discharge permit coverage to a large number of facilities and that the multi-sector general permit represents an appropriate permit for the industries that were members of group applications. However, once the NPDES program is approved for a State, basic permitting decisions lie with the State.

Co-Located Industrial Activities

A number of commenters expressed concern over the conditions in the permit which require facilities with multiple ''co-located'' industrial activities to comply with all industry sector requirements that are applicable to one or more of the industrial activities on their site. Commenters argue that given the large number of industry sectors and the complexity of the eligibility requirements, it will be difficult for facilities to determine which industry sector requirements apply. Commenters expressed concern that a permittee could unknowingly violate the permit conditions by failing to recognize that a portion of his/her facility is subject to another industry sector requirements. Commenters also stated that the cumulative burden of the monitoring and pollution prevention plan requirements for facilities with a number of industrial activities would be excessive.

In response to these concerns, EPA has modified those sections of today's permit addressing co-located activities to reduce confusion that could arise from the co-located conditions as proposed. However, under today's permit facilities with multiple industrial activities are still required to prepare and implement a pollution prevention plan which addresses the requirements of all the applicable industry sector requirements. These facilities are also required to comply with the industry sector monitoring requirements on an outfall by outfall basis. The intent of today's permit remains the same, which was to require pollution prevention plan measures and storm water monitoring which specifically addresses the pollutant sources at the permitted industry facility. Operators of facilities with multiple industrial activities will need to carefully and completely review the permit and fact sheet to determine all necessary applicable terms and conditions. EPA believes the sector descriptions are clear. Application of the sector descriptions to co-located activities is within the scope of responsibilities of a permittee under the NPDES program and does not place an undue burden on the facility operator. For clarification, with co-located industrial activities, still only one storm water pollution prevention plan is required for the facility. Monitoring requirements for each outfall will not be duplicative but will be complementary. If the same pollutant is required to be monitored in two different sectors for industrial activities found on the site, if the industrial activities drain to the same storm water outfall, only one sample and analytical measurement for that pollutant is necessary.

Notice of Intent Submission Requirements

A number of commenters expressed concern over the requirement in the proposed permit for submission of a Notice of Intent (NOI) when there is a change in the operator of the facility. The proposed permit required the new operator to submit an NOI 2 days prior to the transfer of operations. The commenters opposed this time frame for submittal of the NOI, stating that the purchaser of an industrial activity will not be able to complete the NOI or prepare a Storm Water Pollution Prevention Plan in advance of the property transfer. The commenters suggested different time frames for submittal of an NOI which ranged from 30 to 120 days after the transfer of operations.

Today's permit retains the requirement that new operators notify EPA at least 2 days in advance of a transfer of operator responsibility for an industrial activity. EPA believes that the simple information required for completion of the NOI can easily be obtained by the purchaser in advance of the actual property transfer. Operators of recently purchased facilities which discharge storm water associated with industrial activity without an NPDES permit would be in violation of the Clean Water Act.

In addition to submitting the NOI two days prior, new operators which assume ownership of an industrial facility without a break in operations must continue to implement the Storm Water Pollution Prevention Plan prepared by the previous operator, otherwise failure to do so would constitute a violation of the NPDES storm water general permit conditions. These facilities may subsequently modify the storm water pollution prevention plan to accommodate any changes in operation which they choose to make, provided the storm water pollution prevention plan still meets all requirements of the permit.

Submission of a Copy of the Notice of Intent (NOI) to the Operator of the Municipal Separate Storm Sewer

Several commenters opposed the requirement for facilities which discharge to Municipal Separate Storm Sewers (MS4) to submit a copy of the NOI to the operator of the MS4. The commenters argue that submitting the notice places an additional paperwork burden upon the facilities. Others argue that the submission is unnecessary because all industrial activities discharging to MS4's were required to notify their municipalities prior to May 15, 1991. Finally one commenter stated that there would be no benefit from facilities covered under this permit notifying municipalities since facilities covered under other general permits or individual permits would not be required to notify the MS4 operator.

Today's permit retains the requirement for facilities which discharge to a MS4 to send a copy of the NOI to the operator of the MS4. This requirement is retained as a provision to assist municipalities comply with the anticipated requirements of their NPDES permits. This will be a key piece of information for municipalities to identify industrial discharges to their MS4s as required under 40 CFR 122.26. Through submittal of the NOI to the MS4, municipalities can keep an up-to-date inventory of storm water discharges associated with industrial activity that discharge to the system. From this inventory, municipalities may (as a part of their storm water management plan activities) review industrial pollution prevention plans of the industries which discharge to their system. EPA does not believe this requirement presents a significant paperwork burden for the facility since the facility is simply required to make an additional copy of the one page NOI form, which they send to EPA, and send that copy to the operator of the MS4. This requirement is a provision of EPA's baseline general permit and is also a requirement of most individual permits issued to industrial dischargers where the permitting authority determines it is necessary. Making use of information from a previous notification done in 1991 would not allow the municipality to keep their industrial inventory up-to-date.

Prohibition of Non-Storm Water Discharges

A number of the comments received discussed the prohibition of non-storm water discharges contained in the permit. The multi-sector permit authorizes some non-storm water discharges. These discharges include those from firefighting activities; firehydrant flushings; irrigation drainage; lawn watering; routine external building washdown without detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; springs; uncontaminated ground water; and foundation or footing drains where flows are not contaminated with process materials such as solvents that are combined with storm water discharges associated with industrial activity. The non-storm water discharges must be identified within the storm water pollution prevention plan to be authorized under this permit. All other non-storm water discharges including vehicle and equipment wash water, boiler blow down, and steam condensate are excluded from coverage under today's permit and must be covered under a separate NPDES permit. Today's permit requires that a facility certify that the presence of non-storm water discharges has been tested for at its outfalls and that an inventory of the locations of the outfalls with non-storm water discharges has been conducted.

EPA received several comments requesting that additional non-storm water discharges be authorized by the multi-sector permit. These discharges included those from vehicle washing that did not use detergents, air compressor condensate, discharges from drinking fountains and clean water discharges from holding tanks. EPA has reviewed the requests for additional allowable non-storm water discharges and determined that air compressor condensate and drinking fountain water are not expected to contain pollutants and will be added to the list of allowable non-storm water discharges covered by today's permit. Other non-storm water discharges such as vehicle wash waters, regardless of detergent usage, and holding tank discharges are not covered by today's permit since there is a significant potential for these types of discharges to be contaminated. Such non-storm water discharges should be authorized under another NPDES permit.

Several commenters also requested modification to the requirement that building and pavement wash water discharge only be allowed under the permit where there has been no past spill or leaks or where all spilled material has been removed. The commenters indicated that it was not reasonable to require all residue to be removed. Commenters requested a more reasonable cleanup standard. EPA has not modified this provision in today's permit. The non-storm water discharges covered by today's permit are eligible because EPA believes these discharges will not contain contamination. To the contrary, there is a significant possibility that pavement or building wash water from an area in which a pollutant residue remains will contain pollutants which would then be discharged. Such discharges, if they are not completely cleaned up, are required to be permitted, but under a separate NPDES permit. If such discharges are numerous at a facility, the operator of the facility may find it advantageous to apply for an individual NPDES permit which could cover these types of discharges in addition to the storm water and process discharges that may be present. Under any permitting scenario, however, the preferential environmental result is to remove the residual contamination and prevent the contamination of storm water runoff.

Releases in Excess of Reportable Quantities

Under the proposed permit permittees were required to report releases of hazardous substances as required under 40 CFR 117 and 40 CFR 302 that exceed a reportable quantity (RQ). If the spill exceeds the RQ the facility must report the spill to the National Response Center, modify the storm water pollution prevention plan, and notify EPA in writing of the nature of the spill. The permit further required facilities to minimize the discharges of these substances in storm water through the implementation of applicable best management practices. When releases do occur, the facilities are required to submit a written report which outlines the steps to be taken to reduce the chance of further spills in the future. Commenters were concerned about how to interpret the reporting requirements for RQ releases. For instance, at an airport, if individual airlines release ethylene glycol at levels below the RQ, then is the combined discharge from several airlines considered reportable? Commenters also wanted clarification on what constituted a significant spill or leak. Is the spillage of two cups of oil significant if it causes a visible sheen?

Today's permit requires each individual permittee to report spills equal to or exceeding the RQ levels specified at 40 CFR 110, 117, and 302. If an airport authority is the sole permittee, then the sum total of all spills at the airport would be assessed against the RQ. If the airport authority is a co-permittee with other permittees at the airport, such as numerous different airlines, the assessed amount would be the summation of all spills by each co-permittee. If separate, distinct individual permittees exist at the airport, then the amount spilled by each separate permittee is the assessed amount for RQ determination. These facilities must follow the necessary procedures for reporting spills or leaks equal to or exceeding the RQ level. Where a sole permittee is identified, this permittee would report. Where co-permittees are present, the co-permittees should identify in their pollution prevention plan for the airport who the responsible party is for reporting purposes, otherwise all co-permittees are responsible. In relation to the RQ for oil, quantity does not necessarily matter. The oil RQ is a visible sheen or slick and if such is produced by a spill of oil then the RQ has been exceeded.

Non-Storm Water Discharge Certification

Many commenters felt that the storm water pollution prevention plans should not include an inventory of non-storm water discharges or the NPDES permit numbers that cover those discharges. Today's permit does not require the permittee to list the NPDES permit numbers for the separately permitted non-storm water discharges, however, the permit does require that facilities identify the potential sources of the non-storm water discharges. The list of potential sources will assist the operator in efforts to eliminate or redirect non-storm water discharges.

Deadlines for Preparation, Implementation and Revisions to the Storm Water Pollution Prevention Plan

The proposed multi-sector permit currently requires that all facilities certify that they have prepared and implemented a storm water pollution prevention plan in accordance with part IV of the permit. For existing facilities, the storm water pollution prevention plan must be prepared and implemented within 270 days after permit issuance. New facilities must have prepared and implemented the storm water pollution prevention plan prior to submitting the NOI. Where construction is necessary to implement the plan, the facility should complete construction as soon as possible, but has up to a maximum of 3 years to comply with the plan. There is also a provision for an extension of the deadline for implementation of the storm water pollution prevention plan where the Director may establish a later date for compliance with the plan where a facility can show good cause.

Oil and gas facilities which have discharges of reportable quantities of oil or a hazardous substance will be required to develop and implement a plan on or before 60 days after first knowledge of a release. EPA requested comment as to whether the multi-sector permit should require all permittees to submit certification that the storm water pollution prevention plan has been prepared and implemented in accordance with the terms and conditions of the permit. The proposed permit also would have required any needed revisions of the plan to be developed within 2 weeks of the Comprehensive Site Compliance Evaluation and implemented no more than 12 weeks after the inspection.

In general, commenters indicated that they needed more time to develop and implement the storm water pollution prevention plan properly because of the complexity and resources involved. These commenters were commenting on both new and existing facility requirements. Five commenters did not like the deadlines for development and implementation of a storm water pollution prevention plan in the multi-sector permit because these deadlines were inconsistent with EPA's baseline storm water general permit. They argued that the multi-sector permit should allow the same time frame of 6 months from the effective date of the permit to develop the plan with 360 days for implementation. Four commenters argued that new facilities should not have to certify that their storm water pollution prevention plan is complete at the time of NOI submittal. They felt that new facilities should be afforded the same compliance deadline as the existing facilities which are given 270 days. One commenter suggested that a more reasonable cut-off time be established for new facilities when the storm water pollution prevention plan would be required to be developed and implemented prior to the NOI. Another commenter argued that new facilities should be given 6 months after submittal of the NOI to develop and implement the plan to allow for the evaluation of plan needs while the facility is in operation. One commenter felt that a minimum of 90 days would be needed for smaller facilities for internal development and training under the storm water pollution prevention plan. Another commenter argued that in order to develop an appropriate and effective storm water pollution prevention plan it is necessary to evaluate the facility while in operation. This commenter therefore suggested that new facilities be allowed six months to develop a storm water pollution prevention plan. One commenter stated that large waste water treatment plants need more than 270 days just to prepare the storm water pollution prevention plan and to get additional funding for the non-storm water discharge certification provisions. In addition, some commenters did not agree that the plan should be implemented within the same time frame as it is developed. They suggested a year for implementation. Another commenter would prefer a deadline of 14 months to develop and implement a storm water pollution prevention plan, arguing that companies that have many facilities, such as the freight industry, may be required to develop and implement upwards of 500 plans in the 270 days. Scrap processing and recycling facilities want longer than the 270 days (such as three years) for the implementation of treatment BMPs exceeding $10,000 in cost, otherwise they argued that financial hardships would result. One commenter argued that facilities originally part of the group application process, who will now be submitting an NOI to be covered under the baseline general permit, should be given the same 180 to 270 days to develop and implement the storm water pollution prevention plan as those who will submit NOI's for coverage under the multi-sector permit.

A few commenters commented upon the 3-year time frame to implement BMPs requiring construction. One commenter suggested 5 years to construct storm water control measures with 50% construction at 2 years, 75% at 3 years and 100% at 5 years. One commenter also commented that 3 years was not enough time to construct controls under the storm water pollution prevention plan for federal facilities. At federal facilities funding for construction is awarded in a 5-year process. Two organizations commented on the time frames for modifications to the storm water pollution prevention plan after the site compliance evaluation. They argue that 12 weeks for implementation of necessary changes is not practical because they may require engineering design and construction. One commenter suggested that a period of 1 year be allowed for changes requiring facility modification.

EPA does not agree with the numerous comments on the deadlines for development and implementation of a pollution prevention plan, and has decided to maintain the deadlines as proposed in the multi-sector permit for the development, implementation, and modification of the storm water pollution prevention plan. EPA believes that 9 months is adequate time for facilities to develop and implement storm water BMPs that do not require construction and for those that do, up to 3 years is sufficient. EPA has issued guidance on developing storm water pollution prevention plans for industrial activities, and this guidance is readily available. In addition, the multi-sector permit fact sheet provides an extensive amount of information on the types of industry-specific BMPs that can be implemented by facilities in each of the 29 sectors. Those facilities that cannot meet those deadlines may apply, on a case-by-case basis for an extension of the timeframes as specified in the permit.

Most new facilities should have no problem developing and implementing their storm water pollution prevention plans prior to the submittal of their NOI and the start of operations. Subsequent site compliance evaluations may show that modifications are needed based on operations at the new facility, however, they will have the additional 12 weeks after the inspection to implement the needed changes.

Certification of the Storm Water Pollution Prevention Plan

The proposed multi-sector permit requests comment on requiring all permittees to submit a certification to EPA upon completion and implementation of the storm water pollution prevention plan. Most commenters were against submitting a certification statement confirming the completion of the storm water pollution prevention plan. Comments indicated that the certification statement would put an unnecessary burden on the facilities. Commenters felt that when the NOI is signed and submitted, the permittee is certifying that he/she will comply with all applicable permit conditions including the development and implementation of a storm water pollution prevention plan. However, some commenters felt that submitting the certification would help facilities effectively plan the development of their storm water pollution prevention plans.

Today's permit does not require all facilities under the multi-sector permit to provide a certification upon implementation of their storm water pollution prevention plans. EPA agrees with the commenters that by signing the NOI form, permittees are agreeing to comply with all permit conditions within the specified deadlines of the permit. This includes developing and implementing a storm water pollution prevention plan within 270 days after permit finalization for pre-existing facilities or prior to operation for new facilities. EPA reserves the right to request a copy of the completed storm water pollution prevention plan at any time and failure to comply would be a permit violation. EPA also notes that under CWA Section 402(j), permit applications and permits must be available to the public. Because the storm water pollution prevention plan constitutes a portion of the permit, such plans must be publicly available. Accordingly, EPA will contact permittees as necessary to make such plans available.

Identification of Outfall and Sampling Locations, and Types of Discharges Contained in Outfalls

The pollution prevention plan requirements under the proposed multi-sector permit includes the development of a site map. This site map must denote certain site characteristics, such as the pattern of storm water drainage, structural features that control pollutants in runoff, and places where significant materials are exposed to storm water. EPA requested comment as to whether the final permit should require that the site map indicate the outfall locations, sampling locations, and types of discharges contained in the outfalls.

A slim majority of the comments received indicate that the additional requirements should not be included in the final permit. Commenters believed the requirements, if adopted, could confuse users by cluttering the map, and would be a duplication of information that is required under other sections of the pollution prevention plan. In addition, several commenters stated that sampling locations may vary, depending upon factors such as the amount of rain, safety considerations, and activities occurring at the facility. Commenters argued that to continually revise the map to include these changes would place an unnecessary burden on the facility.

Commenters in favor of the additional requirements stated that the information will assist users that did not participate in the development of the site map. In addition, the map would be a good tool for training new employees. Commenters note that these requirements should be limited to outfalls covered under this permit, not others, such as those discharging to POTWs or those covered under separate

NPDES permits. Also, it may be more efficient to document some of the information on a key to the map or in a separate attachment. This would make the map easier to read and avoid the problem of clutter.

Today's permit requires permittees to indicate, on the site map, the location of all outfalls covered under the final permit. In addition, the facility must prepare an inventory of the types of discharges contained in each outfall (e.g., storm water and air conditioner condensate). This inventory, however, may be kept as an attachment to the site map. Basic information on the discharge points that are to be covered under the permit should be readily accessible. EPA believes that denoting the location of the outfalls is important to the permittee and will assist in determining potential pollutant sources for each outfall. EPA believes the benefit of doing so outweighs the problems pointed out by the commenters.

Inventory of Significant Materials and Significant Spills and Leaks Within the Past Three Years

The proposed multi-sector permit required that facilities prepare an inventory of significant materials that are or have been exposed to storm water discharges within the past three years. Facilities were also required to provide a list of significant spills and/or leaks within the past three years. Both these items must be included within the storm water pollution prevention plan with a description of the BMPs used to prevent exposure of such leaks or spills to storm water discharges.

Commenters stated that such inventories would be burdensome to compile. Commenters felt that facilities would not have this information readily available, especially recently acquired facilities. In lieu of preparing the inventories to cover activities within the past three years, commenters wanted inventories to be prepared from the effective date of the permit.

Residuals from the leaks and spills may be a major source of contamination of storm water discharges. EPA believes that it is important for facilities to develop inventories of significant materials and past significant spills and leaks. These inventories will help facilities identify the areas where best management practices should be implemented and is an integral part of storm water pollution prevention. EPA believes that this information is available to facilities and can be readily compiled from existing records. EPA does not believe this requirement represents an undue burden upon the permittee. In addition, this requirement is commonly included within other issued NPDES storm water permits, therefore EPA is retaining this requirement in the final multi-sector storm water general permit.

Employee Training Requirements

The proposed multi-sector permit requested comment on whether a minimum training frequency of once per year should be specified for all industry sectors. Employee training is an effective tool in prevention pollution of storm water discharges. Employees that have been taught the importance of the pollution prevention plan measures and controls are more likely to thoroughly implement and continually maintain them. The training program is required to be described within the facility's pollution prevention plan and is applicable to all employees (including contractor personnel where relevant). Typical topics to be addressed include good housekeeping, materials management, and spill response procedures.

Many commenters supported the annual training requirement offered by EPA and one commenter felt that the training requirements were too high. However, most comments indicated that the training requirements should be more flexible. For instance, training should be based on the industrial activity and the complexity of the storm water pollution prevention plan which will affect how often an employee training program is necessary. This flexibility will ensure that training occurs only when necessary and may lessen the burden on those facilities that find training to be too burdensome.

To provide additional flexibility as the commenters suggested, today's permit includes training requirements that are sector-specific depending upon the needs assessed for each industry sector. Sectors with industrial activities that have a significant potential for storm water contamination to occur for reasons such as; operator error, lack of understanding of the operation of storm water controls, the need for frequent routine maintenance, the frequent changing of processes conducted outdoors, etc., will warrant some frequency of training. These types of facilities must conduct employee training at appropriate intervals which they determine necessary based upon these factors and others such as the number of employees, the complexity and types of pollution prevention measures and the rate of employee turnover.

Guidance for Storm Water Pollution Prevention Plan Development

Several commenters requested guidance on how to develop storm water pollution prevention plans and how to educate employees on storm water pollution prevention plan implementation. This information has already been prepared by EPA and is readily available. EPA published a guidance manual for storm water pollution prevention plan development and implementation in September 1992. The guidance manual, Storm Water Management for Industrial Activities, Developing Pollution Prevention Plans and Best Management Practices (EPA 832/R–92–006), was written to provide guidance for those facilities covered under the baseline general permit. However, the storm water pollution prevention plan requirements are similar and the manual is applicable for those who will be covered under the multi-sector permit. EPA also prepared a companion guidance document for construction activities, entitled Storm Water Management for Construction Activities, Developing Pollution Prevention Plans and Best Management Practices (EPA 832/R–92–005). This document is also available from EPA.

Monitoring Requirements

Benchmarks

The proposed multi-sector permit describes ''pollutant benchmark values'' (See Table 7, 58 FR 61169) which were used by EPA to determine the analytical monitoring conditions in the proposed permit. The benchmarks are also to be used by permittees who are required to conduct monitoring for comparison to determine if they qualify for the low concentration waiver. The standards are based primarily upon EPA Recommended Ambient Water Quality Criteria (Gold Book) values for toxic pollutants, and certain others, and NURP median concentrations for most conventional pollutants.

The benchmark values were used in two ways in the proposed permit. First, they were used as a standard of comparison against the median industry concentration for each pollutant that was sampled during the application process. If a median pollutant concentration in the sampling data for an industry sector was above the benchmark values it was considered a pollutant of concern for the industry sector. Under the proposed permit, when five or more median pollutant concentrations were higher than the benchmark values, the industry sector was required to perform analytical monitoring under the terms of the proposed permit.

Second, the benchmark values were used as a standard of comparison for an individual permitted facility that wishes to qualify for the low concentration waiver to be relieved from monitoring in the fourth year of the permit (monitoring cut-off values). The permittee would conduct storm water sampling as required under the permit in the second year of coverage. From this data, the permittee would average the pollutant concentrations for each monitored pollutant and would then compare these averages against the monitoring cut-off values. If the average concentrations were below the cut-off values then the permittee would be relieved from monitoring in the fourth year of the permit on the conclusion that the pollution prevention plan was effective in controlling the discharge of the storm water pollutants of concern.

Although most commenters favored the concept of an incentive approach to monitoring, if monitoring had to be required, a significant number of commenters indicated that the benchmark concentrations/monitoring cut-off values were inappropriate. Reasons given for this comment include the following: (1) The use of water quality criteria is an inappropriate comparison for discharge data, because it does not consider dilution of the discharge in the receiving water; (2) benchmarks should be determined based upon local conditions not by using national standards; (3) EPA should not use NURP median concentrations as benchmark values. These values have no bearing to industrial storm water discharge or to water quality; (4) several of the benchmark values are below the method detection limit (e.g., arsenic) and would therefore be impossible to achieve; (5) other benchmark values are far too stringent, (some are even lower than drinking water standards) and runoff from industrial areas would not meet these benchmarks; (6) many of the commenters were concerned that the benchmark concentrations are, or will become storm water effluent limitations.

Under today's final permit, EPA continues to use benchmark concentrations as a means for selecting priority industries for analytical monitoring and as a means for determining if the facility is eligible for a sampling waiver in the fourth year of permit coverage. However, because of the comments received, the basis for development of the benchmarks/monitoring cut-off values has been re-evaluated by EPA.

The revised benchmarks/monitoring cut-off values and the basis for these are presented in the Fact Sheet to today's permit. Changes made to the benchmarks/monitoring cut-off values to address the concerns expressed in the comments are summarized below.

Conventional Pollutants: NURP median data for conventionals have been replaced as benchmark values and monitoring cut-off values for all conventional pollutants except TSS and nitrate plus nitrite nitrogen. The replacement conventional benchmarks are based upon pollutant concentration levels required under the secondary treatment regulations, North Carolina water quality standards and existing storm water effluent guidelines. In most cases, the final benchmarks for conventionals/monitoring cut-off values are at higher concentration levels than the benchmarks in the proposed permit.

Non-Conventional-Inorganic: Acute water quality criteria based upon human consumption (where acute values do not exist) will be retained as benchmarks and monitoring cut-off concentrations for parameters if the values are not lower than method detection limits. Where the values are lower than the method detection limits, the benchmark has been replaced by the minimum level. A minimum level for such a pollutant is the method detection level multiplied by a factor of 3.18. The factor of 3.18 has been determined by EPA to be the most appropriate level above the detection level (for most pollutants) at which reliable quantitation of the pollutant can be analytically accomplished.

Non-Conventional-Organic: Water quality criteria values based on human consumption values are now used as benchmarks. Acute water quality criteria for these pollutants are generally too high to be used as benchmark values.

EPA believes that the revised pollutant benchmarks represent a reasonable standard of comparison for industrial storm water discharges for the two principle purposes described above. All levels are above the method detection limits for the respective parameters and provide a reasonable target for controlling storm water contamination by pollution prevention plans.

EPA emphasizes that the pollutant benchmark concentrations are not storm water effluent limitations, they are simply standards of comparison or targets by which EPA determined if discharges from an industry sector or facility merit monitoring under the terms of the permit. Facilities are not required to meet these concentrations as effluent limitations in their discharges. The benchmarks are designed to assist facility operators in determining if their pollution prevention plans are reducing pollutant concentrations to below levels of concern. Given the purpose of these benchmarks/monitoring cut-off values, EPA does not believe that dilution or background concentrations of each pollutant need to be considered. The monitoring benchmark cutoff values are not effluent limitations. For this same reason, local conditions do not need to be considered.

Facilities wishing to obtain a permit which considers their local conditions have the option of not seeking coverage under this multi-sector general permit but may submit an individual permit application to their applicable EPA permitting authority.

Minimum Required Data Needed for Pollutants To Be Analyzed for Monitoring

When determining industry-specific monitoring requirements for facilities under the multi-sector permit, EPA performed statistical analyses on pollutant data submitted in the group applications. For pollutants of potential concern, (those with at least three observations (outfall samples) within an industrial sector), EPA compared the median values to the benchmark values to determine a potential pollutant for monitoring.

Commenters felt that three observations of a parameter per sector was not a fair minimum representation for the facilities within a sector since the pollutants may all be showing up at three outfalls at only one facility and this facility may not be representative of an entire industry sector. Commenters argued that a parameter should only be considered as a pollutant of concern if it is observed at some significant percentage of the sites sampled within the sector. Other commenters stated that the minimum should be based upon at least three separate facilities instead of outfalls. An entire sector should not be required to monitor based upon the information received from one facility that sampled three outfalls.

EPA agrees with the commenters and the methodology for developing monitoring requirements for today's permit has been revised. In the methodology used for the monitoring provisions for the final permit, EPA only considers a pollutant to be of concern where 3 separate facilities submitted data within a subsector or sector.

Under the methodology for the proposed permit it was possible for an entire sector to be required to monitor based upon the data submitted by one facility with three outfalls and EPA agrees that one facility should not be considered necessarily representative of an entire industry sector for the purposes of determining the need to monitor. If three facilities which discharge a pollutant, however, the pollutant is not unique to a particular facility and is indicative of the industrial activities conducted in the industry sector or subsector. EPA conducted the monitoring evaluation assuming both a normal distribution and a lognormal distribution of the data set. The results were not significantly different.

Quality of the Part II Database

The Part 2 group application database includes Part 2 monitoring data from participants which participated in the group application process. Statistical analyses (e.g., mean, median, 95th percentile, and 99th percentile values) of this data was conducted for each parameter within every industrial sector. These analyses were conducted assuming both a normal distribution to the data and a lognormal distribution. The results of the analyses were used in the methodology to determine the proposed monitoring requirements.

Several commenters stated that the database, which only included monitoring data received prior to January 1, 1993, was incomplete and/or contained errors. The commenters stated that the database should be expanded to include all the group application data, as well as further reviewed to eliminate duplications and inaccuracies. Other commenters requested that the methods used to develop the statistical evaluation of the data be revamped (e.g., use a lognormal distribution of the data). In addition, a few commenters stated that the analysis did not properly consider facilities which did not submit data for a pollutant listed in Part C of the Form 2F since these facilities had no reason to believe the pollutant was present in their discharge. Therefore, the commenters argued, EPA's analysis should assume that the discharge concentration of these pollutants is zero.

EPA has again reviewed and double-checked the monitoring data analyzed for the development of the permit. EPA concludes that the monitoring data analyzed is representative of the industries evaluated. EPA analyzed data which was submitted months after the application deadline for the purpose of identifying pollutants of concern and developing monitoring requirements. In addition, on a sector-by-sector basis, EPA reviewed data that was submitted late to determine if the additional data was consistent with what had already been evaluated. Given this extra level of effort to analyze and consider all submitted data, even though some data was not loaded into the database that was publicly distributed, EPA believes that the analyses performed on the group application sampling data, and the results that were derived, are valid and reasonable.

EPA also believes that the concerns raised by commenters about the number of duplications and errors contained in the database which was distributed, is no longer warranted in that as errors were noted, EPA further screened and corrected the database. In response to the recommendation from commenters that a zero concentration value should be entered into the database every time a facility did not sample for a given pollutant because they did not believe it was present on their site, EPA does not agree. Obviously, assuming zero concentrations for these facilities would significantly reduce the mean and median concentrations. This would be imposing a major, unsupported assumption into the database. It cannot be assumed that facilities which did not submit data for a part B or C pollutant have a discharge concentration of zero for that pollutant. Facilities which did not sample for a pollutant because they did not believe it was present, may not have adequately considered all potential sources of these pollutants. In addition, facilities that did sample were supposed to be representative of the entire group in which they were located. This was a process determined by the group applicants themselves, with approval from EPA. Therefore, where facilities did sample and report for a given pollutant, and other facilities in the group did not, it could be assumed that the pollutant really was present at all other facilities. To be more accurate and unbiased in the analyses of the data, EPA chose not to assume either a zero value or an extrapolated value for pollutants that were not analyzed for by some facilities within a sector. EPA analyzed only actual data points that were submitted. Where a pollutant was tested for, and the result was below detection levels, EPA assumed these data points to be zero values for the pollutant.

Establishing Priority Monitoring Sectors

The multi-sector permit requires analytical monitoring only for 'priority' sectors. A sector was considered a 'priority' if, based on the Part II data for the sector, five or more pollutants sampled for had median concentrations above benchmark values. If the sector had median values greater than benchmark values for four or less parameters, only visual examinations would need to be conducted.

Several commenters stated that the methodology employed for establishing priority sectors was arbitrary and/or flawed (i.e there is no basis for choosing five as the number of parameters needed to be above benchmark levels to trigger sampling). Others indicated that the approach did not consider the relative impacts (e.g., toxicity) of the pollutants on receiving waters. Commenters also indicated that it was inappropriate to group together a wide range of industrial activity discharge data into one industry sector, and to use that data as a basis for comparison.

In response to these comments, EPA has revised the methodology for selecting which industries must conduct analytical monitoring. EPA reviewed the grouping of industries into sectors for statistical analysis. It was determined that in some cases a sector contained a grouping of industrial activities which may have different storm water discharges. In these cases EPA modified its analysis to statistically summarize the industry by subsectors. Division into industry sub-sectors was prepared in most cases based upon the three digit SIC codes provided by the group participants in their group application information. The results of the subsector analysis of the data were then used for comparison to the revised benchmarks (discussed above).

Today's permit also eliminates the five pollutant threshold for determining if a sector merited monitoring. For each subsector (or sector where it was not possible to further divide the sector into subsectors) EPA compared, on a pollutant by pollutant basis, the median concentration to the benchmark. Where the median concentration for a pollutant is higher than the benchmark, where there are likely sources of the pollutant associated with the industrial activity, and where the concentrations are high enough so as not to be due to "background" or natural sources, the subsector (or sector) is required to conduct analytical monitoring for the listed pollutant. This methodology is pollutant-specific and addresses the concerns that some commenters had that some industries within a sector may be inherently clean compared to other industries in the same sector. In addition, this approach is more environmentally protective in that the number of different pollutants in a discharge does not necessarily increase the risk posed by that discharge. It is possible that a receiving water may be significantly impacted by a discharge containing a high concentration of just one pollutant and therefore monitoring should be conducted to determine if controls are adequately reducing the levels of the discharge.

Selection of Additional High Priority Sectors Based Upon Factors Other Than Sampling Data

When determining industry-specific monitoring requirements for facilities under the multi-sector permit, EPA identified three additional industry sectors based upon a review of the degree of exposure, types of materials exposed, and the need for more sampling data than what was submitted in the group application. The industry sectors identified are hazardous waste treatment, storage and disposal facilities (TSDFs), auto salvage yards and airports.

Commenters felt that selection of these industries as priority sectors was arbitrary, particularly for those sectors where it was determined that the monitoring data submitted was not adequate (automobile salvage yards and airports). Under today's permit EPA is continuing to require monitoring for these three sectors which were selected based upon criteria other than the methodology employing the part 2 sampling data. It is EPA's best professional judgement that these industries merit further monitoring based on anticipated presence of significant pollutants. The data submitted was insufficient to disprove the EPA conclusion that these types of facilities have a significant potential to discharge contaminants. EPA believes the data submitted for these industries is insufficient and not representative of the discharges from the facilities and therefore additional data should be collected.

Should the Multi-Sector Permit Require Facilities That Must Monitor for Total Recoverable Metals To Also Monitor for pH?

Not all sectors of the proposed multi-sector permit require facilities that must monitor for total recoverable metals to also monitor for pH. Because it is known that the toxicity of metals is affected in part by pH, EPA requested comment as to whether to add pH to the list of parameters to be monitored in those sectors where total recoverable metals are also being chemically monitored.

Several commenters agreed with the addition of pH as a parameter that should be measured for all sectors where monitoring of a total recoverable metal is required. These commenters argued that it is not an expensive burden, requires little effort, and the data is needed to evaluate the impact of metals in the storm water discharge. One commenter stated that monitoring of pH would be appropriate since the pH of local rainfalls varies by the particular region where a facility is located. One commenter supported the use of this parameter only if toxicity changes in the metals could be demonstrated to occur at pH values presented in the group data. Several commenters stated that rather than the pH of the discharge being monitored that it is the pH of the receiving stream that is of critical concern. One commenter supported the monitoring of this parameter only if the EPA granted facilities the option of monitoring for other total recoverable metals or dissolved metals.

One commenter stated that monitoring of pH would only be necessary if pH in the receiving water is a problem and should be considered only after the total loading of an entire watershed is established showing that fluctuations in pH are not the result of pollutants from industrial activities, but are from sources such as acid rain. One commenter stated that they have performed studies which show that pH is not a concern for the food and kindred products sector.

The majority of the commenters were opposed to the blanket requirement to monitor pH whenever total recoverable metals were required to be monitored. The opposition was mainly due to the inherent problems associated with acid rain and in evaluating and linking the cause of toxicity to industrial activities and the associated storm water discharge. Several commenters strongly opposed a requirement to monitor pH believing it to be unnecessary. Many of those opposed felt the analysis should be left to the discretion of the facility in the development of their storm water pollution prevention plan.

EPA will not require facilities to also monitor pH for every sector that must monitor total recoverable metals. Rather, the decision will be left to the discretion of the facility or will be specifically required within a sector for other reasons. Monitoring the pH of the storm water may not provide an indication of the effectiveness of the storm water pollution prevention plan because of the influences of factors other than the facility's industrial activities on the pH of the discharge (i.e., acid rain). Allowing the facility to evaluate the effectiveness of the measurement of pH for each particular facility will alleviate the misinterpretation of the data that may result. This may be particularly true for extreme pH values beyond those normally anticipated with acid rain.

Support or Opposition to Baseline Monitoring Requirements

In the proposed multi-sector permit, EPA modified some sector monitoring requirements based upon the group application data submitted. EPA requested comment for each industrial sector on the changed requirements from the 1992 baseline general permit that were proposed in the multi-sector permit. Fifteen of the sixteen commenters that commented on this issue were opposed to the monitoring requirements in the baseline permit. Several supported the deviations from the baseline permit which they claimed was based only on theoretical and potential discharges, whereas the monitoring requirements for the multi-sector permit were based on actual storm water discharge data from the industries. A couple of commenters stated that the use of the baseline monitoring requirements would defeat the purpose of the money and effort spent on collecting data for the application process.

One commenter, while still opposed to any monitoring requirements for the fiberglass and aluminum boat builders, supported the monitoring parameters in section IX.R.8 of the multi-sector permit in lieu of the baseline permit. Two commenters supported the change from the baseline permit requirements, which triggered monitoring at 50,000 flight operations per year, for airports. One commenter in the rubber and miscellaneous sector was concerned that *any* analytical monitoring was being associated with the sector because they do not have any outside storage.

Another commenter supported the changes in the requirements for the Glass, Clay, Cement, Concrete, and Gypsum product sector where only the ready-mix concrete plants must monitor because visual monitoring is more appropriate for determining whether BMPs are effective. One commenter from the steam electric group felt that the monitoring requirements from the baseline permit were more appropriate, particularly the annual monitoring, compared to the monthly visual observations and quarterly chemical monitoring in the multi-sector permit. The commenter stated that pollutants in their storm water discharge are essentially unvarying and that the original list of pollutants in the baseline general permit provided a more appropriate set of indicators of storm water contamination from their site.

EPA has reviewed both sets of monitoring requirements and as a result will not incorporate the monitoring conditions from the baseline general permit into the final multi-sector permit. EPA believes that the monitoring requirements in the baseline permit are designed primarily to characterize pollutants in storm water discharges from those facilities seeking coverage under the permit. For the most part, this characterization effort has already been accomplished through the group application sampling. Whereas, the multi-sector general permit monitoring strategy has been designed primarily to provide information on the effectiveness of the storm water pollution prevention plan.

Visual Examinations of Storm Water Discharges

The multi-sector permit includes requirements for facilities to perform visual examinations of storm water discharges. ''High risk'' industry sectors were required to perform visual examinations of storm water samples on a monthly basis. ''Low risk'' sectors were required to perform the exam on a quarterly basis.

EPA received a large number of comments on the proposed visual examination requirements, both in support and in opposition. The majority of comments were in reference to the frequency of visual examinations. Others commented that the costs/requirements of the visual exams were too burdensome, and some facilities wanted no visual exams at all. Other comments included requests for: clarification of language requiring visual examinations; more specific criteria for when to conduct a visual examination; provision of a checklist for performing visual exams; and criteria for examining snow melt runoff.

Commenters who opposed the requirements did so because; visual exams are too burdensome for facilities with many outfalls; conducting visual exams is too time consuming; the logistics associated with performing visual exams are too difficult for the average worker to understand; the results of the exam will be of no value; and the visual exam requirements are too frequent and will encourage fraudulent submissions.

Some commenters were opposed to the visual monitoring requirements stating that it is not as effective as examining the equipment installed to accomplish pollution prevention. They suggested that if the requirement is retained, the idea of comparing the visual observation to a baseline be addressed because the use of the same site personnel over time is not viable due to continuous rotation of personnel. Other commenters were opposed to the burden that would result from the support documentation needed to meet the 72 hour dry weather and 0.1 inch rainfall requirements. These commenters felt this would require constant monitoring of the weather, recordkeeping, and the development of monthly visual observation reports which would be costly for small companies.

Numerous commenters supported the use of visual examinations to monitor the effectiveness of the pollution prevention plan and the implemented BMPs. These commenters stated that visual examinations can be an effective tool and would allow easy detection of suspended and settled solids, oil sheen and other obvious indicators. Some commenters that favored visual monitoring suggested this be done in lieu of any chemical analyses.

EPA believes that the visual examinations will provide permittees a quick and inexpensive assessment of the effectiveness of the facility's pollution prevention plan on a more frequent basis, but at a more cursory level, than just analytical chemical monitoring. The examinations are intended to be conducted by the company's pollution prevention team, or someone who will be familiar with storm water management at the facility. The team may be able to identify sources of contamination in the storm water discharge given their knowledge of the industrial activities conducted at the facility and the materials stored exposed to storm water. From these observations, the team may be able to identify additional BMPs that can be implemented to control the contaminant sources, or ways to improve the efficiency of existing BMPs. EPA will retain the requirement to perform a visual examination of the storm water discharge in today's multi-sector permit. EPA believes the visual examination of the discharge will become an important part of an active facility's overall effort to control storm water contamination. EPA maintains that the visual examination of the storm water discharges will allow a quick and simple assessment of the quality of the storm water runoff which can then be used to help assess the effectiveness of a facility's pollution prevention plan at very little cost. The results of the visual examination should be used in conjunction with the results from the comprehensive site compliance evaluation, analytical monitoring, if required, and sector-specific inspections to determine if appropriate BMP's have been implemented.

Today's permit and fact sheet include more detailed language which elaborates on the description of the visual exam requirements. Additionally, the frequency for visual examination for all applicable industry sectors will be quarterly under today's permit. This responds to a majority of the commenters by reducing the burden placed upon facilities, and allows a more reasonable amount of time for a representative storm event to occur. The information from visual monitoring is intended to be used by the facility as a quick and simple means of determining any obvious changes in the quality of storm water runoff from the site when the discharges are occurring. EPA understands that there is a measure of uncertainty and subjectivity in performing visual exams, but believes this will not adversely affect the purpose of the examinations. In summary, visual examinations of the storm water discharges provide a low cost means for the facility operator to routinely assess storm water problems at a facility and will provide an indication of major problems with the effectiveness of the storm water pollution prevention plan.

Alternative Monitoring Provisions

In the proposed permit, EPA requested comment on alternative monitoring and reporting requirements in lieu of the proposed requirements. Most of the commenters were opposed to the alternative monitoring requirements. Some commenters believed the alternative monitoring requirements would focus too much attention on sampling and not enough on pollution prevention plans. Some commenters did not think the whole effluent toxicity testing, where it was proposed in the alternative requirements in certain sectors, would be appropriate for storm water evaluations also stating that they are too expensive and complicated. Some commenters supported the proposed alternative monitoring requirements stating that the alternative requirements should be kept as an option assuming there is appropriate data demonstrating the need for this monitoring.

In response to the comments concerning the alternative monitoring provisions discussed in the fact sheet of the proposed permit, EPA is not incorporating these monitoring requirements into the final permit. Rather, as explained above, EPA has reconsidered the entire monitoring strategy as proposed in the permit and has developed a new monitoring strategy based upon a sub-sector analyses of the data to be responsive to the majority of concerns regarding storm water monitoring in the proposed permit.

Signatory Requirements

The multi-sector permit requires that all Notices of Intent (NOI), Notices of Termination (NOT), storm water pollution prevention plans, reports, certifications or other information, either to be submitted, or to be maintained by the permittee, be signed in accordance with the requirements in 40 CFR Part 122.22.

One commenter stated that the NOI certification is significantly different than the wording in the September 9, 1992 baseline general permit. Another commenter stated that the signatory requirements should be similar to those required by the national pretreatment program to maintain consistency and to avoid confusion. One commenter stated that the signatory requirements were appropriate for the NOI and the NOT, however, were not appropriate for the storm water pollution prevention plan and other such documents because they are excessive when compared to similar programs. This commenter suggested that an appropriate company representative such as those outlined in VII.G.2 would be more appropriate to provide a signature because they are more familiar with the regulations and the operations of the industrial facility. One commenter requested that a member of the storm water pollution prevention plan team be allowed to sign the site compliance report.

EPA will maintain the signature requirements as proposed in the multi-sector permit which requires that all NOIs, NOTs, storm water pollution prevention plans, reports, certifications or information either to be submitted to the Director, or that are required to be retained by the permit, be signed by a responsible corporate officer. The certification and signature requirements in the multi-sector permit are the same requirements as those used in other areas of the NPDES program and the pretreatment program and have not been changed from the September 1992 baseline general permit. Furthermore, the requirements allow authorized representatives to be appointed for signature authority. Therefore, if a facility feels it is more appropriate for a member of the storm water pollution prevention plan team to sign the documentation, that option is available under the permit.

Miscellaneous Inspection Requirements

EPA received comments on inspection requirements, recordkeeping requirements, and reporting requirements from 24 commenters. Most of these stated that the proposed requirements are too burdensome and suggested ways to scale down this burden, with suggestions ranging from decreasing inspection schedules to requiring less paperwork. A few commenters opposed the frequency of inspections required in several of the sectors of the proposed permit. Specifically, two commenters stated that monthly inspections of designated equipment and areas of the facility are unnecessary and inappropriate.

EPA has established visual and other inspection requirements tailored to each industrial sector based on conditions specific to each sector. Where appropriate, today's permit contains daily, weekly, monthly, or less frequent inspections of various important facility areas and activities. EPA believes the frequencies in the permit are necessary to ensure that storm water runoff from these key areas does not cause significant discharges of pollutants.

Retention of Records

Seven commenters stated that the requirement that records be retained for 6 or more years (three years after the permit expires) is excessive. One commenter suggested that a more discrete time period be specified for records retention, so as to eliminate the undesirable result of inadvertently requiring facilities to retain records indefinitely if a permit is continually extended. Five commenters suggested that a three-year retention period is adequate and consistent with other NPDES permits. Another commenter suggested that records be retained for a maximum of one year after the inspection or monitoring occurs. Two other commenters stated that the documentation and recordkeeping requirements are too elaborate and could require excessive resources from small businesses. Four other commenters stated that the reporting requirements are unnecessary and unduly burdensome.

EPA has retained all recordkeeping requirements from the proposed permit. However, in response to commenters' concerns about inconsistent timeframes, the Agency has standardized the retention period for all records to be the minimum period allowed under 40 CFR 122.41(j). Thus, today's permit requires permittees to retain all records (those from inspections as well as monitoring data) for a minimum of three years from the date of the inspection, sampling, or measurement. In addition, to help reduce the amount of reports permittees may be required to generate during a permit term, EPA has reduced some of the inspection and examination requirements for some industrial sectors. For example, the requirement for visual examinations of discharges has been changed to quarterly for all sectors (except air transportation) and pollutant-by-pollutant no exposure certifications are now allowed. EPA believes these changes, and others in today's permit, will decrease the recordkeeping burden on many facilities, including small businesses.

Special Requirements for Facilities Subject to Reporting Requirements Under EPCRA 313

EPA received a number of comments that addressed the proposed special requirements for facilities subject to the EPCRA Section 313 reporting requirements. Specifically, 52 of these comments addressed the proposed requirement for a certification of the storm water pollution prevention plan for an EPCRA 313 facility by a Professional Engineer (PE), of which 50 opposed such certification and two favored it. Thirty-one of the commenters opposed to the certification indicated that other categories of professionals with knowledge of pollution prevention, including hydrologists and certified hazardous materials managers, would be more appropriate than a PE to review the plan. Most indicated that someone very familiar with the facility would be the most appropriate person to make the certification. Other commenters noted that the facility manager is legally responsible and should be responsible for certifying or selecting the certifying party. A few commenters stated that the PE provision would be unnecessarily costly, particularly for small facilities. One commenter added that the frequency of certification should be reduced to once every five years.

In response to these commenters, EPA has removed the requirement for PE certification from the permit as well as the requirement to certify the plan every three years. The permit now requires facilities subject to the EPCRA Section 313 requirements to conduct the same storm water pollution prevention plan certification procedures as facilities not subject to EPCRA Section 313. Thus, facilities subject to EPCRA Section 313 requirements need only certify their pollution prevention plan when it is developed or when revisions or changes are made and does not include a PE certification.

EPA also received numerous comments that opposed the extension of special requirements for EPCRA Section 313 facilities to all facilities with above-ground storage tanks and/or exposed handling of liquid chemicals. About half of these commenters stated that there was no basis for extending these specific Best Management Practices (BMP) to facilities that already have BMPs under the EPCRA program. The other half indicated that these special provisions were redundant with requirements in other programs, such as RCRA. Two commenters also stated that such an extension of requirements associated with EPCRA to all facilities covered by the multi-sector permit would be inappropriate regulatory duplication. Based on these comments and further review, EPA is not extending the Section 313 requirements to additional facilities.

In addition to these specific comments, EPA received 25 comments opposed to the special storm water pollution prevention plan requirements for EPCRA Section 313 facilities. These commenters objected that there are a variety of burdensome aspects of the prescribed practices. Sixteen of these commenters suggested that the special requirements are redundant with those imposed by other programs and/or are inappropriate given the data presented in the notice on the presence of pollutants in storm water from EPCRA Section 313 facilities and non-313 facilities. They indicated that the data show no distinguishable differences between storm water pollution from these two categories. Other commenters stated that the costs of complying with the special provisions for Section 313 facilities are excessive. With the exception of the PE certification, EPA is not reducing the special pollution prevention plan requirements for facilities subject to EPCRA Section 313 requirements. The Agency is leaving them in place because of the nature of the industrial activities and chemicals handled at such facilities. These controls are necessary to ensure that storm water runoff does not become contaminated with EPCRA Section 313 water priority chemicals. The use of these controls represents an established level of technology-based controls that are already being implemented at many of these types of facilities and EPA believes this level of technological control should be maintained.

On January 12, 1994, EPA proposed to add 313 new chemicals to the EPCRA Section 313 list of chemicals found at 40 CFR 372.65. On November 30, 1994, EPA published a final notice in the Federal Register adding 286 chemicals to the list. A Section 313 water priority chemical is defined as a chemical or chemical categories which are: 1) are listed at 40 CFR 372.65 pursuant to Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) (also known as Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986); 2) are present at or above threshold levels at a facility subject to EPCRA Section 313 reporting requirements; and 3) that meet at least one of the following criteria: (i) Are listed in Appendix D of 40 CFR 122 on either Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols) or Table V (certain toxic pollutants and hazardous substances); (ii) are listed as a hazardous substance pursuant to section 311(b)(2)(A) of the CWA at 40 CFR 116.4; or (iii) are pollutants for which EPA has published acute or chronic water quality criteria.

In response to this rulemaking, EPA analyzed the list of Section 313 water priority chemicals in the proposed multi-sector general permit by comparing these 286 new chemicals against Tables II, III, and V of Appendix D of 40 CFR 122, the list of hazardous substances listed at 40 CFR 116.4, and the list of pollutants for which EPA has published acute or chronic water quality criteria. Based on this analysis, EPA is adding 44 of the 286 new chemicals or chemical categories to the list of Section 313 water priority chemicals which is an appendix to today's permit. In developing the original definition of Section 313 water priority chemicals, EPA included a reference to the EPCRA 313 chemical listing and noted that future additions to the list could occur and that these would automatically expand the storm water EPCRA 313 water priority chemical list used in the industrial storm water general permits. In addition, the proposed regulation to expand the EPCRA 313 list notified the public that with an expansion of the list, other programs, such as the storm water permitting program that incorporated the EPCRA 313 listing, would also be similarly affected.

By adding these new chemicals to the water priority chemical list, potentially more facilities will be required to implement the EPCRA 313 special pollution prevention plan requirements. However, EPA believes that the additional water priority chemicals will not have a significant impact on the cost of compliance by any individual facility. Facilities already implementing these provisions may have additional chemicals to address in their plans beyond those they already consider, but EPA believes many of the BMPs and pollution prevention measures already being implemented will be applicable to the new chemicals. EPA re-examined the estimated upper range of cost of compliance by a facility required to implement the special EPCRA water priority chemical pollution prevention plan requirements, and has determined that the added chemicals will not cause this range to be exceeded.

Cost of Compliance

EPA received several comments concerning cost estimates for the permit requirements, many of which offer similar viewpoints. EPA provided estimates of the cost of compliance in the fact sheet to the proposed permit. These costs covered a range of costs, from low to high, that may be necessary to implement a storm water pollution prevention plan at the wide range of types of facilities that will be covered under this permit. Twenty-eight commenters stated that the estimated cost for industry to comply with the multi-sector permit is too high. In response to these comments, EPA re-examined its cost estimates to ensure that they were accurate and to ensure that the range, as estimated, adequately covered all anticipated circumstances. From this re-evaluation, EPA believes that the costs of compliance, which includes preparing and implementing a pollution prevention plan during the term of the permit, are accurate and adequately cover the range of anticipated costs for facilities that will be covered under this permit. In addition, EPA believes the cost of compliance is not high when compared to the potential site-specific requirements that may be imposed in order to comply with an individual permit. Therefore this multi-sector general permit represents a significant cost savings over the individual permit option.

Six of these commenters also cited the high end of the EPA cost estimates as being too high for small businesses. In response to this, EPA wants to clarify that the high-end cost estimates will mostly, if not entirely, apply to larger, more complex facilities with more potential sources of pollutants and therefore a more comprehensive storm water pollution prevention plan. In deriving the cost ranges, EPA anticipated that most small business compliance costs would fall at the low end of the cost ranges.

Twenty-four of the twenty-eight commenters who believed that the estimated cost of compliance is too high also expressed concern that the proposed permit will bear an unfair burden on small businesses and possibly threaten their ability to remain in operation. However, several of these commenters based their position on the high end of the cost estimates, which are most likely to apply to larger facilities. In response to this concern, EPA estimated the cost of compliance for a hypothetical small business in the automobile salvage yard industry. This example has been added to the fact sheet of the permit and illustrates an estimate of a small auto salvage yard costs that such a facility many actually incur in complying with this permit. The Agency expects that the actual cost of compliance with the permit for a hypothetical small automobile salvage yard would be $874 in the first year and $561 for each following year. The low-end estimate is appropriate for the majority of smaller facilities, with some facilities, like the hypothetical small auto salvage yard, likely to face even lower costs.

Nineteen commenters (including eleven of the twenty-eight who believe that the estimated cost of compliance is too high) stated that EPA's upper cost estimates given for complying with the proposed permit are too low. Many of the commenters questioned how EPA has developed its cost estimates and argued that the actual cost of compliance will greatly exceed the costs cited by EPA. In response, EPA does not believe its cost estimates are too low as mentioned above. EPA based the cost estimates in the proposed permit on those prepared for the baseline general permit. Because the compliance requirements in today's permit reflect those in the baseline permit, EPA believes that the cost of compliance with the multi-sector permit will be similar to the baseline permit. Actual costs for some facilities may be lower in some circumstances under the multi-sector permit because the multi-sector permit fact sheet provides guidance on the types of BMPs that may be applicable for an industry sector.

In addition, several other specific concerns were presented by small businesses. Sixteen small businesses commented that the compliance costs would force small businesses to either lay off employees or go out of business completely. Another seven commenters warned of the consequences that could result if small automobile recyclers were forced out of business by the cost of compliance with the permit. They argued that vehicles would be abandoned along roads, left in back yards, etc., resulting in a worse scenario than that which existed before the permit was put into effect. In response, EPA does not expect the costs of compliance with the multi-sector permit to force a small business out of business as described above. In developing the permit, the Agency considered not only the needs for storm water controls, but also the capabilities of each sector's facilities to maximize available in-house resources. EPA encourages facilities to use activities and controls already routinely conducted to the maximum extent possible to meet the permit requirements. EPA anticipates that many small businesses will be able to tailor their existing activities to satisfy many of the requirements of the multi-sector permit and that trade associations will help in developing model pollution prevention plans and in providing technical information and assistance to their membership.

Eight small business responses called for a small business exemption to eliminate storm water sampling and documentation requirements. They perceived the costs for sampling and documentation to be most burdensome on small businesses, many of which have limited human resources. In response, EPA is not providing exemptions in the multi-sector permit to businesses because of their size. However, EPA has changed several requirements of the permit which will reduce burden on the permittee. For example, comprehensive site compliance evaluations are now required only annually for all industrial sectors. EPA has also reduced some of the inspection requirements where appropriate. Additional revisions have been made to various industrial sector requirements to help reduce the burden on small business and other permittees.

Endangered Species Act (ESA) and National Historic Preservation Act (NHPA)

To address the provisions of the Endangered Species Act, the proposed permit denied coverage to any discharge which had "a direct or indirect effect upon a listed endangered or threatened species or its designated habitat". The permit allowed coverage to discharges with an impact on endangered or threatened species where the facility had obtained an incidental take permit from either the U.S. Fish and Wildlife Service (FWS) or the National Marine Fisheries Service (NMFS). The proposed permit required that a discharger seeking coverage, certify in its Notice of Intent (NOI) to be covered by the multi-sector permit that its storm water discharge will not have any direct or indirect effect on listed species or critical habitat unless the discharger had first obtained a permit under § 10 of the ESA (for incidental takings).

To comply with the provisions of the National Historic Preservation Act, the proposed permit denied coverage to discharges that "disturb a site that is listed or eligible for listing in the National Historic Register." A discharge that does disturb a historic site may be eligible for coverage if the facility obtained, and is in compliance with, a written agreement with the State Historic Preservation Officer (SHPO). The permit required that a discharger seeking coverage must certify in its Notice of Intent (NOI) to be covered by the multi-sector permit that its storm water discharge will not disturb a site that is listed or eligible for listing.

A number of commenters opposed these eligibility restrictions and suggested that the requirements be modified. Several commenters suggested that the permit allow coverage for all facilities initially, but include a provision which would allow the Director to exclude from coverage any discharge which was determined to have an impact upon a threatened or endangered species, or which disturbs a historic site. Others stated that the terms "no direct or indirect effect" in the ESA eligibility restrictions, and "will not disturb" in the NHPA eligibility restrictions are overly broad and subject to varying degrees of interpretation. These commenters requested clarification as to what constitutes a direct effect, an indirect effect or a disturbance. Still other commenters suggested that the eligibility requirements merely require the applicant to send a letter to the appropriate Agency requesting a determination of the facility's impact upon threatened species, endangered species or historic sites. These commenters argued that a facility does not have the resources to make a determination on its own. Several commenters suggested that the eligibility restrictions only apply to new facilities. They argued that existing facilities should not be required to make the determination because any effects or disturbances due to their discharges have already occurred.

Commenters also listed a number of reasons for removing the eligibility restrictions altogether. Many commenters stated that the permit inappropriately deferred EPA's responsibility to consult with FWS, NMFS or Historic Preservation Offices to the discharger. They argued that both ESA and NHPA require EPA to perform the consultation prior to issuing the permit. The commenters argued that the consultation would be costly and time consuming for dischargers to perform. Several commenters stated that the Services and Offices which would have to be consulted would be overwhelmed by the number of inquiries generated by the permit and unable to respond to requests for consultations in a timely manner. Other commenters stated that it was unnecessary to include the ESA and

NHPA requirements in the permit because facilities are already subject to these and other existing federal laws and regulations. Requiring compliance with these provisions in the permit places undue emphasis upon these statutes in comparison to all other laws and regulations.

In response to the comments regarding endangered species, the ESA requires, among other things, that EPA ensure, in consultation with the FWS and/or NMFS that actions it authorizes or carries out are not likely to jeopardize the continued existence of threatened and endangered (''listed'') species or result in the destruction or adverse modification of the designated critical habitat of listed species. In addition, the ESA generally prohibits EPA, as well as those seeking general permit coverage, from ''taking'' listed species without the prior authorization of the FWS/NMFS.

To fulfill its responsibilities under the ESA, EPA developed a series of conditions in the proposed permit which were reviewed by the services during the consultation. The consultation culminated in the issuance of a FWS/NMFS Biological Opinion that EPA's approach would not likely jeopardize listed species, adversely modify critical habitat, or result in takes. The consultation also resulted in changes to the conditions of the permit for endangered species protection. The revised conditions represent a simplified process that should be easier for permittees to comply with, yet will still ensure that storm water discharges authorized under this permit will not adversely affect endangered species.

The revised ESA conditions require that an applicant comply with the ESA and be granted coverage under the permit only if the storm water discharges and BMPs to be constructed are not likely to adversely affect the endangered species listed in Addendum H of the permit; or the applicant has received previous authorization under the ESA and established an environmental baseline; or the applicant is implementing other appropriate measures, as required by the Director, to address adverse affects. In addition, the applicant must certify that their storm water discharges and potential BMP construction activities are not likely to adversely affect the species listed in Addendum H of the permit. Addendum H is a county-by-county listing of the endangered species upon which the consultation is based. EPA believes this new process fully implements the requirements of the ESA and the outcome of the consultation with FWS and NMFS, and is protective of endangered species. EPA also considers this revised approach to be a more practical and straightforward process for an applicant to gain coverage under the multi-sector general permit.

EPA expects that the vast majority of applicants will be able to meet the ESA certification requirement by either determining that no listed species are found in the county of the discharge or by determining that listed species found in the county are not in proximity to the discharge. EPA believes that requiring applicants to provide the certification commented upon is reasonable and necessary so that EPA may act to lawfully authorize an applicant's general permit coverage. See § 308(a)(A)(v).

EPA does not need to enforce every law and regulation through permits—only those which create obligations on EPA for *its* actions (through statutes such as the ESA and the NHPA) that are in response to permit applications presented to EPA by persons seeking to comply with the CWA, e.g., applicants for NPDES permits.

As to permit coverage for existing facilities, ''action'' under the pertinent ESA regulations includes ''all activities. . .of any kind authorized by federal agencies. . .[including] the granting of. . .permits.. . .'' 50 C.F.R. § 402.02. Agencies must consult with the FWS or NMFS wherever an action may affect listed species. 50 C.F.R. § 402.14. Given that storm water discharges from existing facilities may have new or continuing effects on listed species (in addition to past effects), there was a clear need for coverage of existing facilities also to be adequately protective.

In response to the comments raised regarding the NHPA, EPA recognizes that the National Historic Preservation Act (''NHPA'') imposes obligations on the Agency to take into account the effect of permit issuance on historic properties. Today's general permit establishes a mechanism whereby the Agency can efficiently administer the permit and still take into account the effect of general permit coverage on historic properties consistent with its obligations under the NHPA. EPA will assure NHPA compliance primarily through the eligibility and certification requirements of the general permit. The general permit does not authorize discharges that (1) affect a property that is listed or eligible for listing on the National Register of Historic Places, unless (2) the applicant has obtained and is in compliance with a written agreement between the applicant and the State Historic Preservation Officer (''SHPO'') that outlines all measures to be undertaken by the applicant to mitigate and prevent adverse effects to the historic property. Applicants for general permit coverage must certify that they have read and are in compliance with the eligibility provisions of the permit.

The operation of this mechanism should assure compliance with the NHPA for any authorization to discharge provided under today's permit. EPA anticipates the first component of the eligibility/certification mechanism will provide an adequate opportunity to take into account the effect on historic properties for the vast majority of discharges to be authorized under the permit. EPA anticipates that the preliminary evaluation by the applicant will quickly identify those discharges that may implicate concerns about historic preservation. The second component will allow for general permit coverage after effects have been effectively addressed (minimizing the need for an individual permit).

EPA recognizes that the eligibility/certification mechanism in today's permit will not resolve all historic preservation concerns that may arise due to control of storm water discharges. In some instances, the first component of the eligibility/certification may not assure ''no effect'' on historic properties, for example, if the applicant's certification of eligibility is subsequently determined to be false. In such instances, the discharge would be ''without a permit'' based on the eligibility provisions. In some instances, the applicant and the SHPO may have difficulty in reaching agreement on how to resolve historic preservation concerns. Such instances may necessitate EPA intervention or issuance of an individual permit. The eligibility/certification mechanism represents EPA's effort to assure Agency compliance with the National Historic Preservation Act consistent with the efficiencies of general permitting under the Clean Water Act.

Comprehensive Site Compliance Evaluations

The proposed permit contained requirements for facilities to perform and document comprehensive site compliance evaluations. The intent of the compliance evaluation is to: confirm the accuracy of the description of potential pollution sources at the site, determine the effectiveness of the storm water pollution prevention plan, and assess compliance with the permit. The evaluation should be conducted by members of the pollution prevention team. Deficiencies in the plan must be corrected within two weeks of the evaluation and the corrections must be implemented within 12 weeks. Most of the industry sectors required the evaluation to be performed annually, however, a few sectors required more frequent comprehensive site compliance evaluations. For example, the chemical and allied products sector of the proposed permit required quarterly comprehensive site compliance evaluations. A few industry sectors allowed less frequent evaluations, for example the ore mining and dressing sector only required evaluations every three years at inactive mine sites.

Commenters expressed several concerns with the comprehensive site compliance evaluation requirements. The primary concern dealt with the required frequency for the evaluation. A number of commenters stated that the evaluation should not be required more frequently than once per year in any industry sector. Commenters stated that an annual evaluation was sufficient to assure compliance of the plan with permit requirements. Commenters also stated that the frequency should be consistent across all sectors unless more frequent evaluations could be justified. Commenters were also concerned with the time frame allowed to modify the pollution prevention plan following the evaluation. Commenters stated that two weeks is not sufficient time to obtain the resources necessary to modify the plan. A few commenters also felt that the comprehensive site compliance evaluation is redundant and duplicative of the inspections required by the storm water pollution prevention plan. The commenters argued that the evaluation should not be required unless the inspections reveal recurring problems with the plan. Finally, one commenter stated that the evaluation should be performed by an outside consultant or corporate official with expertise in storm water pollution prevention.

In response, EPA has reconsidered the frequencies of the comprehensive site compliance evaluation in the proposed permit and has standardized the frequency to once per year in all sectors, unless sector-specific justification is given for a more frequent inspection. EPA also wants to clarify that the comprehensive site compliance evaluation requirements are different from other inspection and monitoring requirements of the permit. The comprehensive site compliance evaluation is intended to be an overall comprehensive inspection that is conducted at a minimum on an annual basis where the pollution prevention plan is totally reviewed. The inspection should 1) confirm the accuracy of the description of potential pollution sources contained in the pollution prevention plan, 2) determine the effectiveness of the plan, and 3) assess compliance with the terms and conditions of the permit. These goals, in combination, are more comprehensive than the other inspection and monitoring requirements in the permit. The annual comprehensive site compliance evaluation also satisfies the minimum monitoring requirement of all NPDES permits (40 CFR 122.44(i)(4)). Therefore, EPA is retaining the requirement that all industrial sectors conduct an annual comprehensive site compliance evaluation. To the extent that this compliance evaluation overlaps with other inspections (e.g., daily inspections of storage areas), the comprehensive site compliance evaluation can be used in place of the other inspections. Because the comprehensive site compliance evaluations are intended in part to determine the effectiveness of the pollution prevention plan and compliance with the permit, EPA believes it is important that a member of the pollution prevention team be involved in conducting the evaluation.

In response to the concern about the two week timeframe being to short to fully implement changes to the plan if such are necessary as a result of the inspection, EPA disagrees and believes a clarification is necessary. Under the terms of the final permit, if a facility operator determines a deficiency in the storm water pollution prevention plan after conducting the annual comprehensive site compliance evaluation, then the permit provides for up to two weeks to modify the plan and then up to 12 weeks to implement the actual plan modifications. EPA anticipates that many plan changes will be procedural or programmatic in nature and as such should not take an excessive amount of time to perform. EPA expects these to be easily completed within the 12 week deadline. Where major changes are necessary that require construction, such as installation of a new structural BMP, the permit conditions allow for up to three years. EPA believes these timeframes are adequate and therefore no changes to the final permit have been made.

Response to Major Sector-Specific Issues

Timber Products Facilities

The proposed permit for timber product facilities does not cover nonpoint source silvicultural activities, such as timber harvesting operations and certain other silvicultural activities described under SIC code 2411, which may be exempt from the National Pollutant Discharge Elimination System (NPDES) permit program as described in the silvicultural definition at 40 CFR Part 122.27. Many commenters agreed that certain silvicultural activities are not covered by NPDES permit requirements and are best controlled under the section 319 nonpoint source program. Because these discharges are addressed by the section 319 nonpoint source program, some commenters recommended that the language in the permit and the fact sheet be changed from providing an ''exemption'' of these discharges to say that ''certain silvicultural activities are not prohibited by or otherwise subject to these regulations.'' Other commenters requested that the language concerning coverage of silvicultural activities that is in the permit fact sheet, also be placed in the permit to avoid confusion.

In response, EPA believes that nonpoint source silvicultural activities not covered under this permit (e.g., harvesting operations, and certain other activities) are exempt from the NPDES permit program. Exempt activities do not need to obtain an NPDES storm water discharge permit. EPA does not believe that further clarification is necessary beyond that already stated in the fact sheet to the timber products sector. If a facility operator questions its regulatory status after reviewing the fact sheet, the operator should contact the permitting authority for the State in which it is located for additional guidance on its regulatory status.

Many commenters suggested that the definition of timber products activities not required to obtain NPDES permits for storm water discharges be expanded in the fact sheet. Some commenters wanted to include remote log sort/concentration yards that do not conduct processing activities. These commenters were concerned that the proposed permit groups all log sort/concentration yards into the same category as facilities processing timber products. They stated that the activities performed at these yards are similar to forest harvesting operations including unloading, stacking, storing and reloading roundwood. In addition, they stated that the pesticides, herbicides, and fertilizers presumed present at these sites are not usually there. Another commenter requested that forest roads be included as nonpoint sources, as well as forest recreational sites and national forest administrative sites that do not include treatment facilities. The commenter stated that these facilities could be effectively covered under nonpoint source programs.

In response, the permit fact sheet discusses coverage of certain silvicultural activities which are classified as storm water discharges associated with industrial activity under the NPDES storm water program and those which are considered to be nonpoint source discharges. This discussion explains the consistency between coverage under this multi-sector permit and existing NPDES storm water regulations defining storm water discharges associated with industrial activity for the Timber Products industry. EPA believes this discussion is clear and consistent with NPDES regulations and that further expansion of the definition of exempt nonpoint source activities at timber products facilities would be inconsistent.

Many commenters were concerned that the proposed sector had grouped together all facilities that perform any wood treating, including facilities that only end-treat boards with a paraffin wax. In response, EPA has grouped together all those facilities that perform any wood treating because they exhibit similar types of industrial activities at their facilities. The groupings were made because the documentation and data submitted in the group applications described them as similar. Therefore, wood preservers who treat their wood with paraffin were not separated from wood preservers, as a whole. In relation to monitoring, while the proposed multi-sector permit required specific monitoring by wood preservers and surface treaters, including those that only end-treat boards, the final multi-sector permit comprehensively changes the monitoring requirements for all timber products facilities due to a reassessment of the benchmark levels used to trigger monitoring and the revised sub-categorization approach to determining the need for industry sub-categories to monitor (See response to comments on monitoring provisions). Facilities that end-treat boards with paraffin are still required to monitor their storm water discharges, but for fewer pollutants. Although the revised monitoring provisions in the permit now require monitoring for all subcategories within the timber products sector, the revised alternative certification provisions should allow individual facilities with no exposure of the pollutants of concern to forego the need to monitor. In relation to pollution prevention plans, all timber products facilities will still be required to control pollutants discharged into storm water through the use of site-specific best management practices implemented through pollution prevention plans which are tailored to each specific facility on a case-by-case basis. This site-specific approach will allow a facility which end-treats wood with paraffin to design a pollution prevention plan appropriate for their facility.

The proposed permit authorized non-storm water discharges from the spray down of lumber at wood product storage yards where no chemical additives are used in the spray down waters and no chemicals are applied to the wood during storage. Several commenters supported the proposed permit condition as an acceptable non-storm water discharge. The commenters believed that the authorization of these discharges at timber processing facilities is appropriate because these discharges are intermittent and the activity is performed only when necessary. In response, EPA believes that these non-storm water discharges, where identified in a pollution prevention plan and where appropriate pollution prevention measures are implemented, can be effectively controlled under today's multi-sector permit and therefore are allowable non-storm water discharges.

Numerous entities commented on the pollution prevention plan for timber product facilities. Many commenters supported the use of best management practices in that they allow the permittees to determine the most efficient and cost-effective measures for controlling pollutants in storm water discharges. Several commenters provided lists of additional BMPs that are appropriate for use at timber product facilities. However, many commenters stated that the proposed requirement for daily inspections of ''material handling activities and unloading and loading areas whenever industrial activities occur in those areas'' is confusing because these areas are considered industrial activities. In addition, they believe the proposed frequency of the inspections is overly burdensome and clarification of the required documentation is needed. Some facilities stated that they already conduct inspection of material handling and loading/unloading areas when chemical preservatives are shipped or received. Some commenters suggested that no documentation be required.

In response, EPA would like to clarify that the proposed requirement was intended to require site personnel to inspect the areas where material handling and loading/unloading activities were occurring on a daily basis. These areas would be inspected on those days when material handling or loading/unloading activities were occurring but would not be required to be inspected when the activities were not occurring. This requirement was placed in the permit because these areas are subject to leaks and spills of materials, tracking of spilled chemicals by equipment, discharge of wood debris and dust generation from heavy equipment. Daily inspection of these areas would only require that someone be responsible for examining each of the areas to determine which BMPs should be implemented to limit the contamination of storm water discharges. For example, the inspector may see that a small amount of a chemical has been spilled near a loading dock which could potentially either be tracked away from the site on truck tires or if it rained could enter the storm water discharge. With daily inspections of these areas, the inspector could immediately initiate clean up of the spill and make suggestions for additional BMPs to be implemented into the plan to avoid future spills. No elaborate documentation of these inspections is required, however, the facility's pollution prevention team should develop a simple method of tracking whether someone has observed the areas when material handling and loading/unloading activities are being performed on a daily basis. If follow-up measures are appropriate in response to the inspection, these should be documented as well. For example, the documentation may simply be checking a log sheet and stating on the sheet that the inspection was performed on a particular day. Follow-up action may require initiating the work and marking a log sheet stating that the work was performed.

EPA disagrees that daily inspections would be burdensome. The inspection of material handling and loading/unloading areas is being required daily (when activities are occurring in those areas) because of the nature of the activities. These activities create a high risk for discharging pollutants to storm water discharges and require that more frequent assessments be made to ascertain the effectiveness of BMPs in those areas. These inspections, which should become a simple daily routine, may be made by personnel who are already in these areas at the time the activity is occurring. If inspections are already being conducted at material handling and loading/unloading areas when chemical preservatives are shipped or received then these can be incorporated as part of the pollution prevention plan and may satisfy part of the requirement. In addition, EPA believes the commenters are confused by the proposed language for daily inspections of material handling and loading/unloading areas in the permit. Therefore, the language in today's multi-sector permit will clarify this requirement.

Numerous comments were received on the requirement to perform monthly inspections at processing areas, transport areas and treated wood storage areas of facilities performing wood surface protection and preservation activities. The commenters argued that these inspections are unnecessary because employees are currently trained to prevent drippage of treatment chemicals on unprotected soils. They feel these requirements are duplicative of requirements under RCRA Subpart W. EPA disagrees that these inspections are unnecessary. Documentation associated with the listing of wood preserving and wood surface protection wastes at 40 CFR 261 showed that there remains a potential for storm water to become contaminated through incidental activities such as tracking of material, fugitive emissions, rushed operations and miscellaneous other activities. EPA therefore believes it is necessary to require these inspections so that site personnel may identify sources of pollutants and to implement BMPs to minimize contamination of storm water discharges at each facility. Where inspections of this type are being conducted for another program requirement, such as for RCRA, those inspections can suffice for meeting the requirements of this permit.

Some commenters were concerned that the requirement to identify areas where soils are contaminated as a result of past surface protection and preserving activities would be too burdensome. Some commenters stated that it might require extensive and very expensive testing of areas to determine where residual contamination remained and may even require expensive environmental site assessments. Several commenters argued that areas where contamination still remains could be identified through the site inspections, and once identified could then be remediated. In response, EPA disagrees that the requirement is too burdensome. The proposed permit stated that ''Where information is available, facilities that have used chlorophenolic, creosote, or chromium-copper-arsenic formulations for wood surface protection or preserving activities on site in the past should identify in the inventory the following: areas of contaminated soils, treatment equipment and stored materials that still remain and practices employed to minimize the contact of these materials with storm water runoff.'' If information is readily available, then the pollution prevention team would merely incorporate that information into the plan and identify pollution prevention measures to minimize contact with run-off. If the information is not available, no additional site assessments would be required. The fact sheet language in today's multi-sector permit clarifies this requirement.

In general, commenters supported the proposal that timber product facilities that do not surface protect or preserve should not be required to monitor their storm water discharges. These commenters agreed that storm water pollution prevention plans provide the necessary protection for controlling storm water pollution at timber product facilities. Many comments were received on the sampling and monitoring required by those timber products facilities that use formulations for wood surface protection and preservation. Many of the commenters were opposed to the sampling and monitoring requirements because they would impose significant administrative and economic burdens on wood preserving facilities in particular. They stated that the data obtained through the proposed monitoring program would provide marginal benefits to EPA because the highly variable data could not be used to measure the performance of BMPs. They believe that the efforts and expenses would be better used in developing and implementing pollution control measures. A few commenters also argued that wood preserving facilities should not have to monitor for TSS, COD and BOD because the requirement is based on concentrations from NURP studies which were performed in residential areas and because these pollutants are not toxic to aquatic life. Some commenters were opposed to monitoring requirements at remote storage sites because there is neither meteorological equipment nor staff available and transportation to these sites is very difficult.

Some commenters did not agree with the requirement for facilities that use copper-chromium-arsenic formulations to sample for both copper and arsenic because it is not supported in the data. These commenters suggested that, if additional data was needed, only one of the parameters (copper) be monitored because sampling for both was unnecessary. Other commenters argued that arsenic should not be required to be sampled because, while toxic to humans if ingested, it is not toxic to aquatic organisms. Numerous commenters argued that timber product facilities where chlorophenolic formulations were used in the past for wood preservation should not be required to monitor storm water discharges for pentachlorophenol where prior testing has shown that there is no chlorophenolic residue at the facility.

A number of commenters in this sector also commented about: the proposed cut-off concentrations that would be used to determine whether facilities must sample during the fourth year of the permit term or under the alternative certification provisions of the permit; the variability of pollutant concentrations in storm water discharges; the eventual imposition of effluent limitations based on the cutoff concentrations; the use of total recoverable metals analyses; the toxicity of pollutants to aquatic organisms given receiving water dilution during wet weather events; the alternative monitoring provisions proposed in the fact sheet; the use of visual monitoring; the quality of the part II sampling database; the identification of priority sectors for monitoring and other monitoring issues that are discussed under the monitoring section of this summary.

As a result of the comments on monitoring throughout the multi-sector permit, EPA has revised the methodology for determining which sectors need to monitor (See discussion under monitoring). The methodology developed for the final permit analyzed the group application data based on three digit (or more) sub-sectorization of the industries represented in the groups. Based on this revised methodology, the timber products sector has been divided into four sub-sectors for data analysis. These four sub-sectors are SIC code groups 2421 (sawmills and planing mills), 2491 (wood preserving), 2411 (log storage), and 2426/2429/243/244/245/2493/2499 (millwork, veneer, wood containers, plywood and structural wood, and wood products not elsewhere classified). Using the data in the group application database, and data submitted subsequent to development of the database, EPA analyzed the monitoring requirements for these four sub-sectors using the revised benchmarks. As a result, EPA is now requiring monitoring of all four sub-sectors in the timber products sector. SIC code 2421 will monitor for COD, TSS and zinc. SIC code group 2491 will monitor for total recoverable arsenic and total recoverable copper, SIC code group 2411 will monitor for TSS and SIC code groups 2426/2429/243/244/245/2493/2499 will monitor for COD and TSS. In addition, the timber products industry must perform quarterly visual examinations of their storm water pollution prevention plan. EPA believes these revised monitoring requirements are responsive to the major comments received on the proposed monitoring provisions in that the monitoring is more industry-specific due to the sub-sector approach and that this approach more accurately identifies the pollutants of concern within each industry subsector. In response to the issue of whether a remote facility should be required to comply with the monitoring provisions, EPA realizes that if a facility is inactive and unstaffed it may be difficult for the operator to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly chemical sampling. In addition, if an active facility cannot collect a sample within a given quarter due to weather problems, inaccessibility, etc. then the permit allows the facility operator to take a replacement sample in the next quarter.

With regard to the requirement to conduct monthly visual examinations, EPA has reduced the visual examination schedule for active sites to only quarterly and has allowed a waiver of this requirement for inactive, unstaffed facilities. The operator should consult their permitting authority. Under these circumstances, the multi-sector storm water permit may not be a feasible permit for the facility and an alternative storm water discharge permit may be more appropriate.

Chemical and Allied Products Manufacturing

EPA received 19 comments specifically concerning the Chemical and Allied Products Manufacturing sector. A common concern of these commenters was a disagreement with EPA's grouping of all chemical and allied product manufacturers into one sector. Various commenters stated that they should not be in the same sector with certain facilities which they believed posed more of a threat to water quality. Several commenters suggested that this sector be subdivided with different requirements for each of the subdivisions.

Although the proposed permit divided the Chemical and Allied Product Manufacturing sector into eight subsectors, it applied the same requirements to each of these subsectors. Commenters expressed dissatisfaction with this aspect of the proposal. One commenter stated that some groups in this sector should get monitoring exemptions granted if they can demonstrate that they are substantially different from other groups in the sector. Commenters raised several other issues. One stated that there is no such thing as a typical chemical manufacturing facility and that EPA needs to visit each in the ''broad array of chemical facilities'' in order to understand the diversity of the industry. EPA understands that there may be significant differences between facilities in each sector and even within a subsector. Each facility has its own unique land features, operations and storage activities, material management practices, and chemical product manufacturing, packaging, and transferring techniques. It is not feasible that EPA visit each facility that will be regulated under this permit and in fact this level of scrutiny would best lead to the development of an individual storm water discharge permit for each chemical manufacturing plant. However, this is not the intent of this permit action, which is to issue a storm water general permit for similar types of industrial activities described under this sector and subsectors. In recognition of the differences between facilities, EPA is issuing a flexible storm water general permit, which allows each permittee to develop a pollution prevention plan for their own facility. This permit also contains an ''alternative certification'' condition, which allows a waiver for any chemical monitoring requirement for a pollutant that the permittee believes is not present at the facility.

One commenter stated that the proposal arbitrarily and capriciously requires thirty (30) mandatory structural and non-structural Best Management Practices (BMPs) and that EPA should defer BMP selection to the discretion of the facility operators. In response to this concern, EPA has reviewed the requirements in this sector, and for all other sectors, for BMP implementation and has revised the final permit to maintain flexibility in the selection of BMPs to be implemented at any particular industrial activity. The facility operator is allowed to choose the best type of management practices for their facility and their particular storm water problems. The permit does not mandate specific structural controls.

Asphalt Paving and Roofing Materials and Lubricant Manufacturing Facilities

Several commenters indicated that there should be further subdivision of the industries covered by the asphalt paving and roofing materials manufacturers and lubricant manufacturers sector. Commenters indicated that the industries covered by the sector do not have similar raw materials, finished products or processes. EPA realizes there are differences in the industrial activities covered under this section of the permit. EPA has analyzed the sampling data for the asphalt paving and roofing materials manufacturers separately from the lubricant manufacturers. The determination of the monitoring requirements for the final permit were made based upon the subsector analyses, not upon analyses of the entire sector's data. Although there were differences in the concentrations of pollutants in storm water discharges from these types of facilities, these differences are not substantial. Regardless, the permit requirements allow for variation from facility to facility. The operator must prepare a storm water pollution prevention plan based upon the sources of contamination which they identify.

Commenters also expressed concern with the portion of the proposed permit's fact sheet which discusses the potential pollutants of concern. Commenters stated that they disagreed with EPA's characterization of several pollutants being ''of concern''. The commenters felt that the part 2 application sampling results clearly indicated that these pollutants were not of concern for the industry.

The pollutants of concern are the parameters listed in the fact sheet as potentially being present in the storm water discharges and they may be different from the pollutants which a sector is required to monitor. These pollutants are listed based upon significant materials and industrial activities and other information submitted in the group applications. The listing of these pollutants provides guidance to facility operators in helping identify potential sources of storm water contamination and in selecting appropriate BMPs. EPA believes that the Part 2 sampling results cannot be the sole factor considered when selecting pollutants of concern for an industry. Permit writers must also consider all significant materials and industrial activities exposed to storm water.

Several commenters reinforced EPA's decision not to include analytical monitoring requirements for the asphalt or lubricant manufacturing facilities. A number of commenters stated their opposition to the alternative monitoring requirements included in the proposed permit's fact sheet. (The alternative monitoring requirements included annual analytical requirements for TSS, COD, pH and oil and grease.) One commenter expressed support for the analytical requirements, indicating that this would be the best way to evaluate the effectiveness of the storm water pollution prevention plan.

Based on the revised methodology for determining pollutants of concern (discussed under monitoring), EPA has determined that limited analytical monitoring requirements are necessary to aid the asphalt or lubricant manufacturing facilities in evaluating the effectiveness of the permit. Today's permit contains analytical monitoring requirements for total suspended solids (TSS) from these facilities. There are also compliance monitoring requirements for asphalt emulsion manufacturing facilities which are subject to the storm water effluent limitations guidelines. Facilities in this sector should not overlook this requirement.

One commenter indicated that the frequency of the visual examination of storm water discharge was burdensome and suggested reducing the frequency to a semi-annual basis. In response EPA believes that facilities must perform visual examinations of storm water discharges in order to assess the effectiveness of the storm water pollution prevention plan over the course of the year. The discharge of pollutants may be impacted by the seasonal weather changes, or operational changes that occur over the course of 6 months. It is necessary for a facility to examine their storm water discharge on a quarterly basis to assess how these changes impact the quality of the discharge. The same commenter also suggested that a facility not be required to perform the visual exam after two consecutive ''clean'' samples are observed. EPA does not agree with the commenters suggestion. It is not possible to define a ''clean'' sample for a visual examination, because the visual exam is subjective. The exam is not intended to provide facilities with an absolute means of comparing their discharge to other facilities' discharges, it is intended to provide operators with a relative comparison of the discharge quality from one period to another.

One commenter indicated that the compliance monitoring requirements and numerical effluent limitations should be eliminated for the asphalt roofing emulsion manufacturing facilities. The commenter felt that group application sampling data showed there was no need for monitoring. EPA's response is that the numerical effluent limitations for storm water discharges associated with asphalt roofing or pavement emulsion must be included in any NPDES permit which covers these discharges as required by the effluent limitations guideline at 40 CFR Part 443. The permit must also require at least annual monitoring for any pollutant limited by the effluent limitations guideline. These are requirements which cannot be modified in the context of this permit issuance.

Stone, Clay, Glass, and Concrete Products

There were a number of comments received regarding the proposed permit requirements for the glass, clay, cement, concrete, and gypsum product manufacturing sector. These comments focused primarily upon three areas; the types of industrial activities addressed under the sector, the storm water pollution prevention plan storm water pollution prevention plan requirements, and the monitoring requirements.

Several commenters indicated that they believed the sector included too diverse a range of industrial activities, and that sectors should be created for each of the various industrial activities currently covered under the one sector. Commenters were concerned that industries with relatively little discharge of contaminated storm water had been placed into a sector with industries with higher contamination, and that more stringent monitoring requirements were being placed upon their industry than would have been required had their industry or group been considered separately.

In response to these and other concerns, EPA has revised its methodology for determining the monitoring requirements. EPA divided this sector into four subsectors for further data analyses and comparison to benchmarks. The subsectors included: glass products manufacturing, cement manufacturing, clay products manufacturing, and concrete products manufacturing. Monitoring requirements were determined based upon this subsector analyses.

However, in relation to the storm water pollution prevention plan requirements for the sector, these requirements remain the same as proposed. EPA believes there is sufficient flexibility within these requirements to allow the each permittee to select the most appropriate measures for their site. Therefore, subsectored pollution prevention plan requirements were not added to the final permit.

Commenters also expressed concern that the storm water pollution prevention plan requirements for this sector are burdensome, particularly the requirements for storage of fine granular solids, removal of spilled materials, and management of runoff. One commenter stated that storage of bulk dry materials in an enclosed area would be too costly, and that covering the materials with a tarp would be impractical given the need to access the piles. In response, EPA wishes to clarify that today's permit requires that facilities prevent the exposure of fine, dry granular solids to storm water. The permit does not require these materials to be enclosed, or permanently covered. At a minimum, a facility must cover these storage piles while the piles are not in use and while it is raining. However, the piles need not be constantly covered, provided a tarp or other removable cover is near by. It should also be clarified that the requirement does not apply to coarse granular material such as sand or gravel, only to fine granular materials that are readily suspended or dissolved into storm water such as cement or fly ash.

The same commenter stated that a facility should be permitted to select the BMPs for removal of spilled materials from paved areas. In response, EPA wishes to clarify that the permit allows ''regular sweeping, or other equivalent measures'' therefore the permit does provide the permittee flexibility in selecting the methods for removing spilled materials.

The majority of the comments received regarding the requirements for glass, clay, cement, concrete, and gypsum product manufacturing facilities addressed the monitoring requirements contained in the proposed permit. Many of these comments addressed the methodology for selection of this sector as a ''priority'' monitoring sector. These comments expressed concern that the monitoring methodology did not consider the variation in industrial activities within the sector.

The comments also expressed concern that the bench mark or ''cut-off'' concentrations were too restrictive. As a result of these and other comments, EPA has modified the methodology for selection of industries as ''priority monitoring sectors (comments regarding the methodology for selection are addressed separately in this attachment). The selection of industries and parameters for monitoring was made at the subsector level. Sampling requirements for the glass subsector, the cement subsector, the clay subsector, and the concrete subsector were determined separately. The results of the modification in the monitoring methodology are a reduced list of parameters for analytical monitoring in the concrete, clay and cement products manufacturing facilities.

A number of commenters endorsed the alternative monitoring requirements which were included in the fact sheet for the proposed permit because these requirements only consisted of visual examination of discharge without any analytical monitoring. After further review and consideration of the sampling data submitted, EPA has determined there is a significant potential for the clay and concrete products facilities to discharge pollutants at high concentrations. Sampling at these facilities during the term of the permit is necessary to determine the presence of pollutants and to assess the effectiveness of the storm water pollution prevention plan in controlling them. The alternative monitoring requirements are not included in today's permit for this sector.

Several commenters state that the requirements for monthly visual examination of storm water is unreasonable, and burdensome. In response, EPA has determined that a monthly visual examination is not necessary and that a quarterly (four times per year) visual examination of storm water discharge will provide sufficient information to the permittees in evaluation of the storm water pollution prevention plan, without imposing a substantial burden on the facility.

Primary Metals

A number of commenters were opposed to the use of benchmark levels for the determination of which sectors should conduct monitoring, or opposed benchmark levels for specific pollutants as being inappropriate. Generally, commenters expressed concern that the benchmark levels were unrealistically low and would result in monitoring requirements even for ''clean'' facilities. Primary metals facilities were especially concerned about the proposed benchmark level for pyrene, which commenters believed was below detection levels, and is not used by many facilities in the industry.

In response, EPA has reevaluated benchmark levels for all pollutants, and has adjusted the level for several. The new benchmark level for pyrene is 0.01 mg/L based on a laboratory derived minimum level (ML). Because of this new benchmark, facilities in the Primary Metals sector are no longer required to monitor for pyrene under the standard monitoring requirements of this sector. In addition, flexibility has been added to the permit through the adoption of an alternate certification that allows facilities that can certify that they do not have exposure of a particular pollutant to storm water to eliminate monitoring for that specific pollutant.

EPA received many comments opposing the combination of several group applications into the primary metals sector. Commenters pointed out differences between industry subgroups and requested different requirements for different subgroups. Several commenters stressed that unless monitoring requirements were to be determined based on subgroups within the sector, that additional flexibility was needed to account for the wide variety of facilities within the sector.

Although EPA agrees that industries within the primary metals sector conduct a variety of activities, the flexible conditions of the permit address those differences adequately. In response to comments regarding inappropriate grouping of industry sectors, sampling data has been reevaluated at the 3 digit SIC code level to determine which facilities will be required to conduct monitoring. Facilities in the primary metals sector have been subdivided into seven groups: SIC 331—steel works, blast furnaces, and rolling and finishing mills; SIC 332—iron and steel foundries; SIC 333—primary smelting and refining of nonferrous metals; SIC 334—secondary smelting and refining of nonferrous metals; SIC 335—rolling, drawing, and extruding of nonferrous metals; SIC 336—nonferrous foundries (castings); and SIC 339—miscellaneous primary metals products. The final permit monitoring requirements now apply to only facilities in SIC groups 331, 332, 335, and 336.

Some commenters also opposed the monthly inspections and visual monitoring requirements, as well as the quarterly comprehensive site compliance evaluations for this sector. EPA has dropped the monthly facility inspections and visual monitoring requirements. EPA believes that quarterly facility inspections and visual monitoring should be adequate to evaluate the effectiveness of the pollution prevention plan. The requirements for conducting comprehensive site compliance evaluations have also been modified. Comprehensive evaluations will be required only on an annual basis for this sector rather than quarterly, as proposed.

Many commenters suggested alternate monitoring frequencies than those proposed. Generally, commenters felt that monitoring four times per year in years 2 and 4 was unnecessarily burdensome, impractical, or unrealistic, especially in arid and remote locations. Some commenters suggested that monitoring one or two times per year would provide representative data at less expense to regulated facilities.

EPA disagrees that quarterly sampling is unrealistic and has provided some flexibility for active facilities that do not experience a representative storm event during the required sampling period. When a discharger is unable to collect a sample during a monitoring period due to adverse climatic conditions, the discharger may collect two samples from two separate qualifying storm events in the next period and submit these data. This waiver is only intended to apply to insurmountable weather conditions such as drought or dangerous conditions such as lightning, flash flooding, or hurricanes. EPA believes that quarterly sampling will allow better characterization of storm water discharges and assessment of the effectiveness of the facilities' pollution prevention plan, without placing an undue burden on permittees. Annual sampling could not accomplish an adequate assessment.

Several commenters expressed opposition to the potential inclusion of whole effluent toxicity (WET) testing under the multi-sector permit and characterized WET testing as expensive, impractical, inappropriate, and useless. Although EPA is not including WET testing under the terms of today's permit for this sector, EPA disagrees that WET testing is inappropriate for testing storm water discharges. EPA believes that WET testing can be a valuable monitoring tool in certain circumstances.

Metal Mining

Comments on permit requirements in the metal mining (ore mining and dressing) sector, focused on the application of the effluent limitation guidelines, compliance time, grouping of facilities, end-of-pipe treatment, definition of inactive and active mining, scope of coverage offered by the permit, and monitoring requirements.

A special condition of the multi-sector general permit is that those discharges subject to the effluent limitations guidelines (ELG) for the Ore Mining and Dressing Point Source Category (40 CFR 440) cannot be covered under the permit. Table G–4 in Part VIII.G. of the Fact Sheet contains a listing of various sources of discharges at active metal mining facilities and specifies whether or not discharges from those sources are subject to the ELG. Several commenters contend that through this clarification, EPA will expand the scope of discharges subject to the ELG by including storm water runoff from overburden, waste rock piles, haul roads, and other sources as being subject to the ELG. The commenters contend that storm water runoff from these sources previously had not been subject to the ELG and could, in the past, be permitted as storm water discharges.

EPA believes Table G–4 represents a clarification of the relationship of ELG and storm water at active metal mining sites, and does not expand the current ELG requirements. EPA also believes the development document and the ELG support the interpretation given in Table G–4. In the November 6, 1975 preamble to the effluent limitations guideline, it states ''The definition of a mine was intended to be sufficiently broad to cover all point source pollution resulting from all of the activities related to operation of the mine including drainage tunnels, haul roads, storage piles, etc.'' (40 FR 51727). In the 1978 development document (Development Document for Effluent Limitations Guidelines and New Source Performance Standards for the Ore Mining and Dressing Point Source Category, EPA, July 1978, page 146), the following definition of a mine was given for purposes of recommending subcategories and effluent limitations guidelines and standards:

A mine is an area of land upon which or under which minerals or metal ores are extracted from natural deposits in the earth by any means or methods. A mine includes the total area upon which such activities occur or where such activities disturb the natural land surface. A mine shall also include land affected by such ancillary operations which disturb the natural land surface, and any adjacent land the use of which is incidental to any such activities; all lands affected by the construction of new roads or the improvements or use of existing roads to gain access to the site of such activities and for haulage and excavations, workings, impoundments, dams, ventilation shafts, drainage tunnels, entryways, refuse banks, dumps, stockpiles, overburden piles, spoil banks, culm banks, tailings, holes or depressions, repair areas, storage areas and other areas upon which are site structures, facilities, or other property or materials on the surface, *resulting from* or incident to such activities (emphasis added).

It is important to note that the definition of ''mine'' includes the term ''resulting from''. Thus, something ''resulting from'' the mining activity is considered part of the active mine even though there is no activity at that specific part of the mine (e.g. waste rock is no longer being placed on a waste rock pile that is part of the mine). It would continue to be considered as part of the active mine until reclamation is started on that same portion of the mine. Residuals (waste rock piles, tailings piles, etc.) from historical mining at the site are not part of the active mining area unless they are re-disturbed by the current mining activity. The revision of the ELG in 1982 addressed best available technology economically achievable (BAT), best conventional pollutant control technology (BCT), and best available demonstrated technology (BADT). That revision did not address the issue of what discharges were subject to the ELG. The definition of mine remained unchanged. In 1983, training sessions on how to implement the ELG were held for permit writers from EPA Regions and approved NPDES States. The guidance document used for those training sessions included the following Statement:

''Active mine areas'' include the excavations in deep mines and surface mines; leach areas; refuse, middling, and tailing areas; tailing pond, holding and settling basins; and other ancillary areas to a mine or mill. Active mine areas do not include areas unaffected by mining or milling.

Based on the above, it is EPA's position that the following storm water discharges at active metal mining facilities are not subject to the ELG and can be covered by the multi-sector general permit: offsite haul/access roads; onsite haul roads not constructed of waste rock or spent ore; runoff from tailings dams/ dikes when not constructed of waste rock/tailings; concentration building and mill site if storm water only and no contact with material storage piles; chemical storage area; docking facility; explosive storage; fuel storage; vehicle/equipment maintenance area/building; vehicle/ equipment parking areas; power plant; truck wash area; reclaimed areas released from reclamation bonds prior to December 17, 1990; and partially/ inadequately reclaimed areas or areas not released from reclamation bond. Storm water discharges from inactive mining facilities can be covered under the multi-sector permit.

In developing Table G–4, consideration was given to such factors as the nature of the source, the materials in the sources (e.g. raw materials, intermediate products, or waste products from the mining and milling operations), and whether or not it was likely that source was considered in the development of the ELG. It was decided that runoff from on-site haul roads not constructed of waste rock or spent ore, and runoff from tailings dams/dikes not constructed of waste rock/tailings should not be considered subject to the ELG because they do not have the same potential for containing toxic pollutants as do mine wastes. Such runoff would be similar to that from non-mine facilities.

Two commenters stated that if the scope of discharges subject to the ELG for the Ore Mining and Dressing Point Source Category is expanded, then the permit needs to allow additional time (up to 3 years) to come into compliance with the effluent limitations as was proposed for the effluent limitations in the mineral mining sector. As explained in the response to the previous comment, Table G–4 is a clarification, not an expansion, of the discharges subject to the ELG. The multi-sector general permit does not authorize (apply to) discharges subject to the ELG for metal mining (i.e., 40 CFR Part 440). Therefore, a schedule for achieving compliance with those effluent limitations is not appropriate for the multi-sector general permit. Furthermore, the statutory deadline for compliance with the ELG is past.

A commenter felt that the draft multi-sector permit is extremely generic and lumps together all facilities in an extremely broad industry sector (e.g., ore mining and dressing), regardless of differences in product, processes used, or topographic and climatic conditions. The commenter further stated that difficulties caused by generic treatment of disparate facilities in a broad industry ''sector'' (e.g., the ore mining and dressing sector) are exemplified by the manner in which EPA determined the need for analytical monitoring requirements. The commenter had understood the purpose of the group application process to be the development of tailored, industry-specific permits for groups of facilities located in very similar areas, with permit conditions being tied to the particular circumstances of those facilities as described in the group application (including the sampling data provided in those applications).

This comment is similar to comments on several other sectors of the permit. The requirements to develop a storm water pollution prevention plan for metal mining facilities allows a great deal of flexibility to take into consideration such variables as type of ore being mined, pollutants of concern, type of mine, and local topography and climate. It would be difficult to have a variety of monitoring options to cover the various combinations of ores and climates, given the limited data submitted. Decisions being made on benchmark values may reduce monitoring requirements. Two commenters felt that imposing end-of-pipe treatment requirements for storm water discharges from mining operations, such as those contained in the ore mining and dressing effluent limitation guidelines, is both impractical and unnecessary. In the commenters opinion, the use of BMPs is more appropriate than the use of numerical effluent limitations.

This comment appears to be related to a previous comment about EPA expanding the scope of discharges from metal mining facilities that are subject to the effluent limitations guidelines (ELG) for the Ore Mining and Dressing Point Source Category (40 CFR Part 440). As previously mentioned, those discharges subject to the ELG are not authorized by the multi-sector permit. The storm water pollution prevention plan requirements in the permit do not include the requirement to use end-of-pipe treatment for those storm water discharges from metal mining operations that can be covered by the permit. In some situations end-of-pipe treatment may be the appropriate means of control and should be used. That would be determined on a case-by-case basis.

With regard to the definition of inactive metal mining and dressing facilities, two commenters stated that the proposed 10-year period for declaring inactive status is arbitrary. They suggest that a more logical date for the distinction between active and inactive facilities would be December 17, 1990, which is now expressly referenced in EPA's storm water regulations at 40 CFR § 122.26(b)(14)(iii).

In response, some metal mining facilities may be temporarily shut down due to poor market conditions (e.g., uranium mines), seasonal conditions (e.g., heavy winter snows), and/or other factors. Some of these facilities are ''mothballed'' with the intent of bringing them back into operation when conditions improved to an acceptable level. For purposes of the multi-sector permit it was decided to consider such facilities as ''temporarily inactive'' rather than inactive. The distinction between ''temporarily inactive'' and ''inactive'' often is unclear when no reclamation activities have occurred at the site. In the draft permit the distinction between temporarily inactive and inactive was a period of ten (10) years with no mining and/or milling activity at the site. In the final permit the determination will be based on whether or not the facility has an active mining permit issued by the applicable (federal or State) governmental agency that authorizes mining at the site. All States now have agencies that have the authority to authorize mining on non-federal lands. Even though there may be no activity at the facility, it will be considered temporarily inactive as long as it has a permit for mining activity at the site.

The definitions of inactive and temporarily inactive facilities have been revised somewhat to reflect what EPA believes to be the appropriate distinction between the two definitions. In order for a site, or portion thereof, to be considered ''inactive,'' there must not be any current metal mining and/or milling activities, as defined in this permit, at that portion of the site and that portion of the facility does not have an active mining permit issued by the applicable governmental agency that authorizes mining at the site.

A metal mining facility, or portion thereof, is considered to be ''temporarily inactive'' if metal mining and/or milling activities occurred in the past, but currently are not being actively undertaken, the facility has an active mining permit issued by the applicable governmental agency that authorizes mining at the site. There is no time limitation on how long such a site can be considered to be temporarily inactive. EPA believes such sites should provide the extra storm water pollution prevention requirements that the temporarily inactive status requires compared to what is required for inactive status.

The proposed permit would require metal mining sites to identify, in pollution prevention plans, the outfalls from the site that contain mine drainage or process water and designate for each outfall the boundaries of the area that contribute to such areas. A commenter objected to this permit condition as being beyond the scope of the proposed multi-sector permit. Except for primary metals industrial sector, this is not being required of other industrial sectors.

In response, Part XI.G.3.a(3)(a)(i) of the draft permit stated ''A site topographic map shall be included in the plan that indicates, at a minimum: . . . and boundary of area that contributes runoff to outfalls that are subject to effluent limitations guidelines.'' EPA would like to clarify that the last part should read ''. . . boundary of tributary area that is subject to effluent limitations guidelines.'' Those discharges that are subject to effluent limitations guidelines (ELG) need to be regulated under another permit. It is the permittee's responsibility to identify discharges that are not authorized under this permit, but that mix with those storm water discharges that are authorized by the permit. This requirement is included in the metal mining sector because at most metal mines there are numerous areas where the storm water runoff is subject to the ELG. That is not the situation for most of the other sectors covered under the multi-sector permit.

One commenter stated that EPA should clarify that storm water permits are not required for discharges at mining sites which are not contaminated by contact with significant materials. This comment also applies to the coal mining and mineral mining sectors.

In response, based on the definition of storm water discharges associated with industrial activity (40 CFR 122.26(b)(14)(iii)), a permit is required for discharges from mining and milling facilities where the discharge has come into contact with any overburden, raw material, intermediate products, finished products, byproducts, or waste products located on the site. The exception is for discharges from areas of coal mining operations no longer meeting the definition of a reclamation area under 40 CFR 434.11(l) because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or for discharges from areas of non-coal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990.

Two commenters felt that EPA's proposed analytical monitoring requirements for metal mining facilities should be substantially reduced, and they should be eliminated if EPA does not retract its proposed overly expansive interpretation of the Part 440 regulations.

In response, EPA has reevaluated the monitoring requirements for all the sectors of the multi-sector general permit and the number of pollutants for which monitoring is required for the metal mining sector has been reduced. EPA does not see any reason why the monitoring requirements should be further reduced just because EPA provided clarification as to what sources are subject to the effluent limitations guidelines for Metal Mining and Ore Dressing. The determination of the monitoring requirements for the metal mining sector was based on an evaluation of the monitoring data submitted with the group applications for metal mining facilities. The activity status of many metal mining facilities was taken into consideration in determining the monitoring requirements. Monitoring for the metal mining sector was limited to the active facilities.

Oil and Gas Extraction

Comment on Sector I, the oil and gas extraction sector, focused on coverage allowed under the general permit for oil and gas sites and pollution prevention plan requirements, particularly for remote, unmanned sites. Representatives of the oil industry made the comment that the landfarming of oilfield wastes as a practice to allow biological break down should be covered by this sector of the general permit. They state that this is a common practice at exploration and production facilities sites and should be considered a part of the oil and gas facility activity and not an industrial waste land application site subject to the requirements under the land application sector in part XI.L. of the multi-sector permit.

In response, EPA would first like to note that the land application or disposal of oilfield wastes, produced waters, and oilfield drilling muds is an activity that is regulated by most States; and as such must be taken to State approved disposal sites. The discharge of any of these materials and their associated pollutants to a water of the U.S. is not authorized under this sector. Although, in theory, the practice of landfarming oilfield wastes would seem consistent with a no discharge requirement, there is the potential for pollutants from these land application sites to be discharged in storm water runoff and as such should comply with the permitting requirements of 122.26(b)(14). The oil and gas industry is not unique in that it land applies industrial wastes as a disposal practice. EPA must be consistent in its approach to land disposal practices under the storm water program. Also, EPA is concerned that proximity of the disposal site to actual drilling activity may be variable. For these reasons EPA believes these sites are more accurately described as land application/disposal sites and are subject to storm water permitting under section XI.L. of this permit. Where these sites are indeed proximate to the drilling/production site the disposal activity would be considered a co-located activity and would be subject to the additional requirements under Sector XI.L. of this permit.

Commenters requested that the construction activities associated with oil and gas exploration and production (e.g., construction of access roads, drill pads, mud pits etc.) should be covered under the erosion requirements of this permit and that those activities not require a separate general permit coverage for the construction activities. In response, erosion, sediment, and pollution control should be addressed in all pollution prevention plans for industrial activity. Particularly where the industrial activity has the potential to disturb vegetation or natural runoff patterns and exacerbate erosion. This is true of oil and gas exploration and production activities. Therefore EPA has included additional requirements in the development of pollution prevention plans for these facilities. However, where the construction of a drilling site or any construction of facilities covered by this sector would cause the disturbance or is part of a plan to develop which would disturb five acres or more, then that construction activity itself, becomes an industrial activity which is defined in the regulations (40 CFR 122.26) as having storm water associated with industrial activity which requires separate permitting. EPA has issued a general permit which addresses the runoff from construction activities. This multi-sector general permit, while providing guidance for construction activities under five acres that may occur at a site, does not authorize large scale construction (5 or greater acres) and erosion control. EPA does not believe that it is unnecessarily burdensome for the oil and gas industry to file a construction general permit Notice of Intent and be compliant with the pollution prevention requirements for their sites which will cause the disturbance of five acres or more.

Many commenters expressed concern that it will be very difficult (if not impossible) for oil and gas facilities to do visual monitoring on their remote unmanned sites. They complain that they will not know when its raining and cannot get there in time to get a proper sample. These commenters request that this quarterly visual monitoring be dropped from the multi-sector general permit as a requirement for remote, unmanned oil and gas sites.

In response to the issue of a remote facility being required to comply with the monitoring provisions, EPA realizes that if a facility is inactive and unstaffed it may be difficult for the operator to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examinations.

Commenters asked for a two-tiered storm water pollution prevention plan. One for those facilities with lots of activity and a less burdensome plan (a de minimis plan) for remote facilities that are unmanned and have no activities (e.g., old oil field with a few capped wells on the property).

EPA agrees that a pollution prevention plan for inactive, unmanned sites should not include all of the same elements of a facility with continuous activity and personnel. However, the proposed pollution prevention plan requirements already allow for a plan that addresses potential pollutant sources in a way that is appropriate for each facility. EPA believes that this allows adequate flexibility for operators of unstaffed, inactive sites to address activities such as housekeeping and preventive maintenance in a manner that is appropriate for that site.

Coal Mines and Related Facilities

EPA includes inactive mining areas because significant materials remain on site which can be exposed to storm water and runoff. Two commenters disagreed with the listing of solvents, cleaning agents, contaminated soils and sludges as significant materials found on inactive sites. EPA agrees that these materials are not normally found on inactive sites in significant amounts, especially compared to exposed overburden and refuse piles. However, the Agency wishes to call attention to the possibility of these materials existing at inactive sites where machinery has been intensively used or has been abandoned.

One commenter disagreed with the Agency's conclusion that suspended solids and iron in storm runoff merit attention based on sampling data submitted. The commenter indicated that the sampling could not be presumed representative and that very high suspended solids concentrations are found in runoff from undisturbed areas in many western coal mines. The Agency agrees that the data was provided by only a small percentage of coal mines participating in the group application process and may not be representative. However, the sampling data submitted does give some indication of the relative amounts of pollutants contributed by storm runoff and the Agency wishes to call attention to those pollutants which appear to be more significant.

EPA requested comments on alternative monitoring and reporting requirements which include annual sampling of 20 percent of haul road discharges and analyzing the samples for settleable solids. Four commenters responded to these alternative requirements, all negatively. The primary reason indicated was that the expense and burden of analytical monitoring would not be justified. Most indicated that controls through Best Management Practices (BMPs) and visual examinations would be sufficient. EPA acknowledges these responses and, although it believes there is value in occasionally performing settleable solids evaluations, withdraws the alternative monitoring requirements as an option to the required visual examinations.

Four commenters indicated that the Surface Mining Control and

Reclamation Act (SMCRA) requires sediment and erosion controls in the form of BMPs and this requirement should be sufficient for purposes of the storm water general permit. One of the commenters disagreed with the reference of SMCRA requirements as minimum requirements rather than primary requirements of the pollution prevention plan of the general permit. EPA acknowledges the SMCRA sedimentation and erosion control requirements as the primary requirements for active coal mining-related areas and for inactive areas under SMCRA bond authority. The permit wording is modified to this effect while still indicating that, where determined appropriate for protection of water quality, additional sedimentation and erosion controls may be warranted.

Four commenters felt that the requirement for quarterly sampling and visual examination of representative discharges is burdensome and unnecessary. Reasons cited were that active areas and regulated by SMCRA, haul roads in some areas are remote, and rainfall in some western areas is unpredictable and spotty. Two of these commenters suggested as-needed visual examinations, one suggested annual examinations, and one suggested semi-annual examinations.

Although haul roads are regulated by SMCRA and in some cases may be remote, EPA is concerned that they can be a significant source of stream siltation if sediment and erosion control measures are not adequate to provide necessary protection of stream quality during precipitation events. The Agency believes that a requirement for periodic visual examinations of representative discharges is necessary in order to provide some evaluation of the effectiveness of control measures under actual runoff conditions. EPA also acknowledges that drier western areas would have less frequent incidences of precipitation resulting in runoff. The Agency has reduced the sampling and visual examination requirements from quarterly to semi-annually both for areas having an average annual precipitation of 20 inches or less as well as for inactive areas under SMCRA bond.

One commenter suggested that the requirement to collect samples form discharges resulting from storm events greater than 0.1 inch should be replaced by a requirement to collect samples resulting from any storm event sufficient to produce a visual flow. The Agency is concerned that some very small storm events may not have sufficient potential to significantly disturb and carry off sediment even though the storm events may produce visual flows. To evaluate effectiveness of sediment and erosion control measures under conditions which have potential for stream siltation, sampling discharges resulting from at least a 0.1 inch storm is felt warranted.

Four commenters disagreed with the requirement to sample within a 30-minute period or, where not practical, within a one-hour maximum period after beginning of a discharge resulting from a 0.1 inch storm event. Their concerns were similar in that some mining areas are extensive, rainfall measurements may differ in different parts of a mining area, and one hour is not enough time to respond with sampling. One of the commenters suggested that the sampling be required within one hour or as soon as practical after discharge begins. Another of the commenters suggested that samples be collected within two hours of discharge within normal business hours at 25 percent of a facility's representative outfalls.

The requirement of a 30-minute period (one hour where impractical) for obtaining samples is based on the fact that the highest potential of sediment runoff and resulting stream siltation occurs during early stages of storm periods where loose dirt and other materials are most likely to be swept away. However, the Agency recognizes possible problems at large mining areas for sampling within the required 30-minute to one-hour maximum period after beginning of discharge. The requirements are changed to allow sampling within the first one hour after beginning of discharge or, as soon as practical, but not to exceed a two-hour maximum time period. The Agency believes that this requirement is not burdensome since samples are required only from representative discharges and at frequencies of once per quarter and less in drier areas of the nation. Sampling flexibility is also provided by the number of 0.1 inch or greater precipitation events occurring during the quarterly or semi-annually sampling periods.

One commenter pointed out that the chemical monitoring requirements do not distinguish between active and inactive areas. This commenter and three others opposed monitoring requirements for inactive areas. Two of these commenters suggested, however, that samples be collected if discharges occurred during an inspection. The Agency agrees that mandatory sampling of inactive areas within a specific time period after initiation of a discharge due to a minimum precipitation event may be burdensome and has changed that requirement for operators of inactive, unstaffed facilities.

Three commenters suggest that inspections for inactive sites be specified at once every three years rather than yearly with an allowance under certain conditions of less frequent inspections. EPA does not believe that an across-the-board allowance of one inspection every three years would be adequate. Although no mining-related activity may be taking place at inactive sites, exposure of unreclaimed overburden, refuse or other materials on site is susceptible to erosion and runoff and warrants more frequent inspections of sediment and erosion control measures. Yearly inspections are felt to be appropriate to better assure that control measures have not deteriorated.

Mineral Mining and Processing Sector

The comments on sector J, the mineral mining and processing sector focussed on eligibility under the sector, monitoring requirements, and the pollution prevention plan requirements of the permit. EPA requested comment on whether mine dewatering should be included in the storm water multi-sector permit, and if included, if it should be expanded from just Region VI to all EPA Regions.

EPA has elected to allow currently unpermitted mine dewatering discharges from Construction Sand and Gravel, Industrial Sand, and Crushed Stone mines to be included in this permit, but only for facilities located in EPA Region VI and Arizona. This option does not exist in other EPA regions. Region VI and Arizona have a large number of unpermitted mine dewatering discharges and limited resources necessitating this requirement.

EPA Region VI proposed a limited amount of monitoring. Commenters felt that monitoring should be limited to only those parameters for which there are ELGs. For example, the construction sand and gravel subcategory (SIC Code 1442) only has ELGs for pH.

EPA Region VI has elected to require monitoring for those parameters indicated in the proposed permit. EPA believes that such monitoring is necessary to assess the pollutants levels in the discharge and to assess the effectiveness of the pollution prevention plan.

Commenters felt that industry should not be required to attain discharge levels for solids to a greater degree than that occurring in the natural erosion of the surrounding area or that found in the receiving stream during storm events. To that end, the commenters requested that the industrial facility or the State be responsible for establishing criteria for TSS limitations. In the proposed storm water discharge permit EPA did not establish any new storm water effluent limitations. Rather, the limits in the proposed permit are existing effluent guidelines under the NPDES program which the discharger should already be meeting. EPA believes that it would be imprudent to allow industry to establish its own TSS limitations. The method which a owner/operator of a facility chooses to reduce storm water discharges is left to the industrial facility.

In addition, EPA wishes to clarify that the ''cut off'' concentrations are not the same as effluent limitations. If a facility is unable to verify that its storm water discharge is below the cut-off concentration it will be responsible for the continued monitoring of that pollutant in its storm water discharge. Once again, the ''cut off'' concentrations are not storm water effluent limitations and should not be viewed as limits that must be met.

Commenters felt that while assessment and implementation of needed BMPs may be necessary, written discussion, documentation and scheduling of this procedure should not be a requirement of the storm water pollution prevention plan. According to the commenters, such assessments and decisions should be made prior to the development of the storm water pollution prevention plan. The outcome of those decisions should be made a part of the storm water pollution prevention plan. The commenters felt that the storm water pollution prevention plan represents the avenue for preventing storm water pollution and should not be used as an engineering report for BMP evaluation and selection.

On page 61162 of the November 19, 1993, Federal Register EPA identified the focus of storm water pollution prevention plans. The plan has ''two major objectives: (1) to identify sources of pollution potentially affecting the quality of storm water discharges associated with industrial activity from the facility and (2) to describe and ensure implementation of practices to minimize and control pollutants in storm water discharges associated with industrial activity. . . .'' EPA further States the storm water pollution prevention plan requirements are intended to facilitate a process whereby the operator of the industrial facility thoroughly evaluates potential pollutant sources at the site and selects and implements appropriate measures designed to prevent or control the discharge of pollutants in storm water runoff. EPA believes it is necessary to include the discussion and documentation of BMP selection in the storm water pollution prevention plan to ensure the plan developed for a facility is operating effectively. The storm water pollution prevention plan process involves four steps including the assessment of potential storm water pollution sources, the selection and implementation of appropriate management practices and controls, and the periodic evaluation of the effectiveness of the plan to prevent storm water contamination. Because of the uniqueness of mine sites, the effectiveness of the BMPs can most effectively be evaluated after their implementation.

Commenters requested that EPA provide for reduced inspection and visual examination requirements for active mineral mining and processing sites given the Agency's findings that these sites have ''generally low pollutant values.'' In response, EPA strongly believes that quarterly visual examinations of storm water discharges is appropriate. Since EPA is not proposing the monitoring of storm water discharges from all subsectors, quarterly visual examinations will allow for feedback to be incorporated into a storm water pollution prevention plan.

Commenters requested that EPA provide for flexible inspection requirements and no monitoring requirements for inactive mineral mining and processing facilities, consistent with the Agency's proposed approach for metal mining sites. In response, EPA will require chemical monitoring of storm water discharges only from active sand and gravel and dimensional stone, crushed stone and non-metallic minerals facilities in this sector. The permit still requires quarterly visual examinations of all storm water discharges from active facilities but this requirement can be waived for inactive, unstaffed facilities.

The proposed mineral mining and processing sector permit required annual inspections for temporarily and permanently inactive sites, but did not allow for reduced inspection requirements for remote and inaccessible sites as EPA proposed for inactive ore mining and coal mining sites. Commenters requested that EPA provide the same relief provision for mineral mining sites as it did for coal and ore mining sites. In response, EPA has revised its inspection requirements by reducing the frequency of the comprehensive site compliance evaluation to annual for all active and inactive mineral mining and processing facilities.

Commenters felt that the requirements and conditions for termination of permit coverage would be unworkable because the ''background values'' for certain parameters, such as total suspended solids, would be highly variable from outfall to outfall and according to the intensity of storm events. In response, EPA has elected to delete the conditions for termination of coverage. These conditions would have been made available only if the alternative monitoring requirements were imposed in the final permit for this sector.

Hazardous Waste Treatment Storage and Disposal Facilities

One commenter questioned the definition of ''treatment, storage, or disposal facility'' that will be used relative to the storm water regulations. The storm water regulations published in the November 16, 1990 Federal Register apply to ''hazardous waste treatment, storage, or disposal facilities that are operating under interim status or a permit under subtitle C of RCRA.'' The multi-sector permit requirements in this sector, apply to ''facilities that treat, store, or dispose of hazardous wastes, including those that are operating under interim status or a permit under subtitle C.'' The use of the term ''including'' is not clear. The same commenter requested clarification regarding the inclusion of hazardous waste generators who operate storage areas (with less than 90-day accumulation) or temporary satellite accumulation areas. In addition, another commenter requested clarification on whether facilities regulated under Subpart X of 40 CFR 264 are subject to the storm water provisions.

EPA's intent regarding storm water permit coverage for facilities under this sector, is to include all treatment, storage, or disposal facilities (TSDFs) operating under interim status (40 CFR 265) and those operating under a permit issued pursuant to 40 CFR Parts 264 and 270. This includes facilities regulated under Subpart X of Part 264. It also includes recycling facilities whose operations are subject to regulation under Part 266, to the extent that these activities also are subject to interim status or permitting requirements under Subtitle C of RCRA. Used oil recycling facilities that are subject to regulations under Part 279 are included in Sector N of this permit, rather than Sector K. Sector K does not include generators who temporarily store hazardous waste pursuant to the requirements in 40 CFR 262. The permit language has been clarified to confirm that the multi-sector permit requirements in this sector apply to facilities that treat, store, or dispose of hazardous wastes and that are operating under interim status or a permit under subtitle C of RCRA.

Several questions were received regarding the parameters included in the monitoring requirements. More specifically, several commenters questioned the inclusion of Total Kjeldahl Nitrogen (TKN) and Chemical Oxygen Demand (COD) in the industry monitoring requirements in Table K–3, and the exclusion of Total Suspended Solids. The U.S. Army questioned whether the data they submitted was incorporated into Table K–1 on conventional pollutants in storm water. The Army also requested that EPA clarify the form of cyanide that is to be monitored, and suggested that a numerical detection limit should be specified for total recoverable magnesium and cyanide, rather than the words ''detection limit.''

The monitoring parameters and the cut-off concentrations specified by EPA for this sector primarily were based on the parameters previously established for the baseline general permit. These parameters were based on consideration of significant materials and the industrial activities of facilities in this industry. The amount of storm water data specific to TSDFs that EPA was able to evaluate was very limited; any data submitted from military organizations was evaluated separately and not included in Table K–1. Total recoverable cyanide is to be monitored by TSDFs; the commenter is referred to 40 CFR 136 regarding analytical methods to be used in the storm water program. Regarding the cut-off values for total recoverable magnesium and total cyanide, the concentration for magnesium is .0636 mg/l and the concentration of cyanide is .022 mg/l.

Some commenters questioned Region 6's assertion that storm water from hazardous waste Treatment, Storage, and Disposal Facilities (TSDFs) would not be allowed coverage under the Multi-Sector General Permit in Region 6 States (OK, NM TX, and LA). These commenters asked whether Region 6 intended to exclude only commercial facilities or all TSDFs. A few of these commenters noted that the exclusion of all TSDFs would put a financial and resource burden on both the regulated TSDFs and EPA by requiring all facilities to obtain individual permits. One commenter asked whether this applied to closed TSDFs as well.

Region 6 agrees with the commenters that it would be unduly burdensome to both the industry and the Agency to issue individual permits for all TSDFs. At this time, Region 6 would like to clarify their intent and indicate which TSD facilities would be allowed to be covered by a general permit; and those the Region specifically believe must obtain individual permits. Region 6 believes that General Permit coverage is appropriate for TSDFs that are self generating and are probably covered by the Multi-Sector General Permit via some other (primary) industrial sector. These facilities would be required to comply with the specific requirements in the Multi-Sector General Permit for their TSDF areas. The Region believes that the Multi-Sector General Permit requirements and monitoring for these facilities are appropriate. This would also apply to facilities that only store hazardous waste and do not treat or dispose of the hazardous materials. Also, the Region believes that disposal facilities that have been properly closed and capped, and have no significant materials exposed to storm water should not require permits in accordance with the description of storm water associated with industrial activity [40 CFR 122.26 (b)(14)].

However, it is Region 6's intent to issue individual permits for all commercial Treatment and Disposal Facilities. Those facilities would only be those which take commercially produced hazardous wastes (not their own) and treat or dispose of those materials. The Region has few of these, and the burden on the Regional permitting staff is small. Only six commercial facilities applied for coverage through the group application process. To date, Region 6 has required individual permit applications from all such facilities; and permits have included specific technology and water quality based limits. To allow existing facilities to obtain permit coverage under the Multi-Sector General Permit would be backsliding, and not allowable under part 402(o) of the CWA. To allow new facilities with permit conditions that are less stringent would not be consistent and would provide an economic advantage to new facilities over existing ones. In addition, Region 6 believes that more careful compliance tracking is warranted for facilities that treat and dispose of hazardous waste as a commercial operation. The Region does not believe that this would be burdensome on the few facilities that fall into this ''commercial'' category. These are large facilities that treat and dispose of large quantities of hazardous wastes as a service to generators. Because individual permits for these commercial hazardous waste treatment and disposal facilities has always been a priority, the Region believes it is consistent and appropriate to require all such facilities to apply for individual NPDES permits for their storm water discharges. This distinction does not apply to facilities that take and dispose of household (residentially produced) hazardous wastes. Facilities that accept, for disposal or treatment, wastes generated by private individuals at their residence are not required to submit individual applications unless they are a commercial facility for the treatment or disposal of hazardous wastes. Region 6 does not wish to discourage benevolent industry operators from offering this service and thereby discourage the proper disposal of household hazardous wastes by limiting their eligibility under this general permit.

Landfills and Land Application Sites

One commenter stated that the permit should provide reduced monitoring and pollution prevention plan requirements for landfills and land application sites that receive a homogenous waste stream. EPA agrees with the commenter that there are a wide range of industrial landfill and land application types depending on the nature of the waste received/managed. Even where the same waste categories are received by two landfills (or land application sites), waste characteristics may be highly source-specific. For example, ash composition varies significantly depending upon the fuel type/source and the combustion process. Because of this diversity and the limited extent of monitoring data submitted with the group applications, the Agency has established broad monitoring requirements for this sector. Further, the Agency believes that quarterly monitoring during the second year of the permit is necessary to fully characterize storm water discharges from individual sites. The Agency also notes that Section 5.a.(3).(a) of the permit waives monitoring requirements during the fourth year on a pollutant-by-pollutant basis where sampling shows concentrations below the threshold levels.

Several commenters expressed concern that a wide variety of pollutants are listed in the monitoring requirements of the proposed permit. Potential source of pollutants and pollutant types vary significantly from landfill to landfill. EPA concurs with the commenter that there are a wide range of industrial landfill types depending on the nature of the waste received/managed. To address the commenter's concern, the Agency has developed the alternative certification described in Section L.5.a.(5) of the permit. This provision will allow permittees to exercise a waiver of the monitoring if they can certify that storm water will not be exposed to potential sources of pollution.

The Agency believes that permittees should implement BMPs to minimize erosion at sites (i.e., to prevent/minimize pollutant loadings to storm water). This includes stabilizing daily cover piles, wherever practicable, regardless of their locations. These measures will reduce the need to rely on other controls to manage/treat storm water runoff after contamination has occurred.

One commenter questioned the analytical monitoring requirements proposed for landfills closed prior to the effective date of 40 CFR 258.60. The commenter felt that all landfills closed in accordance with State or local regulations should be exempted from analytical monitoring. In response, the Agency believes that prior to the effective date of 40 CFR 258.60 there was significant variability in State MSWLF closure requirements. The closure provisions of State industrial landfill regulations are similarly diverse. Because of this variability, the Agency cannot be certain that landfill areas closed under State programs do not have the potential to contribute pollutants to storm water discharges (unless the requirements are equivalent to or more stringent than 40 CFR 258.60). Therefore, the Agency does not believe it is unreasonable to require monitoring for such sites. For landfills that are closed according to State or local requirements that are equal to, or more stringent than 40 CFR 258.60, the permit includes the ''alternative certification'' and ''low concentration'' waivers which should provide a means for such a landfill to forego the need to monitor.

Several commenters expressed concern that the frequency of the inspections required for storm water pollution prevention plan are excessive and impose an excessive burden upon facility operators. The Agency appreciates the commenters feedback on the inspection frequency and recognizes the potential difficulties that may arise from requiring inspections within 24 hours of a storm event. Therefore, the final permit has been revised to only include weekly inspections. The Agency believes that this frequency is appropriate for landfills and land application sites because of the nature of the BMPs typically used at these facilities. Erosion and sediment control measures often require frequent upkeep and maintenance to ensure proper operation.

One commenter requested a reduction in the monitoring requirements for facilities located in cold climates due to difficulty in collecting samples during winter periods. The Agency does not believe that monitoring requirements should be adjusted for landfills solely because they are located in cold climates. The permit provides a temporary exclusion from monitoring requirements during a quarter if sampling is unfeasible due to adverse conditions (including weather) and this provision should account for difficulties in conducting sampling due to climate. Under this exclusion, permittees are, however, required to collect two samples during the next quarter to make up for the missed sampling requirement.

Several commenters stated that the monthly visual examination requirements for this sector were excessive and burdensome. In response to these comments, today's permit requires only quarterly visual examination of storm water discharges. For active and staffed landfills and land application sites, the Agency does not believe that it is unreasonable to require sampling/visual examinations once each quarter within the first hour a storm event.

Auto Salvage Yards

A few commenters indicated that storm water runoff from automobile salvage yards is often contaminated with spilled residues of engine and transmission fluids, and battery acid saturated with lead. The Agency agrees that automobile salvage yard facilities may have many potential sources of storm water pollutants. Therefore, today's final permit incorporates permit conditions to address these potential sources. Such conditions include development of a pollution prevention plan, which includes the implementation of BMPs, regularly scheduled inspections, and visual and analytical monitoring to help assess the effectiveness of the pollution prevention plan and to identify potential problems with the plan that would lead to making plan revisions and incorporating additional control measures.

A few commenters stated that some of the conditions under the proposed multi-sector permit for automobile salvage yards are more stringent than those under the baseline general permit. In response, EPA wants to clarify that certain information, not available at the time of finalization of the baseline general permit, such as the group application information and sampling data, was used extensively in the development of the conditions in today's final permit. This information and data has identified pollutants of concern, the concentrations of these pollutants, and the industrial activities that are conducted on-site that generate these pollutants. The Agency has developed appropriate conditions in this final permit to address these storm water discharges.

Several commenters feel that the proposed semi-annual employee training requirement for facilities in the automobile salvage yard sector is too burdensome, especially considering the annual training required for most other sectors. Today's final permit requires facilities themselves to identify periodic dates for employee training in the storm water pollution prevention plan. The focus of the employee training required under the multi-sector permit is on informing personnel of the components and goals of the storm water pollution prevention plan (storm water pollution prevention plan). This includes familiarizing employees with their responsibilities under this plan. The Agency believes that periodic training programs are needed to keep employees up-to-date with the storm water pollution prevention plan but agrees that semi-annual requirements may be too burdensome for some facilities. EPA leaves the decision as to the frequency of employee training up to the facility operator because site-specific circumstances will call for different training frequencies and the facility operator is in the best position to make that decision. The frequency of training for auto salvage facilities can therefore be determined by each facility operator at the time they develop their pollution prevention plans. If additional training is necessary than what is originally identified, then the plan can be modified by the operator and the training frequency increased.

A few commenters requested that the frequency of the visual monitoring required for facilities in the automobile salvage yard sector be reduced from monthly to quarterly. In response to these comments and other comments on this issue, and given further consideration of climatic variations and the other types of inspections required under this sector, today's final permit requires facilities to conduct only quarterly visual monitoring. Visual monitoring will allow facilities to detect potential problems and evaluate the effectiveness of the pollution prevention plan more frequently than just through chemical sampling.

Several commenters indicated that existing BMPs at their facilities are sufficient or that specific BMPs listed in the proposed fact sheet are not appropriate. EPA wants to clarify that facilities with BMPs already in place are still required to develop a pollution prevention plan. Existing BMPs may, however, be used as part of the pollution prevention plan, if it is determined that the BMPs adequately address the potential pollutant sources at the site. The Agency notes that Table M–3 of the proposed fact sheet, Storm Water BMPs for Automobile Salvage Yards, is a list of BMPs to be considered when developing the pollution prevention plan. These BMPs may not, however, be appropriate under all conditions, nor may this list be all inclusive. Permittees should use this table as guidance when considering which BMPs to implement at their site.

Numerous commenters indicated that the costs for automobile salvage yard facilities to comply with the proposed multi-sector permit will be too burdensome. Several comments stated that the cost would exceed $15,000 per facility. Costs, including the time and money necessary to meet the proposed documentation and monitoring requirements, may force some facilities out of business. Several comments stated that smaller facilities would have to hire a professional engineering firm to develop the pollution prevention plan and an additional employee to perform the recordkeeping and monitoring requirements. The cost estimates referred to in these comments are based on the requirements in the proposed multi-sector permit. The Agency notes that several of these proposed requirements have been reduced in today's final permit and that these reductions will significantly reduce the cost of compliance. The reductions include requiring analytical monitoring only for certain facilities, a pollutant-by-pollutant alternative certification for those facilities that are subject to analytical monitoring, a decrease in the minimum frequency of visual examinations of storm water discharges from monthly to quarterly, and a reduction in the minimum employee training requirements. EPA believes it is feasible, even for small businesses, to fulfill the requirements of today's permit without hiring outside help. The Agency has provided guidance, such as the manual; ''Storm Water Management for Industrial Activities; Developing Pollution Prevention Plans and Best Management Practices'' to assist permittees with the development and implementation of pollution prevention plans.

A few commenters stated that the comprehensive site compliance evaluation for automobile salvage yard facilities should only be required once a year, not twice as was proposed in the multi-sector permit. The Agency agrees with these commenters and notes that today's final permit has been revised to require a comprehensive site compliance evaluation at a minimum of once per year in this and all other sectors.

A few commenters stated that the inspection requirements for automobile salvage yard facilities are too burdensome. In particular, commenters stated that the requirement to implement any changes in measures and controls as a result of these inspections within 12 weeks should be changed. Although 12 weeks is enough time to make management procedural changes, commenters felt it is not sufficient to implement structural changes to the facility. Commenters requested a 1 year time frame to implement such changes.

The Agency believes that the majority of the changes required as a result of the quarterly inspections will be procedural or programmatic in nature. Therefore, a 12 week time-frame should be sufficient for the implementation of the majority of the changes to the plan under this section. In the event that a permittee believes structural changes to the facility are necessary, the permittee should contact their EPA permitting authority and discuss a possible schedule for implementing the changes. Changes requiring construction are allowed additional time for implementation under the terms of the permit.

Several commenters stated that the quarterly inspections for leaks from vehicles and outdoor storage areas are too burdensome. Comprehensive site compliance evaluations and the requirement to remove fluids from vehicles when they arrive on-site, or as soon as feasible thereafter, make quarterly inspections unnecessary. One commenter questioned why quarterly inspections for leaks from vehicles is necessary if fluids must be removed from vehicles when they arrive on-site, or as soon as feasible thereafter. The Agency notes that there are certain circumstances in which fluids cannot be removed from vehicles immediately. Therefore, quarterly inspections should include checking vehicles which still have fluids for leaks. Vehicles that have been completely drained of fluids are not of concern for this inspection. EPA believes that the quarterly inspections required under the proposed permit target areas with a significant potential to contaminate storm water, such as outdoor storage of containers. Therefore, today's final permit includes quarterly inspection requirements.

A few commenters stated that EPA should allow facilities in the Automobile Salvage Yard sector additional time to construct structures needed to control contamination of storm water runoff. One suggestion was to allow these facilities 5 years to construct storm water pollution control structures, as long as the construction design and schedule is developed by a professional engineer (PE) and is 50% complete within 24 months, 75% complete within 36 months, and 100% complete within 60 months. Compliance deadlines under the multi-sector permit allow facilities up to 3 years from the effective date of the permit to construct structural BMPs that are called for in the pollution prevention plan. The Agency believes that in most cases 3 years is sufficient time to complete construction of structural BMPs. Permittees that feel they cannot complete construction within this specified time period should contact the applicable EPA Regional office.

Several commenters stated that the proposed recordkeeping requirements would be the most expensive segment for facilities subject to the Automobile Salvage Yard sector. Facilities should not be required to document the volume of fluids removed from vehicles as they are received since transporters or recyclers document the total volume of fluids removed from the site when collection is made for recyling. Commenters also indicated that reports should be prepared at the time the materials are sold or recycled, and not necessarily every month. In response, EPA has deleted these requirements from the final permit since many permittee already track such information for other purposes.

Scrap Recycling and Waste Recycling Industries

A number of commenters requested clarification on the prohibition of the discharge of washwater from tipping floor areas. To clarify, the final permit specifically prohibits the discharged of washwater from tipping floor areas to any part of a storm sewer system. This is considered a process wastewater discharge which is not authorized by this storm water permit. This permit also does not authorize discharges to the sanitary sewer system.

A substantial number of commenters expressed concerns regarding the appropriateness and costs associated with requiring the usage of structural erosion and sediment controls at scrap recycling facilities. Commenters frequently stated that such a requirement was inappropriate at this stage of the permitting process and that scrap recycling facilities should be provided the flexibility to implement a range of source control measures. Commenters frequently stated that their facilities did not have the room for structural controls such as retention ponds and sediment basins. It was further suggested that the results of monitoring data, particularly for total suspended solids (TSS), warranted a more flexible approach to the use of erosion and sediment control measures.

EPA believes that erosion and sediment controls are necessary at scrap recycling facilities due to the large amount of facility property (used for the industrial activities) which is unstabilized exposed soil and which receives large amounts of vehicular traffic similar to a construction site. For these areas, there are many types of erosion and sediment control measures that are appropriate for a recycling facility. A review of the group application information indicates that both structural and non-structural erosion & sediment control practices have been employed at scrap recycling facilities. In addition, scrap recycling facilities also commonly use spray water as a means of dust control. Regardless, EPA believes that these areas are appropriately classified as engaged in industrial activity and require storm water BMPs for controlling pollutant sources. Analysis of the part II sampling data indicates that approximately 22% of the grab samples for TSS were above 500 mg/l and, similarly for approximately 20% of the composite samples. EPA considers the use of erosion and sediment source control measures to reduce sediment loadings to be appropriate for scrap recycling facilities.

The permit does provide the flexibility for operators to select a mix of erosion and sediment control practices to reduce suspended sediment loadings. However, EPA wishes to clarify an issue with regard to requirements for the construction of permanent erosion and sediment controls such as retention ponds and sediment basins. EPA expects that these types of controls, or their equivalent, would only be constructed after the operator has had the opportunity to employ a full range of non-structural type source control measures and where substantial settleable and/or suspended solids loadings still persist. EPA is aware that site-specific conditions could exist which would preclude the siting of a structural control, i.e., a retention pond. Space restrictions caused by permanent buildings, permanently-fixed processing equipment, other semi-permanent or permanent obstructions, and/or restrictions posed by property boundaries would be considered examples where the operator could make a determination that construction of a structural control (i.e., a retention pond or its equivalent) is not a viable option. If such a determination is made by the facility operator, the operator would be required to annotate the plan accordingly. The operator would then update the plan to indicate what modified or additional or BMPs will be implemented to reduce suspended solids loadings.

Many commenters interpreted proposed permit conditions as mandating the use of permanent or semi-permanent covers over stockpiled materials. EPA is not mandating the use of covers over stockpiled materials. Because of the substantial quantities of stockpiled materials typically located at scrap recycling facilities, EPA believes that a requirement to mandate the use of covers is not appropriate and most often would be impracticable. Therefore, the decision whether to construct or install covers is left to the discretion of the facility operator. The proposed permit provides that the operator ''shall consider'' the use of these types of BMPs, however, the decision whether to use permanent or semi-permanent covers is left to the operator's discretion.

EPA is concerned with controlling storm water contamination from certain types of recyclable materials, specifically significant residual fluids, accumulated particulate matter and shredder fluff that could be exposed to runoff in the absence of any physical means of minimizing contact. Consequently, EPA expects that the plan will include measures to minimize exposure of these materials to surface runoff, where appropriate.

A significant number of commenters expressed concerns about proposed permit requirements that would eliminate exposure of turnings to precipitation or runoff. EPA wishes to clarify that it is primarily concerned with turnings that are produced from certain types of machine tool operations (e.g., milling machines, machine tool centers, and lathes) and which have come in contact with cutting fluids. Because of the potential for significant quantities of residual fluids associated with turnings, EPA believes they pose a substantial risk of contaminating surface runoff. EPA notes that this particular sub-section of the permit does not apply to cuttings or turnings that have not been exposed to cutting fluids.

In the draft permit, EPA required that ''all turnings and cuttings shall be handled in such a manner as to prevent exposure to either precipitation or storm water runoff. . . .'' Based on information provided by the industry, EPA believes that the requirement to prevent all exposure of all turning and cuttings would pose an undue burden on the scrap recycling industry. Such information demonstrated that, in most cases, turnings piles can be very large in size and are mostly stored outdoors due to size. Therefore, in the revised permit EPA is requiring scrap recycling facilities to select an appropriate BMP from either two suggested options, or employ an equivalent measure, to help minimize exposure. These options were developed based on input of current practices used by the scrap recycling industry.

The final permit identifies the discharge of fluids from containment areas, in the absence of a storm event, as a non-storm water discharge prohibited under this permit. The operator would be required to obtain a separate NPDES permit for this non-storm water discharge. Discharges from turnings containment areas to the sanitary sewer system are not covered by this permit. The operator must seek the necessary approval(s), if any, from the appropriate local pretreatment authority.

A substantial number of scrap recycling facilities requested clarification on the prohibition of non-storm water discharges from oil/water separators. EPA clarifies that in the absence of a storm event, discharges from oil/water separators to a storm sewer system are consider non-storm water discharges, which are not covered under this permit. Discharges from oil/water separators that occur as a consequence of a storm event, either a current event or past event, are permitted provided that the oil/water separator is properly maintained on a regularly scheduled basis as established in the plan.

Commenters also wanted clarification on the liquids draining requirements as they applied to ''white goods,'' i.e., appliances. EPA clarifies that it is not requiring scrap recycling facilities to drain fluids from appliances or ''white goods,'' oil-filled shock absorbers, and other permanently sealed containers with very small amounts of fluids, though the permittee may elect to do so.

A number of commenters requested clarification on the applicability of other sections of the permit where co-located facilities exist, e.g., equipment and vehicle maintenance in section VIII-P. Section VIII.N.1 specifically provides that scrap and waste recycling facilities that have additional facilities which satisfy the definition of an industrial activity covered by another section of this permit (e.g., equipment and vehicle maintenance facilities), must comply with the pollution prevention plan and monitoring requirements of that other section. The purpose of this requirement is to ensure that the pollution prevention plan and monitoring requirements appropriately address all aspects of regulated industrial activity that occur at a specific facility. For more explanation of this requirement, see the Co-located activities section of this summary.

Another commenter noted that differences exist between the list of BMPs identified in Table N–11 of the factsheet and section VIII.P of the permit. BMPs identified in Table N–11 were not intended to be all inclusive; rather the table identifies optional and alternative BMPs that may be used for vehicle and equipment maintenance. If scrap and waste recycling facilities have co-located facilities that meet the definition of industrial activity covered under section VIII.P, the operator is required to comply with the plan requirements for that section, including any specifically identified BMPs.

A number of commenters argued that EPA should drop the analytical monitoring requirements since many BMPs would be implemented thereby obviating the need for monitoring. In addition, these commenters said it would be more beneficial to target resources towards BMP implementation rather than to put resources towards monitoring. EPA does not agree that the implementation of BMPs at scrap recycling facilities should automatically eliminate the need to conduct monitoring. EPA is requiring monitoring primarily for purposes of demonstrating the effectiveness and adequacy of the pollution prevention plan as implemented over the term of the permit. EPA believes that the transient nature of activities at scrap recycling facilities and the results of the group application sampling effort clearly justify analytical monitoring during the permit term.

Some commenters questioned why EPA proposed to require monitoring for aluminum and iron at scrap recycles. Only 5 scrap recycling facilities sampled for these pollutants during the group application process. The limited sampling information provided by scrap recycling facilities for iron and aluminum, however, suggests that these facilities may be significant sources of iron and aluminum in storm water runoff. Given the volumes of ferrous and non-ferrous materials commonly handled at scrap recycling facilities, EPA believes that it is reasonable to monitor for these pollutants to determine if they are present and if so to provide information to the facility operator to ensure the pollution prevention plan is effective at controlling these pollutants. Therefore, EPA believes that additional data on these two pollutant parameters is needed for purposes of better characterizing pollutant sources that may be present so that pollution prevention plans may be more appropriately designed.

A number of commenters requested clarification on the use of the term ''battery reclaimers'' as it applies to scrap recycling and waste recycling industries. EPA agrees that scrap and waste recycling facilities which only collect and temporarily store used lead-acid batteries are not classified as battery reclaimers as described by 40 CFR Part 266. Battery reclaimers engage in the practice of breaking-up used lead-acid batteries for purposes of reclaiming the lead contained within them. During the group application process, EPA did not receive any group applications composed of battery reclaimers. Therefore, facilities which engage in the reclaiming of used, lead-acid batteries are not eligible for coverage under this permit.

EPA has reviewed a cost study provided by industry and concludes that a substantial portion of the costs arose as a consequence of unclear permit language or activities that are already substantively employed at scrap recycling facilities (i.e., not necessarily in response to the NPDES storm water program). EPA believes that the cost estimates provided in the fact sheet to the proposed permit are reasonably accurate and representative of the actual range of costs most facilities will experience to comply with the requirements of this permit (see cost of compliance discussion in this summary).

EPA is not requiring scrap recycling facilities to construct permanent or semi-permanent covers over stockpiled materials, therefore, the estimated capital costs would be substantively reduced over those calculated by industry. In addition, EPA observed during a site visit that a scrap facility with a shredder already had at least one roll-off box for collecting shredder fluff. Given the substantial volume of shredder fluff produced annually, some means of collecting and disposing of shredder fluff already exists at shredder facilities. Therefore, EPA does not agree that scrap recycling facilities are facing the additional capital expenses as reported in the industry cost report.

With regard to retention ponds, the final permit provides additional clarifying language that states that the operator is expected to employ a full range of non-structural erosion and sediment control measures to reduce sediment loadings. If substantial loadings persist after employing a full array of non-structural measures, the operator could be expected to construct a retention pond or its equivalent. However, the operator would first be expected to identify what additional measures might be taken to reduce sediment loadings before constructing a retention pond. In addition, the final permit allows the operator to make a determination that insufficient area is available to construct a pond or its equivalent. These additional provisions in the final permit are expected to dramatically reduce the likelihood that many scrap recycling facilities will be required to construct retention ponds.

Discussions with the scrap recycling industry indicate that facilities that receive substantial quantities of turnings have established appropriate containment areas with suitable berming and drainage collection (including the use of sumps and/or oil/water separators). In addition, measures to properly dispose or recycle substantial quantities of residual fluids are already in practice in response to other environmental and safety regulations at the Federal, State, and local levels. Consequently, EPA does not agree that the estimated annual operation and maintenance cost of $13,000 can be exclusively attributed to the NPDES storm water program.

The scrap recycling industry cost study estimates that berms around stockpile as will be replaced quarterly at an annual cost of $55,000. EPA has a number of concerns with regard to this estimate. The use of berms around certain stockpile areas was proposed as a BMP alternative by industry and many of its members. In addition, group applications cited the use of berms as a frequently employed best management practice. If such a cost estimate were accurate, it is unrealistic to expect that a scrap recycling facility would incur such a cost given the industry's expressed concerns about extreme competitive pressures. It is more likely that such a BMP would be considered impractical or economically infeasible by the facility operator and other BMPs would be chosen in preference.

EPA also wishes to respond to a number of other costs elements reported in the industry study. The study also identifies additional costs in response to the draft permit:

- Encourage suppliers to drain fluids.
- Inbound scrap lead acid battery control program.

- Inbound material inspection program.
- Segregate, handle and store used batteries.
- Periodic inspections of processing equipment.
- Employee and supplier training.

In discussions with industry representatives and scrap recycling facility operators during site visits, it was observed or noted that many of these practices are already commonly employed by the scrap recycling industry. In particular, manufacturer specifications on what is acceptable for scrap often dictates what materials are or are not accepted. In addition, frequent training of employees and buyers of scrap is necessary in order to ensure that only acceptable materials are received. Concerns over potential liability of accepting undetected hazardous waste within scrap necessitated the need for the industry to provide adequate training of both employees and its major suppliers. Therefore, EPA does not believe that the costs associated with these activities are overly burdensome or that they can be exclusively attributed to the NPDES storm water program.

A number of commenters expressed concerns about the appropriateness of requiring WET testing as an alternative monitoring requirement. EPA has removed any requirements to conduct whole effluent toxicity testing from this section of the permit. A substantial number of comments were received by the industry with regard to other monitoring requirements during the permit term. To a large extent, commenters disagreed that monitoring during the permit term would provide the necessary information to support EPA's goal of assessing the effectiveness of pollution prevention plans. Many commenters specifically stated that EPA's use of benchmarks was not appropriate and that, in effect, the Agency was establishing numeric effluent limits for the scrap recycling industry. Commenters added that the site-to-site and storm-to-storm variability of the data will prevent EPA from determining the effectiveness of BMPs. In sum, the excessive cost of monitoring, the lack of technical and regulatory expertise, excessive administrative burden, and the need to hire consulting engineers were cited as justified reasons for eliminating monitoring requirements.

EPA's analysis of all sampling data provided by group applicants within this sector revealed that the scrap recycling industry consistently exhibited high concentrations of metals, particularly copper, lead, and zinc. Moreover, sampling data also revealed that, in general, scrap recycling facilities were a consistent source of a wide diversity of conventional and toxic pollutants. EPA believes that the range of concentration values reported for many pollutants adequately supports the inclusion of monitoring for these pollutants in the permit.

The group application sampling was intended to demonstrate to operators of facilities and to EPA the types of pollutants typically found in industrial storm water discharges and to give, to some extent, a measure of the magnitude of those pollutants. It was not expected that sampling results would be used as a basis of establishing numeric effluent limits. The purpose of monitoring in today's final permit is to substantiate, over the long term, that scrap recycling facilities are employing the full range of BMPs and to judge the overall effectiveness of pollution prevention plan measures in controlling the pollutants of concern.

A number of commenters requested that EPA subdivide this sector to distinguish between scrap recycling facilities and municipal recycling facilities (MRF) that recycle paper, newspaper, glass, plastic containers, cardboard, and aluminum cans received primarily from residential and commercial sources. Commenters argued that MRFs are not the same as scrap recycling facilities, particularly with regard to the degree of exposure of significant materials. Commenters requested that EPA clarify its position with regard to BMP and monitoring requirements with regard to MRFs. Commenters also requested that EPA clarify any distinctions between MRFs that receive source-separated recyclable materials only (so called clean MRFs) versus those that do not receive source separated materials (so called dirty MRFs).

Based on information and data submitted in two group applications, EPA has created a separate sub-sector for recycling facilities that receive only recyclable materials (source-separated facilities) primarily from commercial and residential sources. This sub-sector excludes scrap recycling facilities and dirty MRFs. EPA concludes that source-separated recycling facilities are different in many respects from scrap and waste recycling facilities and from dirty MRFs. Source separated recycling facilities do not produce the volume of non-recyclable wastes that scrap recycling and waste recycling and dirty MRF facilities do. In addition, recycling facilities do not have heavy industrial processing equipment such as shearers or shredders.

EPA observed during one site visit to a MRF that the majority of storage occurred indoors and there were few outdoor processing operations. Outdoor storage consisted only of processed materials, e.g., compacted bundles of aluminum cans and bins containing glass cullet. Outdoor storage of processed materials tended to be for only short periods of time as compared to scrap recycling facilities where stockpiled materials may be exposed for long periods of time.

EPA also believes that recycling facilities that reject non-recyclable waste materials at the source, e.g., curb-side, also distinguishes them from scrap recycling and waste recycling facilities. This practice is an effective means of substantially reducing the potential that household hazardous wastes will be accepted. Frequent training of pickup drivers is also common to ensure that nonrecyclable materials such as paints, fluorescent tubes, used oil, and pesticides and are not accepted. EPA believes that separate pollution prevention plan and monitoring requirements are appropriate for this sub-group and has revised the final permit to reflect this.

EPA believes that municipal recycling facilities (MRFs) that receive only source-separated recyclable materials (e.g., glass, plastic, aluminum cans, paper, newspaper, tin cans, magazines, and alike) should not have the same monitoring requirements as those for scrap recycling facilities. MRFs are characterized as facilities that receive recyclable materials primarily from commercial and residential sources. In addition, MRF processing operations frequently occur indoors. EPA conducted a subsector review of sampling data submitted by four groups. These groups consist of facilities which receive source-separated recyclable wastes. EPA's analysis of median concentration data for pollutants sampled indicated that all pollutants were below the benchmarks.

EPA believes that given the nature of operations at these facilities and the implementation of BMPs, that these facilities should not be required to conduct storm water monitoring. EPA is also establishing separate pollution prevention plan requirements for recycling facilities that receive only source-separated, recyclable materials.

Steam Electric Generating Facilities

Several comments were received concerning the EPA's proposed monitoring regimen on which sector monitoring frequencies were based upon ''benchmark'' concentrations of pollutants, a representation of monitoring data from NURP and the Gold Book.

After reviewing the comments and data, EPA revised the ''benchmark'' values and the methodology used to determine which industries will monitor for their storm water. Based upon the revised methodology, steam electric facilities are required to conduct chemical monitoring of their storm water discharges for total recoverable iron. Monitoring discharges from coal piles is still required if coal is utilized or stored at the facility in conformance with 40 CFR 423.

Several commenters complained that there would be exorbitant additional costs involved with the ''benchmark'' monitoring requirements and/or BMP's required by and peculiar to the Multi-Sector permit. Several commenters requested justification for those requirements which they felt were unjustified and more stringent than the requirements of the general baseline permit.

Since the Multi-Sector permit was created as a result of the group application process using data supplied by and specific to each industry sector, the permit requirements have been tailored to the unique needs of each industry sector. For this reason, EPA believes that industries that obtain coverage under the Multi-Sector permit and comply with the terms of that permit will reduce pollutant discharges to waters of the United States to a greater degree than would occur under coverage of the baseline general permit. However, coverage is available to those industries under either permit upon the submission of the appropriate notice of intent (NOI). All the BMPs mentioned in the Multi-Sector permit are suggestions utilized to illustrate the intent of the permit and illustrate a method by which compliance can be achieved. Other equivalent BMPs may be implemented, at the discretion of the permittee, to attain those illustrated results. EPA realizes that the permittee is most familiar with the particular industrial site and is best qualified to determine which BMPs are equal to, or perhaps more effective in satisfying the intent of the permit. EPA encourages the use of these other BMPs or practices which attain or improve upon the Multi-Sector permit goals, especially those which are easier or less costly to implement.

Sector O of the Multi-Sector permit focuses attention on both coal pile runoff and any other storm water discharge associated with industrial activity at steam electric power generating facilities. Coal pile runoff has, however, been identified as a particularly serious threat to water quality and therefore the EPA has developed effluent guidelines (40 CFR 423) to regulate its discharge. The requirements for coal pile runoff from the guidelines have been incorporated into the multi-sector general permit.

Storm water discharges from wood-burning power plants are not covered under the Multi-Sector permit since no applications were received from wood-burning power plants under the group permit application process. EPA developed the Multi-Sector permit in response to only those facilities who applied for group permit coverage. Wood-burning plants may obtain coverage under the baseline general permit or an individual storm water permit.

For the sake of consistency with the other sectors in the multi-sector permit and to eliminate the duplication of regulation, EPA has removed reference to the requirements for permit coverage for industrial activities associated with construction. It must be noted, however, that a permit is required for storm water discharges from construction activities which additively disturb five or more acres, and such coverage is available through EPA's general permit for storm water discharges associated with construction activity.

Several comments dealt with the topic of monthly visual examination and documentation of storm water discharges as being burdensome, unjustified, and potentially impossible to comply with when dealing with the random occurrences of storm events and the numbers of outfalls to be sampled. EPA has relaxed the required frequency of visual examinations from a monthly to a quarterly basis. EPA has included the requirement for only limited analytical monitoring of storm water discharges from Sector O facilities based upon ''benchmark'' values. Annual compliance monitoring/reporting of runoff from coal storage areas/piles is also required as specified in 40 CFR 423. To aid in the reduction of resources necessary to comply with the visual sampling requirements for facilities with several outfalls, the permittee, if practicable, can combine and/or eliminate outfalls, apply the representative discharge provisions of VI.C.4. of the permit or utilize automatic samplers.

Motor Freight, Rail, and Passenger Transportation, Petroleum Bulk Oil Stations, and the U.S. Postal Service

There were a number of comments received regarding the requirements for the sector P, the ground transportation sector. The comments focused on grouping of facility types in the sector, eligibility under the sector, and the storm water pollution prevention plan requirements.

Several commenters, including members of the passenger bus, tank truck carrier, motor carrier, and warehouse industries, were concerned with the grouping of a range of transportation facilities in the ground transportation sector. Concern was particularly expressed regarding the ''long-term implications'' of this ''umbrella'' permitting practice. In response, EPA has retained the original grouping of transportation facilities as presented in the proposed permit. Although the gross operations of these different types of facilities may differ, EPA found that the vehicle maintenance and repair activities are remarkably similar and pose equally similar threats to storm water pollution. Further, EPA found that comparable best management practices were used at these varying facilities. In terms of the long term effect of this grouping, EPA assures the commenters any additional permitting efforts will revisit the appropriateness of sector groupings based upon information as it becomes available.

One commenter expressed particular concern about the inclusion of warehouses in the land transportation sector. EPA grouped regulated warehouse facilities in the land transportation sector because, when such facilities have exposure to storm water, it is often due to exposure of vehicle maintenance shops and equipment cleaning operations. EPA reminds the commenter that facilities are required to meet the permit conditions for all industrial activities (and hence sectors) which they may have onsite.

Several commenters, including members of the passenger bus, tank truck carrier, and warehouse industries, requested that EPA clarify its position regarding vehicle wash waters and its definition of ''commingling'' of storm water and vehicle wash waters. Vehicle wash waters, water discharged from a vehicle washing activity, are required to be permitted separately from the storm water discharges from such areas. Although most facilities design such wash areas to drain most, if not all, wash waters during the washing activity, some facilities may have stagnant pools of washwater that do not drain or discharge. If a storm event results in the discharge of both the remaining wash waters and storm water, the storm water permit would only cover the storm water discharges and not commingled wastes. Similarly, if vehicle washing activities are performed during a storm event or immediately preceding an event, the storm water permit only covers the portion of the discharge originating from the storm event. If, however, the washing activity is performed prior to a storm event and the washwater that is not immediately discharged is allowed to evaporate prior to being discharged with storm water, the storm water discharge that is now contaminated with the dry residue from the washwater is entirely covered by the storm water permit. Such residues would be expected to be specifically addressed in the facility's storm water pollution prevention plan.

Another commenter requested that vehicle wash waters from land-based transportation facilities be allowed to be discharged under this permit provided appropriate pollution prevention measures have been implemented to ensure that such discharges do not contain a visible sheen, detergents, or solids as was proposed for water-based transportation facilities. EPA disagrees that such discharges should be allowed. In the final permit, vehicle washwaters are not allowed from water-based transportation facilities. Such discharges must be permitted separately.

Many commenters, including members of the passenger bus, tank truck carrier, petroleum marketers, motor carrier, and warehouse industries, requested that employee training only be required to be conducted on an annual basis. In response, EPA has reduced the *required* frequency of employeetraining to once per calendar year. However, EPA would like to emphasize that more frequent training, perhaps on an informal basis, is encouraged and will most likely result in better implementation of the storm water pollution prevention plan.

Two commenters also expressed concern that the training requirements apply to all employees regardless of their effect on storm water pollution prevention and control. In response, EPA would like to clarify that only those employees that play a role in the industrial activities at the site must be trained. Because job descriptions differ tremendously from site to site, EPA has left it to the discretion of the pollution prevention team to determine who are the appropriate employees to be trained. The team is cautioned to err on the side of training too many employees rather too few. Even if an employee is remotely involved in an industrial operation that may affect the quality of the storm water discharge that employee should be included in the employee training. To demonstrate EPA's intention of who should be trained it is easier to list positions that *may* not require the employee storm water training: secretaries, administrative personnel, and salespersons. One commenter also listed executive staff as potentially not requiring training. EPA would like to emphasize that it is necessary and helpful for executive staff to fully understand what activities are taking place on site to protect water quality. As such, executive staff should be fully considered as potential trainees along with other employees.

Two commenters argued that the proposed requirement to store vehicles awaiting maintenance in designated areas only would be more effective if the requirement only applied to vehicles with actual or potential fluid leaks since it could be interpreted that all vehicles are awaiting maintenance. EPA agrees with the commenters and has altered the permit language accordingly.

Several commenters felt that the monthly inspections required in the proposed permit were too burdensome, particularly due to the required documentation of such inspections. In response, EPA has reduced the frequency of inspections to quarterly. It is EPA's intention that the quarterly inspection and the visual storm water examination requirements be coordinated into one comprehensive program. By performing the two within similar time frames, it is hoped that the facility will gain useful insight by comparing the results of the overall facility inspection and the storm water visual examination. More frequent inspections, preferable with documentation, are encouraged, but are not required.

One commenter suggested providing an alternative certification option for facilities that eliminate exposure to storm water runoff such that the facility may be exempt from the quarterly visual examinations requirements. In response, EPA disagrees that the alternative certification provided to other sectors for purposes of chemical monitoring is appropriate for quarterly visual examinations. The quarterly visual examinations are still useful in areas where exposure has been ''eliminated'' to ensure that exposure has not re-occurred causing a storm water contamination problem.

Many commenters, including members of the passenger bus, tank truck carrier, petroleum marketers, motor carrier, and warehouse industries concurred with EPA in not requiring chemical analysis of storm water discharges from ground transportation facilities. As such, the commenters strongly opposed the alternative monitoring requirements presented in the proposed permit. EPA has retained the proposed monitoring of quarterly visual examinations only.

Most commenters supported the quarterly visual examination requirements. A few commenters expressed concern about fulfilling the requirement on large sites where employees may be on the road a significant amount of time and where rainfall is sporadic. The commenters were also concerned about sites without a dedicated environmental staff. The commenter suggested requiring the visual examination on an annual basis or only recommending the practice on a quarterly basis. In response, EPA has retained the quarterly visual examination requirements as proposed and has added a waiver of this requirement at inactive and unstaffed sites (see discussion of monitoring requirements above). EPA reminds the commenter that visual examination may be performed by a non-technical person who has been trained as to how to collect the sample and what to observe.

Many commenters were concerned with the requirement to attain the same water quality in the storm water discharges as an oil/water separator when such technology operates with such great variability. Concern was also expressed regarding the qualifications of facility personnel to make such an engineering judgment. In response, EPA has removed this reference in the final permit due to the difficulty in determining what water quality would be achieved with an oil/water separator. EPA does however encourage permittees to strive for the pollutant removal levels referenced in the literature for oil/water separators.

Water Transportation

The comments received on Sector Q, the water transportation sector, focused on eligibility, who is responsible for permit compliance, and monitoring conditions. One commenter raised concerns that the permitting for barge discharges (including barge storm water, washwater, and wastewater) is too uncertain. In response, today's permit regulates the storm water and washwater from the maintenance and equipment cleaning areas for canal barge operations (SIC code 4449) and for barge building and repair facilities (SIC code 3731). Today's permit, however, does not regulate wastewaters, such as bilge and ballast water, washwater, sanitary wastes, and cooling water originating from vessels. The permit specifies that the operators of such discharges must obtain coverage under a separate NPDES permit if discharged to waters of the United States or through a municipal separate storm sewer system.

One commenter indicated that many Navy activities would fall under both VIII.Q. Vehicle Maintenance Shops/ Equipment Cleaning Operations and VIII.R. Ship Building and Repair and would like to see EPA establish some guidelines for sector applicability. In response, the permit does specify that when an industrial facility has industrial activities being conducted onsite that meet the description(s) of industrial activities in another sector(s), that the industrial facility must comply with any and all applicable monitoring and pollution prevention plan requirements of each of those sector(s).

One commenter explained that marine terminal and ports have a multitude of activities undertaken by many industrial facilities and contractors in the common areas of the port. This commenter wanted to know who is responsible for obtaining permit coverage for these common areas which are usually served by a common storm sewer system. The commenter suggested that EPA require the property owner (port authority) to be the primary permit holder and have each lessee or contractor become a co-permittee. In response, the property owner (port authority) is responsible for permitting the common areas of the facility, and each lessee operating an industrial activity is responsible for obtaining permit coverage for the specific operations occurring on their leased property. In today's permit, EPA does require that the co-permittee arrangement be utilized at airport facilities; however, EPA will not require this approach at marine terminals or ports. The industrial facilities and contractors located at airports generally are similar in nature, and one pollution prevention plan can more easily address the issues of concern. A marine terminal or port often has many dissimilar activities occurring within the facility lending itself to an approach which can focus on each specific industrial operation. A co-permittee approach would be acceptable to the Agency, but it is not required.

One commenter felt that facilities in this sector are being forced to monitor for parameter(s) that no one believed were of concern, were not monitored for in Part II, and are not even handled by the facility, specifically, the metals. In response, EPA has revised the monitoring requirements in the final permit for the water transportation sector based on the methodology described previously. To address the concern that some facilities would have to monitor for pollutants not found or suspected in their discharge, pollutant-by-pollutant certification will eliminate the requirement to monitor for those pollutants not present.

Ship and Boat Building or Repairing Yards

Comments received on the permit requirements included in sector R, ship and boat building or repairing yards, focused on grouping of industrial facilities, the benchmark values, and the application of multiple sectors to one facility (co-located industrial activities). Several commenters were concerned with the grouping of fiberglass and aluminum boat manufacturers into one sector. In response, EPA has evaluated the grouping of these types of boat manufacturers and has determined retain these industrial activities in one sector. EPA does not believe this will cause an undue burden on either industry given the revised monitoring requirements, which are now sub-sector specific and the flexibility of the pollution prevention plan requirements.

Two commenters took issue with the basis of the benchmark values. The benchmarks have been revised. For a full discussion of the revision see the part of the fact sheet that address the benchmark values directly.

One commenter was concerned with the burden of complying with all applicable sectors of the permit under the co-located industrial activities requirement. EPA has retained this provision in the final permit to ensure comprehensive environmental protection and does not believe this requirement is overly burdensome. This provision does not require that a separate and distinct pollution prevention plan be developed based on each applicable sector, but requires consideration of other BMPs from other sectors, and incorporation of those applicable BMPs into the pollution prevention plan for the facility. Where monitoring requirements from two or more sectors overlap, only one sample and analysis needs to be conducted (see discussion of co-located industrial activities above).

Air Transportation

Comments on Sector S, Air Transportation, primarily focused on obligations and responsibilities of the airport authority and its tenants. The storm water permit application regulations at 40 CFR 122.26(b)(14) define the storm water discharges associated with industrial activity in terms of eleven categories of industrial activities. Category (viii) includes transportation facilities classified as Standard Industrial Classification (SIC) code 45 that have vehicle and equipment maintenance (including vehicle and equipment rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, or airport deicing operations (including aircraft and runway deicing). Review of the *Standard Industrial Classification Manual*, published in 1987 by the Office of Management and Budget, clarifies that SIC code 45, which addresses air transportation facilities, is not limited to the operators of airports, air terminals and flying fields. In fact, SIC code 45 also includes establishments primarily engaged in providing foreign and domestic air transportation, air courier services, and other fixed base operators who are primarily engaged in servicing, repairing, or maintaining airports and/or aircraft and these activities will also need to be permitted if they have point source discharges of storm water from regulated activities defined under 40 CFR 122.26(b)(14)(viii).

Tenants at the airport, other than the airport authority itself, who conduct industrial operations at the airport facility described at 40 CFR 122.26(b)(14)(viii), and establishments who conduct regulated industrial activities described elsewhere under 40 CFR 122.26(b)(14), and whose operations result in storm water point source discharges are also required to apply for coverage under an NPDES storm water permit for their areas of operation. EPA recognizes that airports and their tenants enter into contractual relationships, therefore, these types of tenant facilities could be co-permittees with the airport operator if both parties chose, or could be permitted separately, and thereby be responsible individually for compliance with the permit and implementation of a pollution prevention plan. EPA encourages co-permittee status because this approach to permit coverage promotes better coordination of the pollution prevention plan measures and possibly better control of the storm water discharges. However, as the owner/operator of an airport facility and the storm sewer system, airport authorities are ultimately responsible for storm water discharges from their storm sewer system to waters of the U.S. or to a municipal separate storm sewer system.

Other tenants at the airport, such as car rental and food preparation establishments, which are not defined separately as storm water discharges associated with industrial activity under 40 CFR 122.26(b)(14) must also be addressed. These tenants may chose to be co-permittees with the airport operator, or private agreements may be worked out with the airport authority through contractual, or other means, to ensure that the storm water pollution prevention plan of the airport adequately addresses storm water contamination from these types of tenants. Regardless, airport authorities are required to identify the location and activities of all airport tenants as apart of the development of the storm water pollution prevention plan for the airport. EPA would like to clarify, however, that airport authorities are not responsible for ensuring compliance with the conditions of today's permit for storm water discharges associated with industrial activities regulated under 40 CFR 122.26(b)(14) conducted by tenants of the airport that apply separately for a storm water permit and which are not co-permittees with the airport authority.

Because the applicability of Part XI.S. of today's permit extends to storm water discharges from airport facilities, and in light of the fact that industrial activities conducted by the airport authorities and tenants of the airport are similar in nature, the eligibility section of Part XI.S. has been broadened to allow coverage for both airport authorities and tenants of an airport facility who conduct industrial activities as described in Part XI.S.1.

Treatments Works

Comments on Sector T, Domestic Wastewater Treatment Plants focused on required elements of the storm water pollution prevention plan and monitoring requirements. One commenter raised an issue regarding the requirement of providing a certification that the discharge contains nothing but storm water is unrealistic and can interfere with plant operations. It makes no allowances for temporary discharges into a storm water system.

In response, the Agency wants to clarify that some non-storm water discharges may be authorized by the permit. These non-storm water discharges include: discharges from fire fighting activities, fire hydrant flushing; potable water sources including waterline flushings; irrigation drainage; lawn watering; routine external building washdown which does not use detergents or other compounds; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate, springs, uncontaminated ground water; foundation or footing drains where flows are not contaminated with process materials such as solvents. The Agency notes that certification that the discharge contains nothing but storm water, except as mentioned above, is consistent with similar requirements for NPDES general permit requirements for storm water discharges associated with industrial activity published September 9, 1992.

Many commenters have concerns about the excessive training required in the permit for treatment works employees. Semiannual training for employees will result in an excessive amount of employee ''downtime,'' thereby decreasing the effectiveness of current employees to control the POTW process and may result in the need for increase staff. It is therefore very important that the training program be reasonable. An alternative would be to have employee training conducted once per year instead of every 6 months. In response, EPA agrees and the permit has been modified to require employee training only annually (at least once per calendar year).

EPA received many comments on the requirements of monthly inspections plus annual comprehensive site compliance evaluation. Commenters state that it is likely that the same person who conducts the monthly inspections will also conduct the annual comprehensive site compliance evaluation. If the facility successfully passes the monthly inspections, then there is no reason to believe that it would not pass a yearly inspection. In response, EPA wants to clarify that the monthly inspections cover specific designated equipment and areas of the facility where there is a high potential for storm water contamination. The areas to be included in all inspections include: access roads/rail lines, equipment storage and maintenance areas (both indoor and outdoor areas); fueling; material handling areas; residuals treatment, storage, and disposal areas; and waste water treatment areas. A monthly inspection can be done easily and routinely, possibly with the guidance of an inspection checklist. Whereas the comprehensive site evaluation is a full site evaluation being conducted to assess the pollution prevention plan and to determine the overall level of compliance by the permittee, and if necessary incorporation of changes or modifications to the pollution prevention plan needed as a result of the inspection.

Several commenters indicated that requiring an inventory of materials, an investigation of past practices, and a list of significant spills for the previous 3 years is an inventory accumulation of history and only generates paperwork. Commenters suggested that a pollution prevention plan should evaluate current situation and determine potential problems that may result. In response, the Agency believes that past activities may have resulted in pollutant sources for present storm water discharges, and that it is appropriate to address materials that have been exposed to storm water within the past 3 years. EPA believes that the 3-year period is reasonable and does not impose excessive burdens for collecting information on permittees. The Agency notes that the 3-year period is consistent with similar requirements for individual applications for storm water discharges associated with industrial activity at 40 CFR 122.26(c)(1)(i) (B) and (D) and general NPDES records retention requirements under 40 CFR 122.21(p) and 40 CFR 112.7(d)(8).

A number of commenters strongly supported the use of the annual monitoring of the alternative monitoring constituents requirements. Other commenters questioned the accuracy of the statistical analysis performed for the proposed permit. In response, EPA has revised the methodology for determining which facilities will be required to perform monitoring as described elsewhere in the fact sheet. Under this new methodology, domestic wastewater treatment plants are not required to perform monitoring under this permit.

Food and Kindred Products

The greatest number of commenters on Sector U, Food and Kindred Products, are concerned with the monitoring requirements described in the proposed permit. The major objections to monitoring result from the consolidation of the entire food and tobacco industry into one sector which commenters believe compromises the group process since identical monitoring requirements are inappropriate for an industry with such a wide range in process operations. Commenters argue that several subsectors conduct most activities indoors, allowing little opportunity for storm water contamination, while other subsectors perform significant operations outdoors. Commenters also point out that EPA described in the proposed rule several factors that influence the impact of storm water on water quality (e.g., geographic location, hydrogeology, etc.) yet these factors were not considered when proposing monitoring requirements for the industry.

Commenters also argued that basing the monitoring requirements on such a diminutive set of sampling data is not valid given that data for only four pollutants was collected in sufficient quantities to be analyzed. Commenters felt that insufficient samples were collected for four other pollutants. Commenters indicated that the inclusion of metals in the monitoring requirements for all sector members, when so little data was submitted for these pollutants, is not statistically valid. Commenters also took exception to EPA's decision to aggregate data for the food processing industry because lack of subsector-specific data does not substantiate monitoring requirements for these pollutants. Commenters believe that monitoring data that does exist for the sector shows no difference between industrial and residential/ commercial areas. Also, commenters suggested that storm water data has shown to be very inconsistent and unrepresentative of the actual impact of discharges on receiving waters. Another common issues raised by the commenters was that the benchmark concentrations are unobtainable even with good BMPs. Commenters believe these levels are comparable to tertiary treatment standards for a full treatment system. Also, these cutoff levels appear to presage future permit limits for the industry which EPA has not demonstrated are necessary.

Several commenters believed that, if monitoring had to be conducted, the alternative monitoring is more appropriate since it more accurately reflects wastes from food and kindred products facilities. However, they suggested there should be an escape clause as with the proposed monitoring allowing facilities to only monitor for those pollutants expected to be present. Commenters felt that monitoring requirements will divert limited funds away from pollution prevention techniques needed to reduce pollutants in storm water as monitoring data show a correlation between enhanced housekeeping and preventative maintenance and reduced pollutant concentrations. Commenters concluded that combining visual examinations and a comprehensive site inspection is a much more appropriate way to evaluate storm water than monitoring.

Commenters also stated that EPA should give weight to the facilities who met Federal requirements in the application process and enforce against the thousands of facilities that ignored their obligations under the law rather than spending money on additional paperwork burdens. They suggested that sample results from the group applications should be credited towards the alternative monitoring requirements. Conversely, others commented that EPA should not provide ''credit'' to these groups, rather, EPA should recognize the difficulty facilities experience in collecting adequate storm water samples from acceptable rainfall events, especially small business facilities and facilities in arid climates.

Realistically, commenters stated, very few facilities will be able to obtain all four quarterly samples and almost none will be able to collect all monthly samples for visual observation without constructing automatic sampling facilities. They pointed out that EPA has previously indicated manual sampling was acceptable and automatic sampling would not be required.

Additional concerns were raised with regard to specific pollutants recommended for analysis in the proposed monitoring. For example commenters pointed out that ammonia data are not presented in the proposed permit fact sheet but the proposed permit states that ammonia exceeds benchmark values. Commenters stated that absent data to substantiate, EPA should not require food and kindred products facilities to monitor for ammonia. Also, EPA should clarify its intent in requiring ammonia monitoring. Specifically, the proposed permit does not state whether EPA is concerned with the nitrogen load (i.e., TKN) on receiving waters, making ammonia monitoring irrelevant, or with the toxic effects of ammonia, making TKN monitoring unnecessary.

Commenters also argued that EPA does not discuss iron and zinc as pollutants of concern for the industry, raising question as to why food facilities have to sample for these parameters. EPA should work with the few facilities or subsectors of the industry that are found to have metals in their discharge rather than requiring all food and kindred products facilities to monitor these pollutants. Also, the proposed cutoff for iron (0.3 mg/l) is overly protective. The gold book acute aquatic life freshwater criteria is 1.0 mg/l. Commenters also pointed out that fecal coliform data would be superfluous to BOD and TSS data for the industry and testing is much more difficult.

Based on the comments on the proposed permit, EPA has eliminated the alternative monitoring requirements and re-evaluated the proposed monitoring requirements for the sector through conducting a subsector analysis for the industry. The sub-sector analysis identified only two of the nine subsectors as having pollutants in storm water at concentrations above the revised benchmark values. As a result, most facilities in the food and kindred products sector no longer are required to collect and chemically analyze storm water samples. Only two sub-sectors will monitor: Grain Mill Products manufacturing (SIC code group 204) which will monitor for TSS and Fats and Oils manufacturing (SIC code group 207) which will monitor for TSS, BOD, COD and nitrate plus nitrite nitrogen.

Commenters in this sector also felt that additional requirements for pesticide storage were unnecessary. They contend that pesticide storage and use are currently regulated under FIFRA, State pesticide laws and the FDA. Further, anyone applying pesticides must be a certified applicator, trained in the safe and prudent use, as well as proper storage, of these products.

In response, EPA disagrees with the commenters statement that current pesticide storage and use regulations are adequate to prevent storm water contamination. Criteria for evaluating pesticide use and storage and criteria for evaluating storm water contamination from pesticide use and storage are not the same. With the increased use of pesticides at food and kindred products facilities compared to facilities in other sectors, EPA believes that the application and storage of these pesticides with storm water in mind is crucial to an effective storm water pollution prevention plan in this sector.

Textile Mill Products

Comments on Sector V, Textile Mill Products, focused primarily on the pollution prevention plan requirements and monitoring requirements. One commenter supported the permit requirement for visual examinations by indicating that visual examinations accompanied by facility-specific BMPs should most adequately address the minimal potential for controlling the contamination of storm water discharges at textile mill facilities. However, another commenter questions the usefulness of visual examinations, stating that EPA provides no justifications for such examinations.

In response, periodic inspections of controls are a requirement of the pollution prevention plan, and visual storm water runoff examinations and inspections should be treated as two distinct requirements. Visual examinations represent a minimum requirement in the assessment of the storm water discharge. The relative economic impact of the visual examination of the storm water should be minimal and, in conjunction with site specific BMPs can be used to evaluate the performance and effectiveness of best management practices employed at a particular facility. Visual examinations have been reduced to a quarterly frequency in the final permit. For more information on visual examinations see the monitoring section of this summary.

In response to the Agency's request for comments regarding proposed alternative monitoring requirements, one commenter contends that it does not believe that the annual or semiannual monitoring and reporting requirements put forth by the Agency are necessary or appropriate. In assessing this comment, it should again be noted that the Agency had only requested comments on the possibility of imposing the proposed alternative monitoring requirements on textile facilities.

Today's permit does not include the proposed alternative monitoring requirements. Based on the revised methodology for determining monitoring requirements at the industry sub-sector level, the textile industry is no longer required to conduct chemical monitoring for any specific pollutant. Due to the nature of the industry, and the fact that most operations at such facilities are conducted indoors, the contact of storm water with most pollutants typical of this industry are minimized or eliminated. The statistical analysis performed by the Agency using the Part 2 sampling data when conducted at the sub-sector level supports this conclusion.

Wood and Metal Furniture and Fixtures

Only six comments were submitted addressing the wood and metal furniture and fixtures manufacturing industry. Each of the comments supported the proposed monitoring conditions, which only requires quarterly visual examinations of storm water discharges. In today's final permit, this requirement remains unchanged. Analytical monitoring of storm water discharges will not be necessary from wood and metal furniture and fixtures manufacturing facilities, unless there are co-located activities, such as coal piles, refuse piles, landfills etc., which may be required to monitor under provisions elsewhere in the permit.

Rubber, Plastic, and Miscellaneous Products

The majority of the comments received on Sector Y, Rubber, Plastic Products, and miscellaneous manufacturing industries, pertained to the proposed monitoring requirements and the inspection and recordkeeping requirements of the permit. In addition, comments were received regarding EPA's description of the pollutant sources and the assessment of the monitoring results submitted with the group applications. The Rubber Manufacturers Association (RMA) supported the specific BMP requirements which were proposed to control zinc in storm water discharges from rubber manufacturing facilities. Concern was also expressed regarding the consolidation of group applications into the 29 industrial sectors. The proposed permit only required visual examinations of storm water samples for facilities in this sector, rather than chemical testing which was proposed for 17 of the 29 sectors. While commenters supported the absence of analytical testing requirements, they also argued that the frequency (quarterly) for the visual examinations was excessive. Commenters also opposed the proposed alternate monitoring requirements which would have required analytical testing for certain parameters.

In the final permit, EPA modified the methodology for determining the types of facilities which are required to conduct analytical testing of storm water. The revised methodology is discussed in section VI.E of the final fact sheet and also in the monitoring portion of this summary. EPA believes that the sub-sector methodology better targets the monitoring requirements toward the specific types of facilities within the 29 sectors which pose the greatest risk to the storm water quality.

Based on the sub-sector methodology, the final permit requires that manufacturers of rubber products conduct analytical testing of storm water samples for zinc. This pollutant was shown to be a pollutant of concern from the monitoring data which were submitted by rubber products manufacturers (i.e., the median concentration was above the EPA benchmark concentration of 0.065 mg/l for zinc). Testing of grab samples is required quarterly during the second and fourth years of the permit. However, permittees may omit the testing during the fourth year if the second year results are below the benchmark concentration. In addition, the final permit provides for ''alternate certification'' in lieu of monitoring (see section VI.E.3 of the fact sheet) on a pollutant-by-pollutant basis as well as on an outfall-by-outfall basis. As such, analytical testing for zinc would not be required for facilities which do not use zinc, or for facilities where industrial activities are not exposed to storm water.

The final permit only requires analytical testing of storm water samples for rubber products manufacturers. However, the final permit does retain the requirement for a quarterly visual examination for all facilities (including rubber manufacturers) in this sector. This requirement is also standard for all sectors of the permit. EPA believes that the quarterly frequency appropriately balances the costs associated with the visual examinations with the need to periodically assess any pollutant loadings in the discharges and the effectiveness of the storm water pollution prevention plan.

A commenter in this sector also expressed concern that analytical testing for a number of parameters in storm water had been a requirement of EPA's baseline general permit of September 9, 1992 for facilities in major SIC group 30. EPA recognizes that there are differences in the requirements between today's multi-sector general permit and the previous baseline general permit. These differences are the result of the additional information concerning these facilities obtained during the group application process. However, concerns regarding the requirements of the baseline general permit are outside the scope of the present permitting action.

The proposed permit would have required a comprehensive site compliance evaluation at ''appropriate'' intervals, but not less than once per year. A commenter argued that this was too vague and should be clarified. In response, the final permit now simply requires a comprehensive site compliance evaluation at a minimum of once per year for all facilities covered by the permit.

The commenter was also unclear regarding the ''qualified'' personnel who are required to conduct the comprehensive site compliance evaluations. In discussing the requirements for a comprehensive site compliance evaluation, section VI.C.4 of the fact sheet notes that inspectors should be members of the pollution prevention team. Such individuals should be familiar with the potential pollutant sources at the facility, and the control measures developed for the storm water pollution prevention plan to control pollutant discharges. EPA believes that facilities should be able to identify appropriate individuals for the necessary site evaluations. The commenter also requested that the permit provide that the facility inspections (required by Part XI.Y.3.d of the permit) would be conducted at appropriate intervals as stated in the storm water pollution prevention plan. Such a requirement was included in the proposed permit and has been retained in the final permit. The commenter objected to the requirement that facilities maintain records of inspections and visual examinations.

EPA disagrees with the commenter on this issue and believes that such records are necessary for EPA to verify compliance with the requirements of the permit. Therefore, the records retention requirements were retained in final permit basically as proposed. One relatively minor change was made which standardizes the records retention period for all sectors to 3 years, which is the minimum required by NPDES regulations at 40 CFR 122.42(j). Additional information concerning issues associated with inspections and recordkeeping can be found in the reporting and record keeping portion of this summary.

Leather Tanning

In response to comments that the leather tanning industry was required to monitor in error and that manganese and aluminum should not be included in the list of monitoring parameters, the final multi-sector permit does not require leather tanning facilities to conduct chemical monitoring. However, the industry must still perform visual examinations. More discussion of the revised monitoring requirements under today's final permit can be found in the monitoring section of this summary.

In response to a comment that EPA should simply adopt the model permit and pollution prevention plan submitted by one industry organization, EPA has determined that the proposed leather tanning permit and pollution prevention plan with BMPs which was published in the Federal Register on November 19, 1993, is best suited to control storm water discharges from this industry.

In response to the comment that facilities submitted chromium data because they were required to (as a categorical pollutant), EPA clarifies that chromium is limited in an effluent guideline for leather tanning process wastewater. The industry was therefore required to submit monitoring data for chromium. The leather industry was also required to submit monitoring data for ''those pollutants that they knew or had reason to believe were present.'' These pollutants were shown in tables which listed conventional and nonconventional pollutants, toxic pollutants and hazardous pollutants. These tables were included in the permit application Form 2–F.

Fabricated Metal Products Industry

Many commenters stated that the fabricated metal industry should be further divided into dry and wet fabricating industries. Most explained that the processes and practices vary widely between these two types of fabricating industries. In particular, many pollutants vary between these groups due to the fact that each of these industries require very different chemicals in their processes. The main concern expressed by commenters was that monitoring for the entire group was based on a wide range of chemicals for both industrial processes that may not be present at a facility if only one process is conducted at the facility.

EPA agrees that the industries covered under this section of the permit should be re-evaluated to examine more carefully inherent differences between subgroups in the industry. As a result, today's rule has identified industry subgroups using the three and four-digit SIC classification for the purposes of determining which industries will conduct monitoring in this sector. Industry subgroups will monitor for specific pollutants where the median value exceeds the revised benchmark levels. EPA has also expanded the flexibility of the monitoring requirement by allowing facilities to certify on a pollutant-by-pollutant basis to no exposure to storm water in lieu of monitoring for that chemical. This can result in some facilities not monitoring and others limiting the number of pollutants required to be monitored.

Several commenters requested that the fabricated metal industry be required to conduct visual examinations and annual site compliance evaluations only. EPA does not agree. Chemical monitoring is still necessary, given the results of the data evaluation conducted on the subsectors. Visual examinations in combination with chemical monitoring and site compliance evaluations will help assess the presence of pollutants of concern in the discharges and the effectiveness of the pollution prevention plan at controlling these.

A commenter requested that EPA clarify whether all of SIC code group 34 is covered in Sector 29, such as the forgings industry. They pointed out a discrepancy between the preamble language and the permit language relating to coverage. In response, EPA inadvertently left out certain SIC code group 34 industries in the proposed permit. The fact sheet contained the entire list of industries covered under this section. EPA has clarified the permit language to correct this omission.

Several commenters suggested that EPA differentiate between dry fabricators and others by adding a definition that placed a qualifier ''Metal Treatment Only'' to the terms and conditions that apply only to metal treatment operations. Commenters also suggested the permit should require dry fabricators to certify to no metal treatment operations or other operations likely to result in discharges of the pollutants of concern.

EPA has not placed a qualifier on the terms and conditions of the permit. However, using the revised analysis to determine monitoring, addresses some of the concerns about the grouping of sectors. Also, determining site-specific BMPs and certifying, on a pollutant-by-pollutant basis to no exposure to storm water will add more flexibility in determining monitoring requirements.

A commenter requested that EPA expand the definition of fabricated metal industries in the permit language. EPA has not expanded the definition of fabricated metal industries other than including the other industries identified in the proposed fact sheet that were inadvertently left out of the permit language. Other industries that could be related to this sector are covered under the Primary Metals Industry section of the permit. EPA believes that it has listed as eligible for coverage, all industries that participated in the group application process.

Commenters stated that the list of options for controlling pollutants can be expensive and uneconomical. Many thought that the BMPs may later become mandatory and do not allow for alternative measures to control pollutants at a given site.

To clarify, EPA has only provided a list of potential BMPs to be considered by each facility operator when preparing a pollution prevention plan. This list is neither totally inclusive nor mandatory. Permittees are free to determine the most economical and effective BMPs specific for a given facility and activity.

Commenters felt that most fabricators do not have process wastewater discharges. Because of this, they requested a waiver on requiring proof of no commingling of process waste water with storm water. Today's permit does not change this requirement. Some fabricators employ acid baths, wash waters and other process wastewater related activities. Certification of no commingling remains an important part of the permit requirements to be included with the storm water pollution prevention plan certification to ensure that storm water discharges are not contaminated by these discharges.

A commenter pointed out that the description of the materials used at facilities in this sector should have noted that many of these materials are not necessarily used at all types of facilities within the sector. The commenter was apparently concerned that this description could erroneously suggest that the runoff from certain types of facilities in the sector could be contaminated with pollutants which are not used at all facilities. In response, EPA has modified the final fact sheet to clarify that the list of materials is a cumulative list gathered from all the types of facilities in the sector, and that individual facilities may not use all materials which are listed.

A commenter also disagreed with EPA's assessment in the draft fact sheet for this sector that the monitoring results which were submitted with the group applications may not be inclusive of all the pollutants which could be present in the runoff. In response, EPA has deleted the discussion in question from the final fact sheet.

Transportation Equipment, and Industrial or Commercial Machinery

One commenter was concerned with the grouping of facilities in Sector AB. The commenter felt that it is inappropriate to regulate commercial machine manufacturing facilities with other miscellaneous machinery manufacturing facilities. In response, EPA has retained the proposed grouping of the transportation equipment, industrial, or commercial machinery manufacturing sector. Although the specific processes that occur indoors and the final products produced will vary at the different facilities, the group application data indicated that the industrial activities and significant materials that may be exposed to storm water are similar. In addition, today's final permit includes flexible requirements for this sector which allow operators to implement controls based upon site-specific activities and materials.

The same commenter also expressed concern over the use of such sector groupings in the future. In response, EPA is making use of these industrial groupings only for the development of this storm water general permit. Future uses of these industrial groupings will be reevaluated by EPA based upon all available information at the time and based upon the intended usage.

Electronic and Electrical Equipment, Photographic and Optical Goods

EPA received a total of 6 comments on the multi-sector permit from facilities in sector AC, facilities which manufacture electronic and electrical equipment and components, photographic and optical goods. Comments addressed the proposed monitoring requirements and the proposed requirements for the storm water pollution prevention plan. The proposed permit only required visual examinations of storm water samples for facilities in sector AC, rather than analytical testing which was proposed for certain other sectors. Commenters supported these proposed monitoring requirements and opposed the proposed alternate monitoring requirements which would have required analytical testing for certain parameters. Like the proposed permit, the final permit does not require analytical testing of storm water samples for facilities in sector AC. A more detailed discussion of EPA's responses to the monitoring issues overall is found in the portion of the response to comments which addresses monitoring. The proposed permit required that facilities in sector AC develop and implement a storm water pollution prevention plan and did not include any industry-specific numeric effluent limits. Commenters supported these provisions and the final permit has not been changed in this regard.

Authorization to Discharge Under the National Pollution Discharge Elimination System

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. 1251 et seq., the ''Act'') except as provided in Part I.B.3. of this storm water multi-sector general permit, operators of point source discharges of storm water associated with industrial activity that discharge into waters of the United States, represented by the industry sectors identified in Part XI. of this permit, are authorized to discharge in the areas of coverage listed below in accordance with the conditions and requirements set forth herein.

Operators of storm water discharges from the industrial activities covered under this permit who intend to be authorized by this permit must submit a Notice of Intent (NOI) in accordance with Part II.B. of this permit. Operators of storm water discharges associated with industrial activity who fail to submit an NOI in accordance with Part II.B. of this permit are not authorized under this general multi-sector permit.

This permit shall become effective on October 1, 1995, and shall expire at midnight on October 1, 2000.

Region I

Signed this 28th day of August, 1995.

David Fierra,

Water Management Division Director.

Areas of coverage	Permit No.
Connecticut Federal Indian Reservations.	CTR05*##F
Maine	MER05*###
Federal Indian Reservations.	MER05*##F
Massachusetts	MAR05*###
Federal Indian Reservations.	MAR05*##F
New Hampshire	NHR05*###
Federal Indian Reservations.	NHR05*##F
Rhode Island Federal Indian Reservations.	RIR05*##F
Vermont Federal Indian Reservations.	VTR05*##F
Vermont Federal Facilities	VTR05*##F

Region II

Signed this 16th day of August, 1995.

Richard L. Caspe,

Water Management Division Director.

Areas of coverage	Permit No.
Puerto Rico	PRR05*###
Federal Facilities	PRR05*##F

Region III

Signed this 11th day of September, 1995.

Alvin R. Morris,

Water Management Division Director.

Areas of coverage	Permit No.
District of Columbia	DCR05*###
Federal Facilities	DCR05*##F
Delaware Federal Facilities	DER05*##F

Region IV

Signed this 11th day of September, 1995.

Robert F. McGhee,

Acting Water Management Division Director.

Areas of coverage	Permit No.
Florida	FLR05*###

Region VI

Signed this 11th day of September, 1995.

William B. Hathaway,

Water Management Division Director.

Areas of coverage	Permit No.
Louisiana	LAR05*###
Federal Indian Reservations.	LAR05*##F
New Mexico	NMR05*###
Federal Indian Reservations (except Navajo and Ute Mountain Reservation lands).	NMR05*##F
Oklahoma	OKR05*###
Federal Indian Reservations.	OKR05*##F
Texas	TXR05*###
Federal Indian Reservations.	TXR05*##F

Region IX

Signed this 24th day of August, 1995.

Felicia Marcus,

Water Management Division Director.

Areas of coverage	Permit No.
Arizona	AZR05*###
Federal Indian Reservations.	AZR05*##F
Federal Facilities	AZR05*##F
California:	
Federal Indian Reservations.	CAR05*##F
Idaho:	
Duck Valley Reservation	NVR05*##F
Nevada Federal Indian Reservations.	NVR05*##F
New Mexico:	
Navajo Reservation	AZR05*##F
Oregon:	
Fort McDermitt Reservation.	NVR05*##F
Utah:	
Goshute Reservation	NVR05*##F
Navajo Reservation	AZR05*##F
Johnston Atoll	JAR05*###
Federal Facilities	JAR05*##F
Midway Island and Wake Island.	MWR05*###
Federal Facilities	MWR05*##F

Region X

Signed this 12th day of September, 1995.

David H. Teeter,

Acting Water Management Division Director.

Areas of coverage	Permit No.
Alaska Federal Indian Reservations.	AKR05*##F
Idaho	IDR05*###
Federal Indian Reservations (except Duck Valley Reservation lands).	IDR05*##F
Federal Facilities	IDR05*##F
Oregon Federal Indian Reservations (except for Fort McDermitt Reservation lands).	ORR05*##F
Washington Federal Indian Reservations.	WAR05*##F
Washington Federal Facilities.	WAR05*##F

NPDES General Permit for Storm Water Discharges From Industrial Activities Table of Contents

I. Coverage Under This Permit

A. Permit Area

The permit is being issued in the following areas:

Region I—the States of Maine, Massachusetts, and New Hampshire; Federal Indian Reservations located in Connecticut, Massachusetts, New Hampshire, Maine, Rhode Island, and Vermont; and Federal facilities located in Vermont.

Region II—the Commonwealth of Puerto Rico; and Federal facilities located in Puerto Rico.

Region III—the District of Columbia and Federal facilities located in Delaware and the District of Columbia.

Region IV—the State of Florida.

Region V—no areas.

Region VI—the States of Louisiana, New Mexico, Oklahoma, and Texas and Federal Indian Reservations located in Louisiana, New Mexico (except Navajo Reservation lands, which are handled by Region IX, and Ute Mountain Reservation lands, which are handled by Region VIII and are not being covered by this permit), Oklahoma, and Texas.

Region VII—no areas.

Region VIII—no areas.

Region IX—the State of Arizona; the Territories of Johnston Atoll, and Midway and Wake Island; all Federal Indian Reservations located in Arizona, California, and Nevada; those portions of the Duck Valley, Fort McDermitt, and Goshute Reservations located outside Nevada, those portions of the Navajo Reservation located outside Arizona; and Federal facilities located in Arizona, Johnston Atoll, and Midway and Wake Islands.

Region X—the State of Idaho; Federal Indian Reservations located in Alaska, Oregon (except for Fort McDermitt Reservation lands which are handled by Region IX), Idaho (except Duck Valley Reservation lands which are handled by Region IX), and Washington; and for Federal facilities located in Alaska, Idaho and Washington.

B. Eligibility

1. Discharges Covered. Except for storm water discharges identified under paragraph I.B.3., this permit may cover all new and existing point source discharges of storm water to waters of the United States that are associated with industrial activity identified under the coverage sections contained in Part XI. (see Table 1). Military installations must comply with the permit and monitoring requirements for all sectors that describe industrial activities that such installations perform.

TABLE 1

Storm water discharges from	Are covered if listed in part
Timber Products Facilities	XI.A.1.
Paper and Allied Products Manufacturing Facilities	XI.B.1.
Chemical and Allied Products Manufacturing Facilities	XI.C.1.
Asphalt Paving, Roofing Materials, and Lubricant Manufacturing Facilities	XI.D.1.
Glass, Clay, Cement, Concrete, and Gypsum Product Manufacturing Facilities	XI.E.1.
Primary Metals Facilities	XI.F.1.
Metal Mines (Ore Mining and Dressing)	XI.G.1.
Coal Mines and Coal Mine-Related Facilities	XI.H.1.
Oil or Gas Extraction Facilities	XI.I.1.
Mineral Mining and Processing Facilities	XI.J.1.
Hazardous Waste Treatment Storage or Disposal Facilities	XI.K.1.
Landfills and Land Application Sites	XI.L.1.
Automobile Salvage Yards	XI.M.1.
Scrap Recycling and Waste and Recycling Facilities	XI.N.1.
Steam Electric Power Generating Facilities	XI.O.1.

TABLE 1—Continued

Storm water discharges from	Are covered if listed in part
Vehicle Maintenance or Equipment Cleaning areas at Motor Freight Transportation Facilities, Passenger Transportation Facilities, Petroleum Bulk Oil Stations and Terminals, the United States Postal Service, or Railroad Transportation Facilities.	XI.P.1.
Vehicle Maintenance Areas and Equipment Cleaning Areas of Water Transportation Facilities	XI.Q.1.
Ship or Boat Building and Repair Yards	XI.R.1.
Vehicle Maintenance Areas, Equipment Cleaning Areas or From Airport Deicing Operations located at Air Transportation Facilities.	XI.S.1.
Wastewater Treatment Works	XI.T.1.
Food and Kindred Products Facilities	XI.U.1.
Textile Mills, Apparel and other Fabric Product Manufacturing Facilities	XI.V.1.
Furniture and Fixture Manufacturing Facilities	XI.W.1.
Printing and Publishing Facilities	XI.X.1.
Rubber and Miscellaneous Plastic Product Manufacturing Facilities	XI.Y.1.
Leather Tanning and Finishing Facilities	XI.Z.1.
Facilities That Manufacture Metal Products including Jewelry, Silverware and Plated Ware	XI.AA.1.
Facilities That Manufacture Transportation Equipment, Industrial or Commercial Machinery	XI.AB.1.
Facilities That Manufacture Electronic and Electrical Equipment and Components, Photographic and Optical Goods	XI.AC.1.

2. *Construction.* This permit may authorize storm water discharges associated with industrial activity that are mixed with storm water discharges associated with industrial activity from construction activities provided that the storm water discharge from the construction activity is authorized by and in compliance with the terms of a different NPDES general permit or individual permit authorizing such discharges.

3. *Limitations on Coverage.* The following storm water discharges associated with industrial activity are not authorized by this permit:

a. Storm water discharges associated with industrial activities that are not listed under the coverage sections contained in Part XI. (see Table 1).

b. Storm water discharges subject to New Source Performance Standards except as provided in Part I.B.7. below.

c. Storm water discharges associated with industrial activity that are mixed with sources of non-storm water other than non-storm water discharges that are:

(1) In compliance with a different NPDES permit; or

(2) Identified by and in compliance with Part III.A. (Prohibition of Non-storm Water Discharges) of this permit.

d. Storm water discharges associated with industrial activity that are subject to an existing NPDES individual or general permit (except storm water discharges subject to the NPDES General Permit for Storm Water Discharges Associated With Industrial Activity published September 9, 1992 [57 FR 41297], or September 25, 1992 [57 FR 44438]).

e. Are located at a facility where an NPDES permit has been terminated (other than at the request of the permittee) or denied, or that are issued a permit in accordance with Part VII.M (Requirements for Individual or Alternative General Permits) of this permit;

f. Storm water discharges associated with industrial activity that the Director [U.S. Environmental Protection Agency (EPA)] has determined to be or may reasonably be expected to be contributing to a violation of a water quality standard.

g. Discharges subject to storm water effluent guidelines, not described under Part XI.

h. Storm water discharges associated with industrial activity from inactive mining, inactive landfills, or inactive oil and gas operations occurring on Federal lands where an operator cannot be identified.

4. *Storm Water Not Associated With Industrial Activity.* Storm water discharges associated with industrial activity that are authorized by this permit may be combined with other sources of storm water that are not classified as associated with industrial activity pursuant to 40 CFR 122.26(b)(14).

5. *Endangered Species Protection.*

a. Permit Coverage Restrictions: In order to be eligible for coverage under this permit, the applicant must comply with the Endangered Species Act. A discharge of storm water associated with industrial activity may be covered under this permit only if either:

(1) The storm water discharge(s), and the construction of BMPs to control storm water runoff, are not likely to adversely affect species identified in Addendum H of this permit; or

(2) The applicant's activity has received previous authorization under the Endangered Species Act and established an environmental baseline that is unchanged; or,

(3) The applicant is implementing appropriate measures as required by the Director to address adverse affects.

b. All dischargers applying for coverage under this multi-sector storm water general permit must certify that their storm water discharge(s), and the construction of BMPs to control storm water runoff, are not likely to adversely affect species identified in Addendum H of this permit.

6. *National Historic Preservation Act.* In order to be eligible for coverage under this permit, the applicant must be in compliance with the National Historic Preservation Act. A discharge of storm water associated with industrial activity may be covered under this permit only if:

(i) The discharge does not affect a property that is listed or is eligible for listing in the National Historic Register maintained by the Secretary of Interior; or,

(ii) The applicant has obtained and is in compliance with a written agreement between the applicant and the State Historic Preservation Officer (SHPO) that outlines all measures to be undertaken by the applicant to mitigate or prevent adverse effects to the historic property.

7. *Discharges Subject to New Source Performance Standards.* Operators of facilities with storm water discharges subject to New Source Performance Standards [1] shall have documentation of

[1] Storm water discharges subject to New Source Performance Standards (NSPS) and that may be covered under this permit include: runoff from material storage piles at cement manufacturing facilities [40 CFR Part 411 Subpart C (established February 23, 1977)]; contaminated runoff from phosphate fertilizer manufacturing facilities [40 CFR Part 418 Subpart A (established April 8, 1974)]; coal pile runoff at steam electric generating facilities [40 CFR Part 423 (established November 19, 1982)]; and runoff from asphalt emulsion

a final EPA decision indicating that the Agency has determined that the storm water discharge has no direct or indirect impact. This documentation shall be obtained and retained on site prior to the submittal of the Notice of Intent. Operators of these facilities shall not be authorized under the terms and conditions of this permit until the submittal of a Notice of Intent to gain coverage under this permit. Where documentation of the Agency's decision has not been obtained for a facility subject to New Source Performance Standards, the operator must obtain such documentation prior to submitting a NOI. The permittee may use the format in Addendum E to submit information to EPA to initiate the process of the environmental review. The information shall be sent to the appropriate address listed in Part VI.B. of this permit. In order to maintain eligibility, the permittee must implement any mitigation required of the facility as a result of the National Environmental Policy Act (NEPA) review process. Failure to implement mitigation measures upon which the Agency's NEPA finding is based is grounds for termination of permit coverage.

C. Authorization

Dischargers of storm water associated with industrial activity must submit a complete NOI in accordance with the requirements of Part II of this permit, using an NOI form as found in Addendum B (or photocopy thereof), to be authorized to discharge under this general permit. Unless notified by the Director to the contrary, owners or operators who submit such notification are authorized to discharge storm water associated with industrial activity under the terms and conditions of this permit 2 days after the date that the NOI is postmarked. The Director may deny coverage under this permit and require submittal of an application for an individual NPDES permit based on a review of the NOI or other information.

D. Overview of the Multisector General Permit

Parts I.–X. apply to all facilities. Parts I. and II. describe eligibility requirements and the process for obtaining permit coverage. Parts III.–X. contain ''basic'' permit requirements.

Part XI. provides additional requirements for particular sectors of industrial activity. For example, primary metal facilities add Part XI.F., to the ''universal'' Parts I.–X. requirements.

Some facilities may have ''co-located'' activities that are described in more than one sector and need to comply with applicable conditions of each sector. For example, a chemical manufacturing facility could have a land application site and be subject to Part XI.C.—Chemical and Allied products Manufacturing sector (primary activity), with runoff from the land application site (co-located activity) also subject to conditions in the Part XI.L.—Landfills and Land Application Sites sector.

Part XII of the permit contains conditions (e.g., effluent limitations or special reporting requirements) that only apply to facilities located in a particular State, EPA Region, or other area. Those special conditions are in addition to, or in lieu of, the ''generic'' Parts I.–XI. permit requirements.

Part XII of the permit also contains differences in permit eligibility and availability. For example, only the permits for Louisiana, New Mexico, Oklahoma, and Texas allow coverage of certain mine dewatering discharges from construction sand and gravel, industrial sand, and crushed stone mines (subject to additional permit conditions) under Sector J.—Mineral Mining and Processing.

Addendum D. lists large and medium municipal separate storm sewer systems (MS4s). Facilities located in these jurisdictions have special responsibilities (described in the permit) with regard to compliance with local requirements and providing information to the operator of the MS4).

II. Notification Requirements

A. Deadlines for Notification

1. Existing Facility. Except as provided in paragraphs II.A.4. (New Operator), and II.A.5. (Late Notification), individuals who intend to obtain coverage for an existing storm water discharge associated with industrial activity under this general permit shall submit an NOI in accordance with the requirements of this part on or before [insert date 90 days after permit finalization];

2. New Facility. Except as provided in paragraphs II.A.3. (Oil and Gas Operations), II.A.4. (New Operator), and II.A.5. (Late Notification), operators of facilities that begin industrial activity after [insert date 90 days after permit finalization] shall submit an NOI in accordance with the requirements of this part at least 2 days prior to the commencement of the industrial activity at the facility;

3. Oil and Gas Operations. Operators of oil and gas exploration, production, processing, or treatment operations or transmission facilities, that are not required to submit a permit application as of [insert date 90 days after permit finalization] in accordance with 40 CFR 122.26(c)(1)(iii), but that after [insert date 90 days after permit finalization] have a discharge of a reportable quantity of oil or a hazardous substance for which notification is required pursuant to either 40 CFR 110.6, 40 CFR 117.21, or 40 CFR 302.6, must submit an NOI in accordance with the requirements of Part II.C. of this permit within 14 calendar days of the first knowledge of such release.

4. New Operator. Where the operator of a facility with a storm water discharge associated with industrial activity that is covered by this permit changes, the new operator of the facility must submit an NOI in accordance with the requirements of this part at least 2 days prior to the change.

5. Late Notification. An operator of a storm water discharge associated with industrial activity is not precluded from submitting an NOI in accordance with the requirements of this part after the dates provided in Parts II.A.1., 2., 3., or 4. (above) of this permit.

6. Part II.A.6 Facilities Previously Subject to the Baseline General Permit. Eligible facilities previously covered by EPA's 1992 Baseline General Permits for Storm Water Discharges Associated with Industrial Activity (57 FR 41297 or 57 FR 44438) may elect to be covered by this permit by submitting an NOI in accordance with the requirements of this Part within [insert date 90 days after permit finalization]. To avoid a lapse in permit coverage should reissuance or termination of the 1992 Baseline General Permits eliminate coverage for certain industries under those permits, NOIs from eligible facilities may also be submitted during the period 90 days prior to the expiration date of the applicable Baseline General Permit.

B. Contents of Notice of Intent

The NOI shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit and shall include the following information:

1. Permit. An indication of which NPDES storm water general permit is being applied for (either baseline general, baseline construction, or multi-sector);

2. Name. The operator's name, address, telephone number, and status

facilities [40 CFR Part 443 Subpart A (established July 24, 1975)]. NSPS apply only to discharges from those facilities or installations that were constructed after the promulgation of NSPS. For example, storm water discharges from areas where the production of asphalt paving and roofing emulsions occurs are subject to NSPS only if the asphalt emulsion facility was constructed after July 24, 1975.

as Federal, State, private, public, or other entity;

3. Location. The street address of the facility for which the notification is submitted. Also describe the location of the approximate center of the facility in terms of the latitude and longitude to the nearest 15 seconds, or the quarter section, township and range (to the nearest quarter section);

4. Federal Indian Reservations. An indication of whether the facility is located on Federal Indian Reservations;

Receiving Water. The name of the receiving water(s), or if the discharge is through a municipal separate storm sewer, the name of the municipal operator of the storm sewer and the ultimate receiving water(s) for the discharge through the municipal separate storm sewer;

6. Co-permittee. The storm water general permit number if such a number has been issued to a co-permittee;

7. Monitoring. The monitoring status of the facility;

8. SIC Code. Up to four 4-digit Standard Industrial Classification (SIC) codes that best represent the principal products produced or services rendered, or for hazardous waste treatment, storage or disposal facilities, land/disposal facilities that receive or have received any industrial waste, steam electric power generating facilities, or treatment works treating domestic sewage, a narrative identification of those activities;

9. Other Permits. The permit number(s) of additional NPDES permit(s) for any discharge(s) (including non-storm water discharges) from the site that are currently authorized by an NPDES permit;

10. Presence of Endangered Species. Based on the instructions in Addendum H, no species identified in Addendum H are in proximity to the storm water discharges to be covered under this permit, or the areas of BMP construction to control those storm water discharges.

11. National Historic Preservation Act Compliance. A yes or no response to the following statement: Applicant has obtained and is in compliance with Historic Preservation Agreement.

12. Eligibility Certification. The following certifications shall be signed in accordance with Part VII.G.

I certify under penalty of law that I have read and understand the Part I.B. eligibility requirements for coverage under the multi-sector storm water general permit including those requirements relating to the protection of species identified in Addendum H.

To the best of my knowledge the discharges covered under this permit, and the construction of BMPs to control storm water runoff, are not likely and will not likely, adversely affect any species identified in Addendum H of this permit, or are otherwise eligible for coverage due to previous authorization under the Endangered Species Act.

To the best of my knowledge, I further certify that such discharges, and construction of BMPs to control storm water runoff, do not have an effect on properties listed or eligible for listing on the National Register of Historic Places under the National Historic Preservation Act, or are otherwise eligible for coverage due to a previous agreement under the National Historic Preservation Act.

I understand that continued coverage under the multi-sector storm water general permit is contingent upon maintaining eligibility as provided for in Part I.B.

13. Pollution Prevention Plan Certification. For any facility that begins to discharge storm water associated with industrial activity after [insert date 270 days after permit finalization], a certification that a storm water pollution prevention plan has been prepared for the facility in accordance with Part IV. of this permit must be included on the NOI. (Do not include a copy of the plan with the NOI submission.)

C. Where To Submit

Facilities that discharge storm water associated with industrial activity must use an NOI form provided by the Director (or photocopy thereof). NOIs must be signed in accordance with Part VII.G. (Signatory Requirements) of this permit. NOIs are to be submitted to the Director of the NPDES program at the following address: Storm Water Notice of Intent (4203), 401 M Street, S.W., Washington, D.C. 20460.

D. Additional Notification

Facilities that discharge storm water associated with industrial activity through large or medium municipal separate storm sewer systems (systems located in an incorporated city with a population of 100,000 or more, or in a county identified as having a large or medium system (see definition in Part X. of this permit and Addendum D of this notice)), or into a municipal separate storm sewer that has been designated by the permitting authority shall, in addition to filing copies of the NOI in accordance with paragraph II.C., submit signed copies of the NOI to the operator of the municipal separate storm sewer through which they discharge in accordance with the deadlines in Part II.A. (Deadlines for Notification) of this permit.

III. Special Conditions

A. Prohibition of Non-storm Water Discharges

1. Storm Water Discharges. Except as provided in paragraph III.A.2 (below), all discharges covered by this permit shall be composed entirely of storm water.

2. Non-storm Water Discharges. a. Except as provided in paragraph III.A.2.b (below), discharges of material other than storm water must be in compliance with an NPDES permit (other than this permit) issued for the discharge.

b. The following non-storm water discharges may be authorized by this permit provided the non-storm water component of the discharge is in compliance with Part IV and Part XI: discharges from fire fighting activities; fire hydrant flushings; potable water sources including waterline flushings; drinking fountain water, uncontaminated compressor condensate, irrigation drainage; lawn watering; routine external building washdown that does not use detergents or other compounds; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; compressor condensate; uncontaminated springs; uncontaminated ground water; and foundation or footing drains where flows are not contaminated with process materials such as solvents.

B. Releases in Excess of Reportable Quantities

1. Hazardous Substances or Oil. The discharge of hazardous substances or oil in the storm water discharge(s) from a facility shall be prevented or minimized in accordance with the applicable storm water pollution prevention plan for the facility. This permit does not relieve the permittee of the reporting requirements of 40 CFR Part 117 and 40 CFR Part 302. Except as provided in paragraph III.B.2 (Multiple Anticipated Discharges) of this permit, where a release containing a hazardous substance in an amount equal to or in excess of a reporting quantity established under either 40 CFR Part 117 or 40 CFR Part 302, occurs during a 24-hour period:

a. The discharger is required to notify the National Response Center (NRC) (800–424–8802; in the Washington, DC metropolitan area 202–426–2675) in accordance with the requirements of 40 CFR Part 117 and 40 CFR Part 302 as soon as he or she has knowledge of the discharge;

b. The storm water pollution prevention plan required under Part IV. (Storm Water Pollution Prevention Plans) of this permit must be modified within 14 calendar days of knowledge of the release to: provide a description of the release, the circumstances leading to the release, and the date of the release. In addition, the plan must be reviewed by the permittee to identify measures to prevent the reoccurrence of such releases and to respond to such releases, and the plan must be modified where appropriate; and

c. The permittee shall submit within 14 calendar days of knowledge of the release a written description of: the release (including the type and estimate of the amount of material released), the date that such release occurred, the circumstances leading to the release, and steps to be taken in accordance with paragraph III.B.1.b. (above) of this permit to the appropriate EPA Regional Office at the address provided in Part VI.B. (Reporting: Where to Submit) of this permit.

2. Multiple Anticipated Discharges. Facilities that have more than one anticipated discharge per year containing the same hazardous substance in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 117 or 40 CFR Part 302, that occurs during a 24-hour period, where the discharge is caused by events occurring within the scope of the relevant operating system shall:

a. Submit notifications in accordance with Part III.B.1.b. (above) of this permit for the first such release that occurs during a calendar year (or for the first year of this permit, after submittal of an NOI); and

b. Shall provide in the storm water pollution prevention plan required under Part IV. (Storm Water Pollution Prevention Plans) a written description of the dates on which all such releases occurred, the type and estimate of the amount of material released, and the circumstances leading to the releases. In addition, the plan must be reviewed to identify measures to prevent or minimize such releases and the plan must be modified where appropriate.

3. Spills. This permit does not authorize the discharge of hazardous substances or oil resulting from an onsite spill.

C. Co-located Industrial Activity

In the case where a facility has industrial activities occurring onsite which are described by any of the activities in other sections of Part XI, those industrial activities are considered to be co-located industrial activities. Storm water discharges from co-located industrial activities are authorized by this permit, provided that the permittee complies with any and all additional pollution prevention plan and monitoring requirements from other sections of Part XI applicable to the co-located industrial activity. The operator of the facility shall determine which additional pollution prevention plan and monitoring requirements are applicable to the co-located industrial activity by examining the narrative descriptions of each coverage section (Discharges Covered Under This Section) in Part XI of this permit.

IV. Storm Water Pollution Prevention Plans

A storm water pollution prevention plan shall be developed for each facility covered by this permit. Storm water pollution prevention plans shall be prepared in accordance with good engineering practices and in accordance with the factors outlined in 40 CFR 125.3(d)(2) or (3) as appropriate. The plan shall identify potential sources of pollution that may reasonably be expected to affect the quality of storm water discharges associated with industrial activity from the facility. In addition, the plan shall describe and ensure the implementation of practices that are to be used to reduce the pollutants in storm water discharges associated with industrial activity at the facility and to assure compliance with the terms and conditions of this permit. Facilities must implement the provisions of the storm water pollution prevention plan required under this part as a condition of this permit.

A. Deadlines for Plan Preparation and Compliance

1. Existing Facilities. Except as provided in paragraphs 3., 4., and 5. (below), all existing facilities and new facilities that begin operation on or before [insert date 270 days after permit finalization] shall prepare and implement the plan by [insert date 270 days after permit finalization].

2. New Facilities. Facilities that begin operation after [insert date 270 days after permit finalization] shall prepare and implement the plan prior to submitting the Notice of Intent.

3. Oil and Gas Facilities. Oil and gas exploration, production, processing or treatment facilities that are not required to submit a permit application on or before [insert date 90 days after permit finalization] in accordance with 40 CFR 122.26(c)(1)(iii), but after [insert date 270 days after permit finalization] have a discharge of a reportable quantity of oil or a hazardous substance for which notification is required pursuant to either 40 CFR 110.6 or 40 CFR 302.6, shall prepare and implement the plan on or before the date 60 calendar days after first knowledge of such release.

4. Facilities Switching From the Baseline General Permit to This Permit. Facilities previously subject to the NPDES General Permit for Storm Water Discharges Associated With Industrial Activity (57 FR 41297 or 57 FR 44438) that switch to coverage under this permit shall continue to implement the storm water pollution prevention plan required by that permit. The plan shall be revised as necessary to address requirements under Part XI. of this permit no later than [insert date 270 days after permit finalization]. The revisions made to the plan shall be implemented on or before [insert date 270 days after permit finalization].

5. Facilities Electing Multi-Sector General Permit Upon Expiration of the Baseline General Permit. Facilities electing to obtain coverage under this permit during the period 90 days prior to expiration of the Baseline General Permit shall revise the pollution prevention plan required by that permit as necessary to address requirements under Part X.I. of this permit and implement the revised plan prior to submittal of the NOI.

6. Measures That Require Construction. In cases where construction is necessary to implement measures required by the plan, the plan shall contain a schedule that provides compliance with the plan as expeditiously as practicable, but no later than [insert date 3 years after permit finalization]. Where a construction compliance schedule is included in the plan, the schedule shall include appropriate non-structural and/or temporary controls to be implemented in the affected portion(s) of the facility prior to completion of the permanent control measure.

7. Extensions. Upon a showing of good cause, the Director may establish a later date in writing for preparing and compliance with a plan for a storm water discharge associated with industrial activity.

B. Signature and Plan Review

1. Signature/Location. The plan shall be signed in accordance with Part VII.G. (Signatory Requirements), and be retained onsite at the facility that generates the storm water discharge in accordance with Part VII.P.2. (Retention of Records) of this permit. For inactive facilities, the plan may be kept at the nearest office of the permittee.

2. Availability. The permittee shall make the storm water pollution prevention plan, annual site compliance inspection report, or other information available upon request to the Assistant Administrator for Fisheries for the National Oceanic and Atmospheric

Administration; the U.S. Fisheries and Wildlife Service Regional Director; or authorized representatives of these officials.

3. Required Modifications. The Director, or authorized representative, may notify the permittee at any time that the plan does not meet one or more of the minimum requirements of this part. Such notification shall identify those provisions of the permit that are not being met by the plan, and identify which provisions of the plan requires modifications in order to meet the minimum requirements of this part. Within 30 days of such notification from the Director, (or as otherwise provided by the Director), or authorized representative, the permittee shall make the required changes to the plan and shall submit to the Director a written certification that the requested changes have been made.

C. Keeping Plans Current

The permittee shall amend the plan whenever there is a change in design, construction, operation, or maintenance, that has a significant effect on the potential for the discharge of pollutants to the waters of the United States or if the storm water pollution prevention plan proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified under Part IV.D. (Contents of the Plan) of this permit, or in otherwise achieving the general objectives of controlling pollutants in storm water discharges associated with industrial activity. New owners shall review the existing plan and make appropriate changes: Amendments to the plan may be reviewed by EPA in the same manner as Part IV.B. (above).

D. Contents of the Plan

The contents of the pollution prevention plan shall comply with the requirements listed in the appropriate section of Part XI. (Specific Requirements for Industrial Activities). Table 2 lists the location of the plan requirements for the respective industrial activities. These requirements are cumulative. If a facility has co-located activities that are covered in more than one section of Part XI., that facility's pollution prevention plan must comply with the requirements listed in all applicable sections of this permit.

TABLE 2.—POLLUTION PREVENTION PLAN REQUIREMENTS

Storm water discharges from	Are subject to pollution prevention plan requirements listed in part
Timber Products Facilities	XI.A.3
Paper and Allied Products Manufacturing Facilities.	XI.B.3
Chemical and Allied Products Manufacturing Facilities.	XI.C.4
Asphalt Paving, Roofing Materials, and Lubricant Manufacturing Facilities.	XI.D.3
Glass, Clay, Cement Concrete and Gypsum Product Manufacturing Facilities.	XI.E.3
Primary Metals Facilities	XI.F.3.
Metal Mines (Ore Mining and Dressing).	XI.G.3
Coal Mines and Coal Mine-Related Facilities.	XI.H.3
Oil or Gas Extraction Facilities	XI.I.3
Mineral Mining and Processing Facilities.	XI.J.3
Hazardous Waste Treatment Storage or Disposal Facilities.	XI.K.3
Landfills and Land Application Sites.	XI.L.3
Automobile Salvage Yards	XI.M.2
Scrap and Waste Recycling Facilities.	XI.N.3
Steam Electric Power Generating Facilities.	XI.O.3
Vehicle Maintenance or Equipment Cleaning areas at Motor Freight Transportation Facilities, Passenger Transportation Facilities, Petroleum Bulk Oil Stations and Terminals, the United States Postal Service, or Railroad Transportation Facilities.	XI.P.3
Vehicle Maintenance Areas and Equipment Cleaning Areas of Water Transportation Facilities.	XI.Q.3
Ship or Boat Building and Repair Yards.	XI.R.3
Vehicle Maintenance Areas, Equipment Cleaning Areas or From Airport Deicing Operations located at Air Transportation Facilities.	XI.S.3
Wastewater Treatment Works	XI.T.3
Food and Kindred Products Facilities.	XI.U.3
Textile Mills, Apparel and other Fabric Product Manufacturing Facilities.	XI.V.3
Furniture and Fixture Manufacturing Facilities.	XI.W.3
Printing and Publishing Facilities.	XI.X.3
Rubber and Miscellaneous Plastic Product Manufacturing Facilities.	XI.Y.3
Leather Tanning and Finishing Facilities.	XI.Z.3
Facilities That Manufacture Metal Products including Jewelry, Silverware and Plated Ware.	XI.AA.3
Facilities That Manufacture Transportation Equipment, Industrial or Commercial Machinery.	XI.AB.3
Facilities That Manufacture Electronic and Electrical Equipment and Components, Photographic and Optical Goods.	XI.AC.3.

E. Special Pollution Prevention Plan Requirements

In addition to the minimum standards listed in Part XI. of this permit (Specific Requirements for Industrial Activities), the storm water pollution prevention plan shall include a complete discussion of measures taken to conform with the following applicable guidelines, other effective storm water pollution prevention procedures, and applicable State rules, regulations and guidelines:

1. Additional Requirements for Storm Water Discharges Associated With Industrial Activity that Discharge Into or Through Municipal Separate Storm Sewer Systems Serving a Population of 100,000 or More. a. In addition to the applicable requirements of this permit, facilities covered by this permit must comply with applicable requirements in municipal storm water management programs developed under NPDES permits issued for the discharge of the municipal separate storm sewer system that receives the facility's discharge, provided the discharger has been notified of such conditions.

b. Permittees that discharge storm water associated with industrial activity through a municipal separate storm sewer system serving a population of 100,000 or more, or a municipal system designated by the Director shall make plans available to the municipal operator of the system upon request.

2. Additional Requirements for Storm Water Discharges Associated With Industrial Activity From Facilities Subject to EPCRA Section 313 Requirements. In addition to the requirements of Part XI. of this permit and other applicable conditions of this permit, storm water pollution prevention plans for facilities subject to reporting requirements under EPCRA Section 313 for chemicals that are classified as 'Section 313 water priority chemicals' in accordance with the definition in Part X. of this permit, except as provided in paragraph IV.E.2.c.(below), shall describe and ensure the implementation of practices that are necessary to provide for conformance with the following guidelines:

a. In areas where Section 313 water priority chemicals are stored, processed or otherwise handled, appropriate containment, drainage control and/or diversionary structures shall be provided unless otherwise exempted under Part IV.E.2.c. At a minimum, one of the following preventive systems or its equivalent shall be used:

(1) Curbing, culverting, gutters, sewers, or other forms of drainage control to prevent or minimize the potential for storm water runon to come into contact with significant sources of pollutants; or

(2) Roofs, covers or other forms of appropriate protection to prevent storage piles from exposure to storm water and wind.

b. In addition to the minimum standards listed under Part IV.E.2.a. (above) of this permit, except as otherwise exempted under Part IV.E.2.c (below) of this permit, the storm water pollution prevention plan shall include a complete discussion of measures taken to conform with other effective storm water pollution prevention procedures, and applicable State rules, regulations, and guidelines:

(1) Liquid Storage Areas Where Storm Water Comes Into Contact With Any Equipment, Tank, Container, or Other Vessel Used for Section 313 Water Priority Chemicals. (a) No tank or container shall be used for the storage of a Section 313 water priority chemical unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature, etc.

(b) Liquid storage areas for Section 313 water priority chemicals shall be operated to minimize discharges of Section 313 chemicals. Appropriate measures to minimize discharges of Section 313 chemicals may include secondary containment provided for at least the entire contents of the largest single tank plus sufficient freeboard to allow for precipitation, a strong spill contingency and integrity testing plan, and/or other equivalent measures.

(2) Material Storage Areas for Section 313 Water Priority Chemicals Other Than Liquids. Material storage areas for Section 313 water priority chemicals other than liquids that are subject to runoff, leaching, or wind shall incorporate drainage or other control features that will minimize the discharge of Section 313 water priority chemicals by reducing storm water contact with Section 313 water priority chemicals.

(3) Truck and Rail Car Loading and Unloading Areas for Liquid Section 313 Water Priority Chemicals. Truck and rail car loading and unloading areas for liquid Section 313 water priority chemicals shall be operated to minimize discharges of Section 313 water priority chemicals. Protection such as overhangs or door skirts to enclose trailer ends at truck loading/unloading docks shall be provided as appropriate. Appropriate measures to minimize discharges of Section 313 chemicals may include: the placement and maintenance of drip pans (including the proper disposal of materials collected in the drip pans) where spillage may occur (such as hose connections, hose reels and filler nozzles) for use when making and breaking hose connections; a strong spill contingency and integrity testing plan; and/or other equivalent measures.

(4) Areas Where Section 313 Water Priority Chemicals Are Transferred, Processed, or Otherwise Handled. Processing equipment and materials handling equipment shall be operated so as to minimize discharges of Section 313 water priority chemicals. Materials used in piping and equipment shall be compatible with the substances handled. Drainage from process and materials handling areas shall minimize storm water contact with Section 313 water priority chemicals. Additional protection such as covers or guards to prevent exposure to wind, spraying or releases from pressure relief vents from causing a discharge of Section 313 water priority chemicals to the drainage system shall be provided as appropriate. Visual inspections or leak tests shall be provided for overhead piping conveying Section 313 water priority chemicals without secondary containment.

(5) Discharges From Areas Covered by Paragraphs (1), (2), (3), or (4). (a) Drainage from areas covered by paragraphs (1), (2), (3), or (4) of this part should be restrained by valves or other positive means to prevent the discharge of a spill or other excessive leakage of Section 313 water priority chemicals. Where containment units are employed, such units may be emptied by pumps or ejectors; however, these shall be manually activated.

(b) Flapper-type drain valves shall not be used to drain containment areas. Valves used for the drainage of containment areas should, as far as is practical, be of manual, open-and-closed design.

(c) If facility drainage is not engineered as above, the final discharge of all in-facility storm sewers shall be equipped to be equivalent with a diversion system that could, in the event of an uncontrolled spill of Section 313 water priority chemicals, return the spilled material to the facility.

(d) Records shall be kept of the frequency and estimated volume (in gallons) of discharges from containment areas.

(6) Facility Site Runoff Other Than From Areas Covered By (1), (2), (3), or (4). Other areas of the facility (those not addressed in paragraphs (1), (2), (3), or (4)), from which runoff that may contain Section 313 water priority chemicals or spills of Section 313 water priority chemicals could cause a discharge shall incorporate the necessary drainage or other control features to prevent discharge of spilled or improperly disposed material and ensure the mitigation of pollutants in runoff or leachate.

(7) Preventive Maintenance and Housekeeping. All areas of the facility shall be inspected at specific intervals identified in the plan for leaks or conditions that could lead to discharges of Section 313 water priority chemicals or direct contact of storm water with raw materials, intermediate materials, waste materials or products. In particular, facility piping, pumps, storage tanks and bins, pressure vessels, process and material handling equipment, and material bulk storage areas shall be examined for any conditions or failures that could cause a discharge. Inspection shall include examination for leaks, wind blowing, corrosion, support or foundation failure, or other forms of deterioration or noncontainment. Inspection intervals shall be specified in the plan and shall be based on design and operational experience. Different areas may require different inspection intervals. Where a leak or other condition is discovered that may result in significant releases of Section 313 water priority chemicals to waters of the United States, action to stop the leak or otherwise prevent the significant release of Section 313 water priority chemicals to waters of the United States shall be immediately taken or the unit or process shut down until such action can be taken. When a leak or noncontainment of a Section 313 water priority chemical has occurred, contaminated soil, debris, or other material must be promptly removed and disposed in accordance with Federal, State, and local requirements and as described in the plan.

(8) Facility Security. Facilities shall have the necessary security systems to prevent accidental or intentional entry that could cause a discharge. Security systems described in the plan shall address fencing, lighting, vehicular traffic control, and securing of equipment and buildings.

(9) Training. Facility employees and contractor personnel that work in areas where Section 313 water priority chemicals are used or stored shall be trained in and informed of preventive measures at the facility. Employee training shall be conducted at intervals specified in the plan, but not less than once per year. Training shall address: pollution control laws and regulations, the storm water pollution prevention plan and the particular features of the facility and its operation that are designed to minimize discharges of Section 313 water priority chemicals. The plan shall designate a person who is accountable for spill prevention at the facility and who will set up the necessary spill emergency procedures and reporting requirements so that spills and emergency releases of Section 313 water priority chemicals can be isolated and contained before a discharge of a Section 313 water priority chemical can occur. Contractor or temporary personnel shall be informed of facility operation and design features in order to prevent discharges or spills from occurring.

c. Facilities subject to reporting requirements under EPCRA Section 313 for chemicals that are classified as ''Section 313 water priority chemicals'' in accordance with the definition in Part X. of this permit that are handled and stored onsite only in gaseous or non-soluble liquid or solid (at atmospheric pressure and temperature) forms may provide a certification as such in the pollution prevention plan in lieu of the additional requirements in Part IV.E.2. Such certification shall include a narrative description of all water priority chemicals and the form in which they are handled and stored, and shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

d. The storm water pollution prevention plan shall be certified in accordance with Section VII.G (Signatory Requirements) of this permit.

3. Additional Requirements for Salt Storage. Storage piles of salt used for deicing or other commercial or industrial purposes and that generate a storm water discharge associated with industrial activity that is discharged to waters of the United States shall be enclosed or covered to prevent exposure to precipitation, except for exposure resulting from adding or removing materials from the pile. Dischargers shall demonstrate compliance with this provision as expeditiously as practicable, but in no event later than [insert date 3 years after permit finalization]. Dischargers with previous coverage under the Baseline general permit for storm water shall be compliant with this provision upon submittal of the NOI. Piles do not need to be enclosed or covered where storm water from the pile is not discharged to waters of the United States.

4. Consistency With Other Plans. Storm water pollution prevention plans may reference the existence of other plans for Spill Prevention Control and Countermeasure (SPCC) plans developed for the facility under Section 311 of the CWA or Best Management Practices (BMP) Programs otherwise required by an NPDES permit for the facility as long as such requirement is incorporated into the storm water pollution prevention plan.

V. Numeric Effluent Limitations

A. Discharges Associated With Specific Industrial Activity

Numeric effluent limitations for storm water discharges associated with a specific industrial activity are described in Part XI. of this permit.

B. Coal Pile Runoff

Any discharge composed of coal pile runoff shall not exceed a maximum concentration for any time of 50 mg/L total suspended solids. Coal pile runoff shall not be diluted with storm water or other flows in order to meet this limitation. The pH of such discharges shall be within the range of 6.0 to 9.0. Runoff from coal piles located at steam electric generating facilities shall be in compliance with these limits upon submittal of the Notice of Intent (NOI). Runoff from coal piles at all other types of facilities shall comply with these limitations as expeditiously as practicable, but in no case later than [insert date 3 years after permit finalization]. Dischargers with previous coverage under the Baseline general permit for storm water shall be compliant with this provision upon submittal of the NOI. Any untreated overflow from facilities designed, constructed and operated to treat the volume of coal pile runoff that is associated with a 10-year, 24-hour rainfall event shall not be subject to the 50 mg/L limitation for total suspended solids.

VI. Monitoring and Reporting Requirements

A. Monitoring Requirements

1. Limitations on Monitoring Requirements. a. Except as required by paragraph b., only those facilities with discharges or activities identified in Part VI.C. and Part XI. are required to conduct sampling of their storm water discharges associated with industrial activity. Monitoring requirements under parts VI.C. and XI. are additive. Facilities with discharges or activities described in more than one monitoring section are subject to all applicable monitoring requirements from each section.

b. The Director can provide written notice to any facility otherwise exempt from the sampling requirements of Parts VI.C. and XI. that it shall conduct discharge sampling for a specific monitoring frequency for specific parameters.

B. Reporting: Where To Submit

1. Location. Signed copies of discharge monitoring reports required under Parts XI. and VI.C., individual permit applications, and all other reports required herein, shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office:

a. CT, MA, ME, NH, RI, VT
EPA, Region I, Water Management Division, (WCP), Storm Water Staff, JFK Federal Building, Boston, MA 02203

b. PR
EPA, Region II, Water Management Division, (2WM–WPC), Storm Water Staff, 290 Broadway, New York, NY 10007–1866

c. DE, DC
EPA, Region III, Water Management Division, (3WM55), Storm Water Staff, 841 Chestnut Building, Philadelphia, PA 19107

d. FL
EPA, Region IV, Water Management Division, Permits Section (WPEB–7), 345 Courtland Street, NE., Atlanta, GA 30365

e. LA, NM (except see Region IX for Navajo lands), OK, TX
EPA, Region VI, Enforcement and Compliance Assurance Division (GEN–WC), EPA SW MSGP, First Interstate Bank Tower at Fountain Place, P.O. Box 50625, Dallas, TX 75205

f. AZ, CA, NV, Johnson Atoll, Midway Island, Wake Island, the Goshute Reservation in UT and NV, the Navajo Reservation in UT, NM, and AZ, the Fort McDermitt Reservation *in OR, the Duck Valley Reservation in NV and ID*

EPA, Region IX, Water Management Division, (W–5–3), Storm Water Staff, 75 Hawthorne Street, San Francisco, CA 94105

g. AK Indian Reservations, ID (except see Region IX for Duck Valley Reservation lands), OR (except see Region IX for Fort McDermitt Reservation lands), WA

EPA, Region X, Water Division, (WD–134), Storm Water Staff, 1200 Sixth Avenue, Seattle, WA 98101

For each outfall, one Discharge Monitoring Report form must be submitted per storm event sampled.

2. Additional Notification. In addition to filing copies of discharge monitoring reports in accordance with Part VI.B. (Reporting: Where to Submit), facilities with at least one storm water discharge associated with industrial activity through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) or a municipal system designated by the Director must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in Part XI. Facilities not required to report monitoring data under Part XI. and facilities that are not otherwise required to monitor their discharges, need not comply with this provision.

C. Special Monitoring Requirements for Coal Pile Runoff

During the period beginning on the effective date and lasting through the expiration date of this permit, permittees with storm water discharges containing coal pile runoff shall monitor such storm water for: pH and TSS (mg/l) at least annually (1 time per year). Permittees with discharges containing coal pile runoff must report in accordance with Part V.B (Numeric Effluent Limitations) and Part VI.B. (Reporting: Where to Submit). In addition to the parameters listed above, the permittee shall provide the date and duration (in hours) of the storm event(s) samples; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event samples and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge samples.

1. Sample Type. For discharges containing coal pile runoff from holding ponds or other impoundments with a retention period greater than 24 hours (estimated by dividing the volume of the detention pond by the estimated volume of water discharged during the 24 hours previous to the time that the sample is collected), a minimum of one grab sample may be taken. For all other discharges containing coal pile runoff, data shall be reported for a grab sample. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable.

2. Sampling Waiver. When a discharger is unable to collect samples of coal pile runoff due to adverse climatic conditions, the discharger shall collect a substitute sample from a separate qualifying event in the next period and submit this data along with the data for the routine sample in that period. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

3. Representative Discharge. When a facility has two or more outfalls containing coal pile runoff that, based on a consideration of the other industrial activity, and significant materials, and upon management practices and activities within the area drained by the outfall, and the permittee reasonably believes substantially identical effluents are discharged, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfalls provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area (e.g., low (under 40 percent), medium (40 to 65 percent) or high (above 65 percent)) shall be provided in the plan. Permittees required to submit monitoring information under Part VIII. of this permit shall include the description of the location of the outfalls, explanation of why outfalls are expected to discharge substantially identical effluents, and estimate of the size of the drainage area and runoff coefficient with the Discharge Monitoring Report. This representative discharge provision is not applicable to storm water discharges from coal piles regulated under the national effluent limitations guidelines.

4. Alternative Certification. Facilities with storm water discharges containing coal pile runoff may not submit alternative certification in lieu of the required monitoring data.

5. When to Submit. Permittees with discharges containing coal pile runoff shall submit monitoring results annually no later than the 28th day of [insert month following permit finalization].

VII. Standard Permit Conditions

A. Duty to Comply

1. Permittee's Duty to Comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

2. Penalties for Violations of Permit Conditions.

a. Criminal.

(1) Negligent Violations. The CWA provides that any person who negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or both.

(2) Knowing Violations. The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or both.

(3) Knowing Endangerment. The CWA provides that any person who

knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act and who knows at that time that he is placing another person in imminent danger of death or serious bodily injury is subject to a fine of not more than $250,000, or by imprisonment for not more than 15 years, or both.

(4) False Statement. The CWA provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act or who knowingly falsifies, tampers with, or renders inaccurate, any monitoring device or method required to be maintained under the Act, shall upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than 2 years, or by both. If a conviction is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or by both. (See Section 309(c)(4) of the Clean Water Act).

b. Civil Penalties. The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed $25,000 per day for each violation.

c. Administrative Penalties. The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to an administrative penalty, as follows:

(1) Class I Penalty. Not to exceed $10,000 per violation nor shall the maximum amount exceed $25,000.

(1) Class II Penalty. Not to exceed $10,000 per day for each day during which the violation continues nor shall the maximum amount exceed $125,000.

B. Continuation of the Expired General Permit

This permit expires on [insert date 5 years after permit finalization]. However, an expired general permit continues in force and effect until a new general permit is issued. Permittees that choose, or are required, to obtain an individual permit must submit an application (Forms 1 and 2F and any other applicable forms) 180 days prior to expiration of this permit. Permittees that are eligible and choose to be covered by a new general permit must submit an NOI by the date specified in that permit.

C. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

E. Duty to Provide Information

The permittee shall furnish to the Director, within a time specified by the Director, any information that the Director may request to determine compliance with this permit. The permittee shall also furnish to the Director upon request, copies of records required to be kept by this permit.

F. Other Information

When the permittee becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the NOI or in any other report to the Director, he or she shall promptly submit such facts or information.

G. Signatory Requirements

All Notices of Intent, Notices of Termination, storm water pollution prevention plans, reports, certifications or information either submitted to the Director (and/or the operator of a large or medium municipal separate storm sewer system), or that this permit requires be maintained by the permittee, shall be signed.

1. Signature. All reports required by the permit and other information requested by the Director shall be signed as follows:

a. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (1) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or (2) the manager of one or more manufacturing, production or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25,000,000 (in second-quarter 1980 dollars) if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

c. For a municipality, State, Federal, or other public facility: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (1) the chief executive officer of the agency, or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. Authorized Representative. All reports required by the permit and other information requested by the Director shall be signed by a person described in Section VII.G.1. above or be signed by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described above and submitted to the Director.

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position).

c. Changes to Authorization. If an authorization under paragraph VII.G.2. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new NOI satisfying the requirements of paragraph II.B. (Contents of NOI) must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

d. Certification. Any person signing documents under this section shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

H. Penalties for Falsification of Reports

Section 309(c)(4) of the Clean Water Act provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or by both.

I. Penalties for Falsification of Monitoring Systems

The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by fines and imprisonment described in Section 309 of the CWA.

J. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the CWA or Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).

K. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

L. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

M. Requiring an Individual Permit or an Alternative General Permit

1. Director Designation. The Director may require any person authorized by this permit to apply for and/or obtain either an individual NPDES permit or an alternative NPDES general permit. Any interested person may petition the Director to take action under this paragraph. The Director may require any owner or operator authorized to discharge under this permit to apply for an individual NPDES permit only if the owner or operator has been notified in writing that a permit application is required. This notice shall include a brief statement of the reasons for this decision, an application form, a statement setting a deadline for the owner or operator to file the application, and a statement that on the effective date of issuance or denial of the individual NPDES permit or the alternative general permit as it applies to the individual permittee, coverage under this general permit shall automatically terminate. Individual permit applications shall be submitted to the address of the appropriate Regional Office shown in Part VI.B. (Reporting: Where to Submit) of this permit. The Director may grant additional time to submit the application upon request of the applicant. If an owner or operator fails to submit in a timely manner an individual NPDES permit application as required by the Director, then the applicability of this permit to the individual NPDES permittee is automatically terminated at the end of the day specified for application submittal.

2. Individual Permit Application. Any owner or operator authorized by this permit may request to be excluded from the coverage of this permit by applying for an individual permit. The owner or operator shall submit an individual application (Form 1 and Form 2F) with reasons supporting the request to the Director. Individual permit applications shall be submitted to the address of the appropriate Regional Office shown in Part VI.B. of this permit. The request may be granted by the issuance of any individual permit or an alternative general permit if the reasons cited by the owner or operator are adequate to support the request.

3. Individual/Alternative General Permit Issuance. When an individual NPDES permit is issued to an owner or operator otherwise subject to this permit, or the owner or operator is authorized for coverage under an alternative NPDES general permit, the applicability of this permit to the individual NPDES permittee is automatically terminated on the effective date of the individual permit or the date of authorization of coverage under the alternative general permit, whichever the case may be. When an individual NPDES permit is denied to an owner or operator otherwise subject to this permit, or the owner or operator is denied for coverage under an alternative NPDES general permit, the applicability of this permit to the individual NPDES permittee is automatically terminated on the date of such denial, unless otherwise specified by the Director.

N. State/Environmental Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Act.

No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations.

O. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit and with the requirements of storm water pollution prevention plans. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by a permittee only when necessary to achieve compliance with the conditions of the permit.

P. Monitoring and Records

1. Representative Samples/ Measurements. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

2. Retention of Records.

a. The permittee shall retain records of all monitoring information, copies of all reports required by this permit, and records of all data used to complete the application of this permit for a period of at least three (3) years from the date of sample, measurement, evaluation or inspection, report, or application. This period may be extended by request of the Director at any time. Permittees must submit any such records to the Director upon request.

b. The permittee shall retain the pollution prevention plan developed in accordance with Parts IV. and XI. of this permit until a date 3 years after the last modification or amendment is made to the plan, and at least 1 year after coverage under this permit terminates.

3. Records Contents. Records of monitoring information shall include:

a. The date, exact place, and time of sampling or measurements;

b. The initials or name(s) of the individual(s) who performed the sampling or measurements;

c. The date(s) analyses were performed;

d. The time(s) analyses were initiated;

e. The initials or name(s) of the individual(s) who performed the analyses;

f. References and written procedures, when available, for the analytical techniques or methods used; and

g. The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results.

4. Approved Monitoring Methods. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

Q. Inspection and Entry

The permittee shall allow the Director or an authorized representative of EPA, the State environmental agency, or, in the case of a facility that discharges through a municipal separate storm sewer, an authorized representative of the municipal operator or the separate storm sewer receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to: enter upon the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit; have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and inspect at reasonable times any facilities or equipment (including monitoring and control equipment).

R. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

S. Bypass of Treatment Facility

1. Notice.

a. Anticipated Bypass. If a permittee subject to the numeric effluent limitations of Parts V. and XI. of this permit knows in advance of the need for a bypass, he or she shall submit prior notice, if possible, at least 10 days before the date of the bypass; including an evaluation of the anticipated quality and effect of the bypass.

b. Unanticipated Bypass. The permittee subject to the numeric effluent limitations of Parts V. and XI. of this permit shall submit notice of an unanticipated bypass. Any information regarding the unanticipated bypass shall be provided orally within 24 hours from the time the permittee became aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee became aware of the circumstances. The written submission shall contain a description of the bypass and its cause; the period of the bypass; including exact dates and times, and if the bypass has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass.

2. Prohibition of Bypass.

a. Bypass is prohibited and the Director may take enforcement action against a permittee for a bypass. Unless:

(1) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(2) There were no feasible alternatives to the bypass, such as the use of auxiliary facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the permittee should, in the exercise of reasonable engineering judgement, have installed adequate backup equipment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and

(3) The permittee submitted notices of the bypass.

b. The Director may approve an anticipated bypass after considering its adverse effects, if the Director determines that it will meet the three conditions listed in Part VII.S.2.a.

T. Upset Conditions

1. Affirmative Defense. An upset constitutes an affirmative defense to an action brought for noncompliance with technology-based numeric effluent limitations in Parts V. and XI. of this permit if the requirements of paragraph 2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

2. Required Defense. A permittee who wishes to establish the affirmative defense of an upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence, that:

a. An upset occurred and that the permittee can identify the specific cause(s) of the upset:

b. The permitted facility was at the time being properly operated; and

c. The permittee provided oral notice of the upset to EPA within 24 hours from the time the permittee became aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee became aware of the circumstances. The written submission shall contain a description of the upset and its cause; the period of the upset; including exact dates and times, and if the upset has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the upset.

3. Burden of Proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

VIII. Reopener Clause

A. Potential or Realized Impacts on Water Quality

If there is evidence indicating potential or realized impacts on water quality or on a listed endangered species due to any storm water discharge associated with industrial activity covered by this permit, the owner or operator of such discharge may be required to obtain an individual permit or an alternative general permit in accordance with Part VII.M. (Requiring an Individual Permit or an Alternative General Permit) of this permit or the permit may be modified to include different limitations and/or requirements.

B. Applicable Regulations

Permit modification or revocation will be conducted according to 40 CFR 122.62, 122.63, 122.64, and 124.5.

IX. Termination of Coverage

A. Notice of Termination

Where all storm water discharges associated with industrial activity that are authorized by this permit are eliminated, or where the operator of storm water discharges associated with industrial activity at a facility changes, the operator of the facility may submit a Notice of Termination that is signed in accordance with Part VII.G. (Signatory Requirements) of this permit. The Notice of Termination shall include the following information:

1. Facility Information. Name, mailing address, and location of the facility for which the notification is submitted.Describe the location of the approximate center of the site in terms of the latitude and longitude to the nearest 15 seconds, or the section, township and range to the nearest quarter section;

2. Operator Information. The name, address, and telephone number of the operator addressed by the Notice of Termination;

3. Permit Number. The NPDES permit number for the storm water discharge associated with industrial activity identified by the Notice of Termination;

4. Reason for Termination. An indication of whether the storm water discharges associated with industrial activity have been eliminated or the operator of the discharges has changed; and

5. Certification. The following certification signed in accordance with Part VII.G. (Signatory Requirements) of this permit:

I certify under penalty of law that all storm water discharges associated with industrial activity from the identified facility that are authorized by an NPDES general permit have been eliminated or that I am no longer the operator of the industrial activity. I understand that by submitting this notice of termination, that I am no longer authorized to discharge storm water associated with industrial activity under this general permit, and that discharging pollutants in storm water associated with industrial activity to waters of the United States is unlawful under the Clean Water Act where the discharge is not authorized by an NPDES permit. I also understand that the submittal of this notice of termination does not release an operator from liability for any violations of this permit or the Clean Water Act.

B. Addresses

All Notices of Termination are to be sent, using the form provided by the Director (or a photocopy thereof),[2] to the Director of the NPDES program at the following address: Storm Water Notice of Termination (4203), 401 M Street, S.W., Washington, D.C. 20460.

X. Definitions

Best Management Practices (''BMPs'') means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

Coal pile runoff means the rainfall runoff from or through any coal storage pile

[2] A copy of the approved NOT form is provided in Addendum C of this notice.

Co-located industrial activity means when a facility has industrial activities being conducted onsite that are described under more than one of the coverage sections of Part XI in this permit (Discharges Covered Under This Section). Facilities with co-located industrial activities shall comply with all applicable monitoring and pollution prevention plan requirements of each section in which a co-located industrial activity is described.

CWA means Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972).

Commercial Treatment and Disposal Facilities means facilities that receive, on a commercial basis, any produced hazardous waste (not their own) and treat or dispose of those wastes as a service to the generators. Such facilities treating and/or disposing exclusively residential hazardous wastes are not included in this definition.

Director means the Regional Administrator or an authorized representative.

Flow-weighted composite sample means a composite sample consisting of a mixture of aliquots collected at a constant time interval, where the volume of each aliquot is proportional to the flow rate of the discharge.

Landfill means an area of land or an excavation in which wastes are placed for permanent disposal, and that is not a land application unit, surface impoundment, injection well, or waste pile.

Land application unit means an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for treatment or disposal.

Large and medium municipal separate storm sewer system means all municipal separate storm sewers that are either:

(i) located in an incorporated place (city) with a population of 100,000 or more as determined by the latest Decennial Census by the Bureau of Census (these cities are listed in Appendices F and G of 40 CFR Part 122); or

(ii) located in the counties with unincorporated urbanized populations of 100,000 or more, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties (these counties are listed in Appendices H and I of 40 CFR Part 122); or

(iii) owned or operated by a municipality other than those described in paragraph (i) or (ii) and that are designated by the Director as part of the large or medium municipal separate storm sewer system.

NOT means notice of termination (see Part IX.A. of this permit.)

Point source means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

Section 313 water priority chemical means a chemical or chemical categories that: (1) Are listed at 40 CFR 372.65 pursuant to Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) (also known as Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986); (2) are present at or above threshold levels at a facility subject to EPCRA Section 313 reporting requirements; and (3) meet at least one of the following criteria: (i) are listed in Appendix D of 40 CFR Part 122 on either Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols) or Table V (certain toxic pollutants and hazardous substances); (ii) are listed as a hazardous substance pursuant to Section 311(b)(2)(A) of the CWA at 40 CFR 116.4; or (iii) are pollutants for which EPA has published acute or chronic water quality criteria. See Addendum A of this permit. This addendum was revised based on final rulemaking EPA published in the Federal Register November 30, 1994.

Significant materials includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of CERCLA; any chemical the facility is required to report pursuant to EPCRA Section 313; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

Significant spills includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (see 40 CFR 110.10 and CFR 117.21) or Section 102 of CERCLA (see 40 CFR 302.4).

Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage.

Storm water associated with industrial activity means the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program. For the categories of industries identified in paragraphs (i) through (x) of this definition, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at 40 CFR Part 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the categories of industries identified in paragraph (xi) of this definition, the term includes only storm water discharges from all areas (except access roads and rail lines) listed in the previous sentence where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water. For the purposes of this paragraph, material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are Federally, State, or municipally owned or operated that meet the description of the facilities listed in paragraphs (i) to (xi) of this definition) include those facilities designated under 122.26(a)(1)(v). The following categories of facilities are considered to be engaging in ''industrial activity'' for purposes of this subsection:

(i) Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR Subchapter N (except facilities with toxic pollutant effluent standards that are exempted under category (xi) of this definition);

(ii) Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28 (except 283 and 285), 29, 311, 32 (except 323), 33, 3441, 373;

(iii) Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under 40 CFR 434.11(l) because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or except for areas of noncoal mining operations that have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations; inactive mining operations are mining sites that are not being actively mined, but that have an identifiable owner/operator;

(iv) Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under Subtitle C of RCRA;

(v) Landfills, land application sites, and open dumps that have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under Subtitle D of RCRA;

(vi) Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093;

(vii) Steam electric power generating facilities, including coal handling sites;

(viii) Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221–25), 43, 44, 45 and 5171 that have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or that are otherwise identified under paragraphs (i) to (vii) or (ix) to (xi) of this subsection are associated with industrial activity;

(ix) Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR Part 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and that are not physically located in the confines of the facility, or areas that are in compliance with 40 CFR Part 503;

(x) Construction activity including clearing, grading and excavation activities except: operations that result in the disturbance of less than 5 acres of total land area that are not part of a larger common plan of development or sale;

(xi) Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221–25, (and that are not otherwise included within categories (i) to (x)).[3]

Time-weighted composite means a composite sample consisting of a mixture of equal volume aliquots collected at a constant time interval.

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with the numeric effluent limitations of Parts V. and XI. of this permit because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

Waste pile means any noncontainerized accumulation of solid, nonflowing waste that is used for treatment or storage.

Waters of the United States means:

[3] On June 4, 1992, the United States Court of Appeals for the Ninth Circuit remanded the exclusion for manufacturing facilities in category (xi) that do not have materials or activities exposed to storm water to the EPA for further rulemaking. (Nos. 90–70671 and 91–70200.)

a. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide;

b. All interstate waters, including interstate wetlands;

c. All other waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

1. That are or could be used by interstate or foreign travelers for recreational or other purposes;

2. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

3. That are used or could be used for industrial purposes by industries in interstate commerce;

d. All impoundments of waters otherwise defined as waters of the United States under this definition;

e. Tributaries of waters identified in paragraphs (a) through (d) of this definition;

f. The territorial sea; and

g. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

(Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA are not waters of the United States.)

Specific Requirements for Industrial Activities

A. Storm Water Discharges Associated With Industrial Activity From Timber Products Facilities

1. Discharges Covered Under This Section. The requirements listed under this section shall apply to storm water discharges from the following activities: establishments [generally classified under Standard Industrial Classification (SIC) Major Group 24] that are engaged in cutting timber and pulpwood, merchant sawmills, lath mills, shingle mills, cooperage stock mills, planing mills, and plywood and veneer mills engaged in producing lumber and wood basic materials; and establishments engaged in wood preserving or in manufacturing finished articles made entirely of wood or related materials, except for wood kitchen cabinet manufacturers (SIC Code 2434), which are addressed under Part XI.W. of this permit.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. *Special Conditions.*

a. *Prohibition of Non-storm Water Discharges.*

(1) Discharges of boiler blowdown and water treatment wastewaters, noncontact and contact cooling waters, wash down waters from treatment equipment, and storm water that has come in contact with areas where spraying of chemical formulations designed to provide surface protection, to waters of the United States, or through municipal separate storm sewer systems are not authorized by this permit. The operators of such discharges must obtain coverage under a separate NPDES discharge permit.

(2) In addition to the discharges described in part III.A.2., the following non-storm water discharges may be authorized by this permit provided the non-storm water component of the discharge is in compliance with paragraph XI.A.3.a.(3)(g)(i) (Measures and Controls for Non-storm Water Discharges): discharges from the spray down of lumber and wood product storage yards where no chemical additives are used in the spray down waters and no chemicals are applied to the wood during storage.

3. Storm Water Pollution Prevention Plan Requirements.

a. Contents of Plan. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources that may reasonably be expected to add significant amounts of pollutants to storm water discharges or that may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials that may potentially be significant pollutant sources. Each plan shall include, at a minimum:

(a) Drainage.

(i) A site map indicating the location of outfalls covered by the permit, the types of discharges contained in the drainage areas of the outfalls, an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies, locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under Part XI.A.3.a.(2)(c) (Spills and Leaks) of this permit have occurred, and the locations of the following activities where such activities are exposed to precipitation: fueling stations; vehicle and equipment maintenance and/or cleaning areas; loading/unloading areas; material handling areas; locations used for the treatment, storage, or disposal of wastes; liquid storage tanks; processing areas; treatment chemical storage areas; treated wood and residue storage areas; wet decking areas; dry decking areas; untreated wood and residue storage areas; and treatment equipment storage areas.

(ii) For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants that are likely to be present in storm water discharges associated with industrial activity. Factors to consider include the toxicity of chemicals; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

(b) Inventory of Exposed Materials—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative

description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives. The inventory of exposed materials shall include, but shall not be limited to the significant materials stored exposed to storm water and material management practices employed that were listed for the facility in the approved group application. Where information is available, facilities that have used chlorophenolic, creosote, or chromium-copper-arsenic formulations for wood surface protection or wood preserving activities onsite in the past should identify in the inventory the following: areas where contaminated soils, treatment equipment, and stored materials still remain and management practices employed to minimize the contact of these materials with storm water runoff.

(c) Spills and Leaks—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of submission of a Notice of Intent (NOI) to be covered under this permit. Such list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(e) Risk Identification and Summary of Potential Pollutant Sources—A narrative description of the potential pollutant sources from the following activities: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; significant dust or particulate generating processes; and onsite waste disposal practices. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any specific pollutant or pollutant parameter (e.g., total suspended solids, biochemical oxygen demand, chemical oxygen demand, oil and grease, arsenic, copper, chromium, pentachlorophenol, other specific metals, toxicity, etc.) of concern shall be identified.

(3) Measures and Controls. Each facility covered by this permit shall develop a description of storm water best management practices (BMPs) and controls appropriate for the facility and implement such controls. The appropriateness of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following areas of the site: log, lumber and other wood product storage areas; residue storage areas, loading and unloading areas; material handling areas; chemical storage areas; and equipment/vehicle maintenance, storage and repair areas. Facilities that surface protect and/or preserve wood products should address specific BMPs for wood surface protection and preserving activities. The pollution prevention plan should address the following minimum components, including a schedule for implementing such controls:

(a) Good Housekeeping—Good housekeeping requires the maintenance of areas that may contribute pollutants to storm water discharges in a clean, orderly manner. Good housekeeping measures in storage areas, loading and unloading areas, and material handling areas should be designed to: 1) limit the discharge of wood debris; 2) minimize the leachate generated from decaying wood materials; and 3) minimize the generation of dust.

(b) Preventive Maintenance—A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems. Periodic removal of debris from ditches, swales, diversions, containment basins, sediment ponds and infiltration measures should be performed to limit discharges of solids and to maintain the effectiveness of the controls.

(c) Spill Prevention and Response Procedures—Areas where potential spills that can contribute pollutants to storm water discharges can occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a cleanup should be available to personnel. Response schedules should be developed to limit tracking of spilled materials to other areas of the site. Leaks or spills of wood surface protection or preservation chemicals shall be cleaned up immediately in accordance with applicable RCRA regulations at 40 CFR Part 264 and 40 CFR Part 265.

(d) Inspections—In addition to or as part of the comprehensive site evaluation required under paragraph XI.A.3.a.(4) of this section, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility at appropriate intervals specified in the plan. Operators of facilities are required to conduct quarterly visual inspections of BMPs. The inspections shall include: 1) an assessment of the integrity of storm water discharge diversions, conveyance systems, sediment control and collection systems, and containment structures; 2) visual inspection of sediment and erosion BMPs to determine if soil erosion has occurred; and 3) visual inspections of storage areas and other potential sources of pollution for evidence of actual or potential pollutant discharges of contaminated storm water.

Material handling, and unloading and loading areas should be inspected daily whenever industrial activities occur in those areas. If no activities are occurring, no inspection is required.

Inspections at processing areas, transport areas, and treated wood storage areas of facilities performing wood surface protection and preservation activities should be performed monthly to assess the usefulness of practices in minimizing drippage of treatment chemicals on unprotected soils and in areas that will come in contact with storm water discharges.

A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained.

(e) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management

at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The pollution prevention plan shall identify periodic dates for such training.

(f) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

(g) Non-storm Water Discharges.

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit that receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with paragraph XI.A.3.a.(3)(g)(iii) (below).

(ii) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2. (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) Failure to Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 270 days after permit issuance] or, for facilities that begin to discharge storm water associated with industrial activity after [Insert date of permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States that are not authorized by an NPDES permit are unlawful, and must be terminated.

(h) Sediment and Erosion Control—The plan shall identify areas that, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion. When developing the plan, the following areas of the site should be considered: loading and unloading areas, access roads, material handling areas, storage areas, and any other areas where heavy equipment and vehicle use is prevalent. The following erosion and sediment controls shall be considered to minimize the discharge of sediments from the site: stabilization measures such as seeding, mulching, contouring, porous pavement, paving and sodding or its equivalent and structural measures such as sediment traps and silt fences or other equivalent measures.

(i) Management of Runoff—The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those that control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity [see paragraph XI.A.3.a.(2) of this section (Description of Potential Pollutant Sources)] shall be considered when determining reasonable and appropriate measures. Appropriate measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices or other equivalent measures.

(4) Comprehensive Site Compliance Evaluation. Personnel knowledgeable about storm water management as it relates to the facility shall conduct site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year. Such evaluations shall include the following:

(a) Areas contributing to a storm water discharge associated with industrial activity such as loading/unloading areas, material handling areas, locations used for the treatment, storage or disposal of wastes, liquid storage tanks, processing areas, treatment chemical storage areas, treated wood and residue storage areas, wet decking areas, dry decking areas, untreated wood and residue storage areas, and treatment equipment storage areas shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with paragraph XI.A.3.a.(2) of this section (Description of Potential Pollutant Sources) and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.A.3.a.(3) of this section (Measures and Controls) shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.A.3.a.(4)(b) (above) of the permit shall be made and retained as part of the

storm water pollution prevention plan for at least 3 years from the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under 3.a.(3)(d), the compliance evaluation may be conducted in place of one such inspection.

4. Numeric Effluent Limitations. There are no additional numeric effluent limitations beyond those described in Part V.B. of this permit.

5. Monitoring and Reporting Requirements.

a. Analytical Monitoring Requirements. During the period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] and the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance], permittees with timber product facilities must monitor their storm water discharges associated with industrial activity at least quarterly (4 times per year) during years 2 and 4 except as provided in paragraphs 5.a.(3) (Sampling Waiver), 5.a.(4) (Representative Discharge), and 5.a.(5) (Alternative Certification). Timber product facilities are required to monitor their storm water discharges for the pollutants of concern listed in the appropriate table (Tables A–1, A–2, A–3 or A–4). Facilities must report in accordance with 5.b. (Reporting). In addition to the parameters listed in Tables A–1, A–2, A–3 and A–4 below, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

TABLE A–1.—MONITORING REQUIREMENTS FOR GENERAL SAWMILLS AND PLANNING MILLS FACILITIES

Pollutants of concern	Monitoring cut-off concentration
Chemical Oxygen Demand	120.0 mg/L
Total Suspended Solids	100 mg/L
Total Recoverable Zinc, ...	0.065 mg/L

TABLE A–2.—MONITORING REQUIREMENTS FOR WOOD PRESERVING FACILITIES

Pollutant of concern	Monitoring cut-off concentration
Total Recoverable Arsenic	0.16854 mg/L
Total Recoverable Copper	0.0636 mg/L

TABLE A–3.—MONITORING FOR LOG STORAGE AND HANDLING FACILITIES

Pollutant of concern	Monitoring cut-off concentration
Total Suspended Solids	100 mg/L

TABLE A–4.—MONITORING REQUIREMENTS FOR HARDWOOD DIMENSION AND FLOORING MILLS; SPECIAL PRODUCTS SAWMILLS, NOT ELSEWHERE CLASSIFIED; MILLWORK, VENEER, PLYWOOD AND STRUCTURAL WOOD; WOOD CONTAINERS; WOOD BUILDINGS AND MOBILE HOMES; RECONSTITUTED WOOD PRODUCTS; AND WOOD PRODUCTS FACILITIES NOT ELSEWHERE CLASSIFIED

Pollutants of concern	Monitoring cut-off concentration
Chemical Oxygen Demand	120 mg/L
Total Suspended Solids	100 mg/L

(1) Monitoring Periods. Facilities required to perform monitoring shall monitor samples collected during the sampling periods of: January through March, April through June, July through September, and October through December for the years specified in paragraph a. (above).

(2) Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

(3) Sampling Waiver.

(a) Adverse Conditions—When a discharger is unable to collect samples within a specified sampling period due to adverse climatic conditions, the discharger shall collect a substitute sample from a separate qualifying event in the next monitoring period and submit the data along with the data for the routine sample in that period. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous or inaccessible conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(b) Low Concentration Waiver—When the average concentration for a pollutant calculated from all monitoring data collected from an outfall during the monitoring period [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] is less than the corresponding value for that pollutant listed in Table A–1 under the column Monitoring Cut-off Concentration, a facility may waive monitoring and reporting requirements in the monitoring period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance]. The facility must submit to the Director, in lieu of the monitoring data, a certification that there has not been a significant change in industrial activity or the pollution prevention measures in area of the facility that drains to the outfall for which sampling was waived.

(c) When a discharger is unable to conduct quarterly chemical storm water sampling at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirements as long as the facility remains inactive and unstaffed. The facility must submit to the Director, in lieu of monitoring data, a certification statement on the DMR stating that the site is inactive and unstaffed so that collecting a sample during a qualifying event is not possible.

(4) Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan. The permittee shall include the description of the location of the outfalls, explanation of why outfalls are expected to discharge substantially identical effluents, and estimate of the size of the drainage area and runoff coefficient with the Discharge Monitoring Report.

(5) Alternative Certification. A discharger is not subject to the monitoring requirements of this section provided the discharger makes a certification for a given outfall, or on a pollutant-by-pollutant basis in lieu of monitoring reports required under paragraph (*b*) below, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, or significant materials from past industrial activity that are located in areas of the facility within the drainage area of the outfall are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan, and submitted to EPA in accordance with Part VI.C. of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph (*b*) below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations.

(b). Reporting. Permittees shall submit monitoring results for each outfall associated with industrial activity [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the reporting period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March [insert the date 2 years after permit issuance]. Monitoring results [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance] shall be submitted on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March. For each outfall, one signed Discharge Monitoring Report form must be submitted to the Director per storm event sampled. Signed copies of Discharge Monitoring Reports, or said certifications, shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office listed in Part VI.G. of the fact sheet to this permit.

(1) Additional Notification. In addition to filing copies of discharge monitoring reports in accordance with paragraph b (above), facilities engaged in wood preservation and/or surface protection with at least one storm water discharge associated with industrial activity through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in paragraph b (above).

c. Quarterly Visual Examination of Storm Water Quality. All timber products facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination(s) must be made at least once in each of the following three-month periods: January through March, April through June, July through September, and October through December. The examination shall be made during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(1) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examination shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for the entire permit term.

(2) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(3) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an

estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(4) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(5) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

B. Storm Water Discharges Associated With Industrial Activity From Paper And Allied Products Manufacturing Facilities

1. Discharges Covered Under This Section. The requirements listed under this section shall apply to storm water discharges from the following activities: facilities engaged in the manufacture of pulps from wood and other cellulose fibers and from rags; the manufacture of paper and paperboard into converted products, such as paper coated off the paper machine, paper bags, paper boxes and envelopes; and establishments primarily engaged in manufacturing bags of plastic film and sheet. These facilities are commonly identified by Standard Industrial Classification (SIC) Major Group 26.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Special Conditions.

a. Prohibition of Non-storm Water Discharges. There are no additional requirements beyond those in Part III.A. of this permit.

3. Storm Water Pollution Prevention Plan Requirements.

a. Contents of Plan. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources that may reasonably be expected to add significant amounts of pollutants to storm water discharges or that may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials that may potentially be significant pollutant sources. Each plan shall include, at a minimum:

(a) Drainage.

(i) A site map indicating an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies, locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under Part XI.B.3.a.(2)(c) (Spills and Leaks) of this permit have occurred, and the locations of the following activities where such activities are exposed to precipitation: fueling stations, vehicle and equipment maintenance and/or cleaning areas, loading/unloading areas, locations used for the treatment, storage or disposal of wastes and wastewaters, locations used for the treatment, filtration, or storage of water supplies, liquid storage tanks, processing areas, and storage areas. The map must indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls.

(ii) For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants that are likely to be present in storm water discharges associated with industrial activity. Factors to consider include the toxicity of chemical; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

(b) Inventory of Exposed Materials—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives. The inventory of exposed materials shall include, but shall not be limited to the significant materials stored exposed to storm water and material management practices employed that were listed for the facility in the approved group application.

(c) Spills and Leaks—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of submission of a Notice of Intent (NOI) to be covered under this permit. Such list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—A summary of existing discharge sampling data describing pollutants in storm water

discharges from the facility, including a summary of sampling data collected during the term of this permit.

(e) Risk Identification and Summary of Potential Pollutant Sources—A narrative description of the potential pollutant sources from the following activities: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; significant dust or particulate generating processes; and onsite waste disposal practices, and wastewater treatment activities to include sludge drying, storage, application or disposal activities. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., biochemical oxygen demand, etc.) of concern shall be identified.

(3) Measures and Controls. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

(a) Good Housekeeping—Good housekeeping requires the maintenance of areas that may contribute pollutants to storm water discharges in a clean, orderly manner. The plan shall describe procedures performed to minimize contact of materials with storm water runoff. Examples include cleaning of lots and roofs that collect debris; routine cleaning of wastewater treatment, and other waste disposal (such as sludge handling) locations.

(b) Preventive Maintenance—A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

(c) *Spill Prevention and Response Procedures*—Areas where potential spills that can contribute pollutants to storm water discharges can occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

(d) Inspections—Qualified facility personnel shall be identified to inspect designated equipment and areas of the facility at appropriate intervals specified in the plan. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained.

(e) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The pollution prevention plan shall identify periodic dates for such training.

(f) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

(g) Non-storm Water Discharges.

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit that receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with paragraph (iii) (below).

(ii) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2. of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) Failure to Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 270 days after permit issuance] or, for facilities that begin to discharge storm water associated with industrial activity after [Insert date of permit issuance], 270 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States that are not authorized by an NPDES permit are unlawful, and must be terminated.

(h) Sediment and Erosion Control—The plan shall identify areas that, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

(i) Management of Runoff—The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those that control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity [see Part XI.B.3.a.(2)

of this permit (Description of Potential Pollutant Sources)] shall be considered when determining reasonable and appropriate measures. Appropriate measures may include: vegetative swales and practices; reuse of collected storm water (such as for a process or as an irrigation source); inlet controls (such as oil/water separators); snow management activities; infiltration devices, and wet detention/retention devices; screens or fences used to protect dust and particulate collection activities from wind or to minimize the effects of wind on material loading and storage, and processing activities to eliminate or reduce windblown or airborne pollutants; secondary containment of storage areas such as berms and dikes; diversionary structures to direct storm water away from areas of potential contamination; and tarpaulins, roofs, or other coverings of outdoor storage or industrial activities or other equivalent measures.

(4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity such as material storage, handling, and disposal activities shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with Part XI.B.3.a.(2) of this permit (Description of Potential Pollutant Sources) and pollution prevention measures and controls identified in the plan in accordance with Part XI.B.3.a.(3) of this permit (Measures and Controls) shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph (4)(b) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years from the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under 3.a.(3)(d), the compliance evaluation may be conducted in place of one such inspection.

4. Numeric Effluent Limitations

There are no additional numeric effluent limitations beyond those described in Part V.B. of this permit.

5. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements.

During the period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] and the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance], permittees with paperboard mills must monitor their storm water discharges associated with industrial activity at least quarterly (4 times per year) during years 2 and 4 except as provided in paragraphs 5.a.(3) (Sampling Waiver), 5.a.(4) (Representative Discharge), and 5.a.(5) (Alternative Certification). Paperboard mills are required to monitor their storm water discharges for the pollutant of concern listed in Table B–1 below. Facilities must report in accordance with 5.b. (Reporting). In addition to the parameters listed in Table B–1 below, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

TABLE B–1.—MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Chemical Oxygen Demand	120 mg/L

(1) Monitoring Periods. Paperboard mills shall monitor samples collected during the sampling periods of: January through March, April through June, July through September, and October through December for the years specified in paragraph a. (above).

(2) Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

(3) Sampling Waiver.

(a) Adverse Conditions—When a discharger is unable to collect samples within a specified sampling period due to adverse climatic conditions, the discharger shall collect a substitute sample from a separate qualifying event in the next period and submit the data along with data for the routine sample in that period. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricanes, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(b) Low Concentration Waiver—When the average concentration for a pollutant calculated from all monitoring data collected from an outfall during the monitoring period [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] is less than the corresponding value for that pollutant listed in Table B–1 under the column Monitoring Cut-off Concentration, a facility may waive monitoring and reporting requirements in the monitoring period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance]. The facility must submit to the Director, in lieu of the monitoring data, a certification that there has not been a significant change in industrial activity or the pollution prevention measures in area of the facility that drains to the outfall for which sampling was waived.

(c) When a discharger is unable to conduct quarterly chemical storm water sampling at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirements as long as the facility remains inactive and unstaffed. The facility must submit to the Director, in lieu of monitoring data, a certification statement on the DMR stating that the site is inactive and unstaffed so that collecting a sample during a qualifying event is not possible.

(4) Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan. The permittee shall include the description of the location of the outfalls, explanation of why outfalls are expected to discharge substantially identical effluents, and estimate of the size of the drainage area and runoff coefficient with the Discharge Monitoring Report.

(5) Alternative Certification. A discharger is not subject to the monitoring requirements of this section provided the discharger makes a certification for a given outfall or on a pollutant-by-pollutant basis in lieu of monitoring reports required under paragraph (*b*) below, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, or significant materials from past industrial activity that are located in areas of the facility within the drainage area of the outfall are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan, and submitted to EPA in accordance with Part VI.C. of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph (b) below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations.

b. Reporting. Permittees with paperboard mills shall submit monitoring results for each outfall associated with industrial activity [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the reporting period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March [insert the date 2 years after permit issuance]. Monitoring results [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance] shall be submitted on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March. For each outfall, one signed Discharge Monitoring Report Form must be submitted per storm event completed. Signed copies of Discharge Monitoring Reports, or said certifications, shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office listed in Part VI.G. of the fact sheet.

(1) Additional Notification. In addition to filing copies of discharge monitoring reports in accordance with paragraph b (above), paperboard mills with at least one storm water discharge associated with industrial activity through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in paragraph b (above).

c. Quarterly Visual Examination of Storm Water Quality. Facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination must be made at least once in each designated period [described in (1), below] during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(1) Examinations shall be conducted in each of the following periods for the purposes of visually inspecting storm water quality associated with storm water runoff or snow melt: January through March; April through June; July through September; and October through December.

(2) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed one hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual will carry out the collection and examination of discharges for the life of the permit.

(3) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examination. Adverse

weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricanes, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(4) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

(5) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(6) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfalls provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explaining in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

C. Storm Water Discharges Associated With Industrial Activity From Chemical and Allied Products Manufacturing Facilities

1. Discharges Covered Under This Section

The requirements listed under this section shall apply to storm water discharges associated with industrial activity from a facility engaged in manufacturing the following products and generally described by the SIC code shown:

a. Basic industrial inorganic chemicals (including SIC 281).

b. Plastic materials and synthetic resins, synthetic rubbers, and cellulosic and other humanmade fibers, except glass (including SIC 282).

c. Soap and other detergents and in producing glycerin from vegetable and animal fats and oils; specialty cleaning, polishing, and sanitation preparations; surface active preparations used as emulsifiers, wetting agents, and finishing agents, including sulfonated oils; and perfumes, cosmetics, and other toilet preparations (including SIC 284).

d. Paints (in paste and ready-mixed form); varnishes; lacquers; enamels and shellac; putties, wood fillers, and sealers; paint and varnish removers; paint brush cleaners; and allied paint products (including SIC 285).

e. Industrial organic chemicals (including SIC 286).

f. Nitrogenous and phosphatic basic fertilizers, mixed fertilizer, pesticides, and other agricultural chemicals (including SIC 287).

g. Industrial and household adhesives, glues, caulking compounds, sealants, and linoleum, tile, and rubber cements from vegetable, animal, or synthetic plastics materials; explosives; printing ink, including gravure ink, screen process ink, and lithographic; miscellaneous chemical preparations, such as fatty acids, essential oils, gelatin (except vegetable), sizes, bluing, laundry sours, writing and stamp pad ink, industrial compounds, such as boiler and heat insulating compounds, metal, oil, and water treatment compounds, waterproofing compounds, and chemical supplies for foundries (including facilities with SIC 289).

h. Ink and paints, including china painting enamels, india ink, drawing ink, platinum paints for burnt wood or leather work, paints for china painting, artists' paints and artists' water colors (SIC 3952, limited to those listed).

i. Co-located Industrial Activities. When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Discharges Not Covered By This Section

a. Storm water discharges from drug manufacturing facilities and other establishments classified as SIC Code 283.

3. Special Conditions

a. Prohibition of Non-storm Water Discharges. In addition to those non-storm water discharges prohibited under section III.A.2, this section does not authorize the discharge of:

(1) Inks, paints, or substances (hazardous, nonhazardous, etc.) resulting from an onsite spill, including materials collected in drip pans.

(2) Washwaters from material handling and processing areas. This includes areas where containers, equipment, industrial machinery, and any significant materials are exposed to storm water.

(3) Washwaters from drum, tank, or container rinsing and cleaning.

4. Storm Water Pollution Prevention Plan Requirements

a. Contents of Plan. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team. The team will be responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's plan.

(2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources of pollutants to storm water discharges and sources of discharges of pollutants during dry weather. Each plan shall

identify all activities and materials that may be pollutant sources. Each plan shall include, at a minimum:

(a) Drainage and Site Plan—A site map shall be developed for the facility. This map shall include, at a minimum: the location of all structures (manufacturing buildings, garages, etc.), impervious areas, the location of each storm water outfall and/or connection to municipal storm sewer; types of discharges included in each discharge; an outline of the portions of the drainage area of each outfall within the facility boundaries and a prediction of the direction of flow in each area; each existing structural control measure to reduce pollutants in storm water runoff; surface water bodies; locations where materials are exposed to precipitation; and locations where major spills or leaks identified under Part XI.C.4.a.(2)(c) (below) of this permit have occurred. The map shall also indicate the locations of the following outdoor activities: fueling stations; vehicle and equipment maintenance and/or cleaning areas; loading/unloading areas; locations used for the treatment, storage or disposal of wastes; storage tanks and other containers; processing and storage areas; access roads, rail cars and tracks; the location of transfer of substances in bulk; and machinery.

(b) Inventory of Exposed Materials and Management Practices—An inventory of the types of materials handled at the site that may be exposed to precipitation shall be collected. Such inventory shall include: a narrative description of materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

(c) Spills and Leaks—A list of significant spills and leaks of material that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance after the date of 3 years prior to the date of submission of a Notice of Intent (NOI) to be covered under this permit. The list shall be updated as appropriate to include any significant spills and leaks during the term of the permit.

(d) Sampling Data—A summary of existing storm water sampling data describing pollutants discharged from the facility, including a summary of sampling data collected during the term of this permit. In addition, the report of monitoring data that is submitted to EPA pursuant to Part VI. of this permit shall be maintained with the pollution prevention plan.

(e) Risk Identification and Summary of Potential Pollutant Sources.

(i) A narrative description of the potential pollutant sources from the following: loading, unloading, and transfer of chemicals; outdoor storage of salt, pallets, coal, drums, containers, fuels, or other materials; outdoor manufacturing or processing activities; significant dust or particulate generating processes; fueling stations; vehicle and equipment maintenance and/or cleaning areas; locations used for the treatment, storage or disposal (on or off site) of wastes and wastewaters; storage tanks and other containers; processing and storage areas; access roads, rail cars and tracks; the location of transfer of substances in bulk; and machinery.

(ii) The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., chemical oxygen demand, etc.) of concern shall be identified.

(iii) Factors to consider include: quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills. In addition, flows with a significant potential for causing erosion shall be identified.

(3) Measures and Controls. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a reasonable schedule for implementing such controls:

(a) Nonstructural Controls.

(i) Good Housekeeping—Good housekeeping requires that areas that may contribute pollutants to storm water discharges are maintained in a clean, orderly manner. At a minimum, the permittee shall:

(a) Schedule regular pickup and disposal of garbage and waste materials, or use other appropriate measures to reduce the potential for the discharge of storm water that has come into contact with garbage or waste materials. This schedule shall be included in the plan. Individuals responsible for waste management and disposal shall be informed of the procedures established under the plan.

(b) Routinely inspect for leaks and the condition of drums, tanks and containers. Ensure that spill cleanup procedures are understood by employees.

(c) Keep an up-to-date inventory of all materials present at the facility. While preparing the inventory, all containers should be clearly labeled. Hazardous containers that requires special handling, storage, use and disposal shall be clearly marked.

(d) Maintain clean ground surfaces.

(ii) Preventive Maintenance—A preventive maintenance program shall be developed and shall involve timely inspection and maintenance of storm water management devices (e.g., oil/water separators, catch basins, dikes, storm sewer, basins, pipes). Also, preventive maintenance includes inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures, and ensuring appropriate maintenance of such equipment and systems.

(iii) Spill Prevention and Response Procedures—Spill prevention and response procedures shall be developed. Areas where potential spills (that can contribute pollutants to storm water discharges) can occur and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up (e.g., absorbent materials) should be available to personnel.

(iv) Inspections—Qualified personnel shall conduct quarterly inspections. A wet weather inspection (during a rainfall event) shall be conducted in the second (April to June) and third quarters (July to September) of each year. A dry weather inspection (no precipitation) shall be conducted in the first (January to March) and fourth quarters (October to December). Such inspections shall be documented and this documentation shall be retained as part of the pollution prevention plan. Changes based on the

results of the quarterly inspections shall be made in a timely manner.

(a) When a seasonal dry period is sustained for more than 3 months, a dry weather inspection will satisfy the wet weather inspection requirement.

(b) All areas exposed to precipitation at the facilities shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented or whether additional control measures are needed. Structural storm water management measures (diking, berming, curbing, sediment and erosion control measures, stabilization controls, etc.) required under this section shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(v) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping, material management practices and procedures for equipment and container cleaning and washing. The pollution prevention plan shall identify periodic dates for such training of at least once per year.

(vi) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

(vii) Facility Security—Facilities shall have the necessary security systems to prevent accidental or intentional entry that could cause a discharge. Security systems described in the plan shall address fencing, lighting, vehicular traffic control, and securing of equipment and buildings.

(b) Structural Practices—The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity [see Part XI.C.4.a.(2) (Description of Potential Pollutant Sources) of this permit] shall be considered when determining reasonable and appropriate structural measures. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained.

(i) Practices for Material Handling and Storage Areas—Permittees shall ensure the implementation of practices that conform with the following:

(a) In areas where liquid or powdered materials are stored, facilities shall provide either diking, curbing, berms, or other appropriate measures to reduce the potential of discharge of liquid or powdered materials in storm water.

(b) In all other outside storage areas including storage of used containers, machinery, scrap and construction materials, and pallets, facilities shall prevent or minimize storm water runon to the storage area by using curbing, culverting, gutters, sewers or other forms of drainage control.

(c) In all storage areas, roofs, covers or other forms of appropriate protection shall be used to prevent storage areas from exposure to storm water and wind. For the purpose of this paragraph, tanks would be considered to be appropriate protection.

(d) In areas where liquid or powdered materials are transferred in bulk from truck or rail cars, permittees shall provide appropriate measures to minimize contact of material with precipitation. Permittees shall consider providing for hose connection points at storage containers to be inside containment areas, and drip pans to be used in areas that are not in a containment area, where spillage may occur (e.g., hose reels, connection points with rail cars or trucks) or equivalent measures.

(e) In areas of transfer of contained or packaged materials and loading/unloading areas, permittee shall consider providing appropriate protection such as overhangs or door skirts to enclose trailer ends at truck loading/unloading docks or an equivalent.

(f) Drainage from areas covered by paragraph XI.C.4.a.(3)(b)(i) of this section should be restrained by valves or other positive means to prevent the discharge of a spill or leak. Containment units may be emptied by pumps or ejectors; however, these shall be manually activated.

(g) Flapper-type drain valves shall not be used to drain containment areas. Valves used for the drainage of containment areas should, as far as is practical, be of manual, open-or-closed design.

(h) If facility drainage is not engineered as above, the final discharge point of all in-facility sewers should be equipped to prevent or divert the discharge, in the event of an uncontrolled spill of materials, return the spilled material to the facility.

(c) Management of Runoff—The plan shall contain a description of storm water management practices used and/or to be used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. Appropriate measures may include: vegetative swales, ripraps, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, use of porous pavements, and wet detention/retention devices.

(d) Sediment and Erosion Control—The plan shall identify areas that, due to topography, activities, or other factors, have a potential for significant soil erosion. Plans shall describe permanent stabilization practices and shall ensure that disturbed portions of the site are stabilized. Stabilization practices may include: permanent seeding, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures.

(e) Non-storm Water Discharges.

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit that receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with paragraph (iii) (below).

(ii) Except for flows from fire fighting activities, sources of non-storm water

listed in Part III.A.2. (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) Failure to Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [insert date 270 days after permit issuance] or, for facilities that begin to discharge storm water associated with industrial activity after [insert date 270 days after permit issuance] 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States that are not authorized by an NPDES permit are unlawful, and must be terminated.

(4) Comprehensive Site Compliance Evaluation. A member(s) of the pollution prevention team or a qualified professional designated by the team shall conduct, at a minimum, annual site compliance evaluations.

(a) Areas contributing to a storm water discharge associated with industrial activity such as material storage and handling, loading and unloading, process activities, and plant yards shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, other structural pollution prevention measures identified in the plan, as well as process related pollution control equipment shall be observed or tested to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources (see Part XI.C.4.a.(2)) and pollution prevention measures and controls (see Part XI.C.4.a.(3)) identified in the plan shall be revised as appropriate within 2 weeks of such evaluation. In addition, it shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, observations relating to the implementation of the plan, and actions taken in accordance with paragraph XI.C.4.a.(4)(b) (above) shall be made and retained as part of the plan for at least 3 years after the date of the evaluation. The report shall also identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

5. Numeric Effluent Limitations

In addition to the numeric effluent limitations described by Part V.B. of this permit, the following effluent limitations shall be met by existing and new discharges with:

a. Phosphate Fertilizer Manufacturing Runoff. The provisions of this paragraph are applicable to storm water discharges from the Phosphate Subcategory of the Fertilizer Manufacturing Point Source Category (40 CFR 418.10). The term contaminated storm water runoff shall mean precipitation runoff, that during manufacturing or processing, comes into contact with any raw materials, intermediate product, finished product, by-products or waste product (40 CFR 418.11(c)). The concentration of pollutants in storm water discharges shall not exceed the effluent limitations in Table C–1.

TABLE C–1.—NUMERIC EFFLUENT LIMITATIONS

Effluent characteristics	Effluent limitations (mg/L)	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed
Total Phosphorus (as P)	105.0	35.0
Fluoride	75.0	25.0

6. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements.

During the period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] and the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance], permittees with agricultural chemical manufacturing facilities; industrial inorganic chemical facilities; soaps, detergents, cosmetics, and perfume manufacturing facilities; and plastics, synthetics, and resin manufacturing facilities must monitor their storm water discharges associated with industrial activity at least quarterly (4 times per year) during years 2 and 4 except as provided in paragraphs 6.a.(3) (Sampling Waiver), 6.a.(4) (Representative Discharge), and 6.a.(5) (Alternative Certification). Agricultural chemical manufacturing facilities; industrial inorganic chemical facilities; soaps, detergents, cosmetics, and perfume manufacturing facilities; and plastics, synthetics, and resin manufacturing facilities are required to monitor their storm water discharges for the pollutants of concern listed in Tables C–2, C–3, C–4, and C–5 below. Facilities must report in accordance with 6.b. (Reporting). In addition to the parameters listed in Tables C–2, C–3, C–4, and C–5 below, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

TABLE C–2.—AGRICULTURAL CHEMICALS MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Nitrate plus Nitrite Nitrogen	0.68 mg/L
Total Recoverable Lead	0.0816 mg/L
Total Recoverable Iron	1.0 mg/L
Total Recoverable Zinc	0.065 mg/L
Phosphorus	2.0 mg/L

TABLE C–3.—INDUSTRIAL INORGANIC CHEMICALS MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Total Recoverable Aluminum	0.75 mg/L
Total Recoverable Iron	1.0 mg/L
Nitrate plus Nitrite Nitrogen	0.68 mg/L

TABLE C–4.—SOAPS, DETERGENTS, COSMETICS, AND PERFUMES MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Nitrate plus Nitrite Nitrogen	0.68 mg/L
Total Recoverable Zinc	0.065 mg/L

TABLE C–5.—PLASTICS, SYNTHETICS, AND RESINS MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Total Recoverable Zinc	0.065 mg/L

(1) Monitoring Periods. Agricultural chemical manufacturing facilities; industrial inorganic chemical facilities; soaps, detergents, cosmetics, and perfume manufacturing facilities; and plastics, synthetics, and resin manufacturing facilities shall monitor samples collected during the sampling periods of: January through March, April through June, July through September, and October through December for the years specified in paragraph a. (above).

(2) Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

(3) Sampling Waiver.

(a) Adverse Conditions—When a discharger is unable to collect samples within a specified sampling period due to adverse climatic conditions, the discharger shall collect a substitute sample from a separate qualifying event in the next period and submit the data along with data for the routine sample in that period. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricanes, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(b) Low Concentration Waiver—When the average concentration for a pollutant calculated from all monitoring data collected from an outfall during the monitoring period [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] is less than the corresponding value for that pollutant listed in Table C-2 under the column Monitoring Cut-off Concentration, a facility may waive monitoring and reporting requirements in the monitoring period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance]. The facility must submit to the Director, in lieu of the monitoring data, a certification that there has not been a significant change in industrial activity or the pollution prevention measures in area of the facility that drains to the outfall for which sampling was waived.

(c) When a discharger is unable to conduct quarterly chemical storm water sampling at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirements as long as the facility remains inactive and unstaffed. The facility must submit to the Director, in lieu of monitoring data, a certification statement on the DMR stating that the site is inactive and unstaffed so that collecting a sample during a qualifying event is not possible.

(4) Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan. The permittee shall include the description of the location of the outfalls, explanation of why outfalls are expected to discharge substantially identical effluents, and estimate of the size of the drainage area and runoff coefficient with the Discharge Monitoring Report.

(5) Alternative Certification. A discharger is not subject to the monitoring requirements of this section provided the discharger makes a certification for a given outfall or on a pollutant-by-pollutant basis in lieu of monitoring reports required under paragraph (*b*) below, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, or significant materials from past industrial activity that are located in areas of the facility

within the drainage area of the outfall are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan, and submitted to EPA in accordance with Part VI.C. of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph *b*. below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations.

b Reporting. Permittees with agricultural chemical manufacturing facilities; industrial inorganic chemical facilities; soaps, detergents, cosmetics, and perfume manufacturing facilities; and plastics, synthetics, and resin manufacturing facilities shall submit monitoring results for each outfall associated with industrial activity [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the reporting period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March [insert the date 2 years after permit issuance]. Monitoring results [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance] shall be submitted on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March. For each outfall, one Discharge Monitoring Report Form must be submitted per storm event sampled. Signed copies of Discharge Monitoring Reports, or said certifications, shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office listed in Part VI.G. of the fact sheet.

(1) Additional Notification. In addition to filing copies of discharge monitoring reports in accordance with paragraph b (above), agricultural chemical manufacturing facilities; industrial inorganic chemical facilities; soaps, detergents, cosmetics, and perfume manufacturing facilities; and plastics, synthetics, and resin manufacturing facilities with at least one storm water discharge associated with industrial activity through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in paragraph b (above).

c. Compliance Monitoring Requirements. In addition to the monitoring required in paragraph 6a (above), permittees with contaminated storm water runoff from phosphate fertilizer manufacturing facilities must monitor their contaminated storm water discharges for the presence of phosphorus and fluoride at least annually (one time per year). Facilities must report in accordance with Part XI.C.6.c.(2) (Reporting). In addition to the parameters listed above, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled;

(1) Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable.

(2) Reporting. Permittees with phosphate fertilizer manufacturing facilities shall submit monitoring results obtained during the reporting period beginning [insert date of permit issuance] on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following [insert month after permit issuance date]. For each outfall, one signed Discharge Monitoring Report form must be submitted to the Director per storm event sampled. Signed copies of Discharge Monitoring Reports shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office indicated in Part VI.B. of this permit.

(3) Additional Notification. In addition to filing copies of discharge monitoring reports in accordance with paragraph (2) (above), permittees that discharge through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in paragraph (3) (above).

d. Quarterly Visual Examination of Storm Water Quality. Facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination must be made at least once in each of the following periods: January through March; April through June; July through September; and October through December during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(*1*) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.

(*2*) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(*3*) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(*4*) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examination. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricanes, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(*5*) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

D. Storm Water Discharges Associated With Industrial Activity From Asphalt Paving and Roofing Materials and Lubricant Manufacturers

1. Discharges Covered Under This Section. a. This section of the permit describes requirements for all existing point source discharges of storm water associated with industrial activity to waters of the United States from facilities engaged in manufacturing asphalt paving and roofing materials, including those facilities commonly identified by Standard Industrial Classification (SIC) codes 2951 and 2952.

b. This section of the permit describes requirements for all existing point source discharges of storm water associated with industrial activity to waters of the United States from portable asphalt plant facilities (also commonly identified by SIC code 2951).

c. This section of the permit describes requirements for all existing point source discharges of storm water associated with industrial activity to waters of the United States from facilities engaged in manufacturing lubricating oils and greases, including those facilities classified as SIC code 2992.

d. When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

e. Limitations on Coverage. The following storm water discharges associated with industrial activity are not authorized by this section of the permit:

(*1*) Storm water discharges from petroleum refining facilities, including those that manufacture asphalt or asphalt products and that are classified as SIC code 2911,

(*2*) Storm water discharges from oil recycling facilities, and

(*3*) Storm water discharges associated with fats and oils rendering.

2. Special Conditions. a. Prohibition of Non-storm Water Discharges.

(*1*) There are no additional prohibitions beyond those listed in Section III.A.2. of this permit.

3. Storm Water Pollution Prevention Plan Requirements. a. Contents of Plan. The plan shall include, at a minimum, the following items:

(*1*) *Pollution Prevention Team*. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(*2*) *Description of Potential Pollutant Sources.* Each plan shall provide a description of potential sources that may reasonably be expected to add significant amounts of pollutants to storm water discharges or that may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials that may potentially be significant pollutant sources. Each plan shall include, at a minimum:

(a) Drainage.

(*i*) A site map indicating an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies, locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under XI.D.3.a.(2)(c) (spills and leaks) of this permit have occurred, and the locations of the following activities where such activities are exposed to precipitation: fueling stations, vehicle and equipment maintenance and/or cleaning areas, loading/unloading areas, locations used for the treatment, storage or disposal of wastes, liquid storage tanks, processing areas and storage areas including areas where raw materials, finished products and drums are stored. The map must indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls.

(*ii*) For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants that are likely to be present in storm water discharges associated with industrial activity. Factors to consider include the toxicity of a chemical; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

(*b*) *Inventory of Exposed Materials*—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

(*d*) *Spills and Leaks*—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Such list shall be updated as appropriate during the term of the permit.

(*d*) *Sampling Data*—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(*e*) *Risk Identification and Summary of Potential Pollutant Sources*—A narrative description of the potential pollutant sources from the following activities: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; significant dust or particulate generating processes; and onsite waste disposal practices. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., biochemical oxygen demand, etc.) of concern shall be identified.

(*3*) *Measures and Controls.* Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

(*a*) *Good Housekeeping*—Good housekeeping requires the maintenance of areas that may contribute pollutants to storm water discharges in a clean, orderly manner. Particular attention should be paid to areas where raw materials are stockpiled, material handling areas, storage areas, liquid storage tanks, material handling areas, and loading/unloading areas.

(*b*) *Preventive Maintenance*—A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

(c) Spill Prevention and Response Procedures—Areas where potential spills that can contribute pollutants to storm water discharges can occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

(d) Inspections—In addition to or as part of the comprehensive site evaluation required under XI.D.3.a.(4) of this section, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility at appropriate intervals specified in the plan. Material storage and handling areas, liquid storage tanks, hoppers or silos, vehicle and equipment maintenance, cleaning, and fueling areas, material handling vehicles, equipment and processing areas shall be inspected at least once per month as part of the maintenance program. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained.

(e) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The pollution prevention plan shall identify periodic dates for such training.

(f) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

(g) Non-storm Water Discharges.

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit that receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with paragraph XI.D.3.a.(3)(g)(iii) (below).

(ii) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2 (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan.

The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) Failure to Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 270 days after permit issuance] or, for facilities that begin to discharge storm water associated with industrial activity after [Insert date 270 days after permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States that are not authorized by an NPDES permit are unlawful, and must be terminated.

(h) Sediment and Erosion Control—The plan shall identify areas that, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

(i) Management of Runoff—The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those that control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity [see paragraph XI.D.3.a.(2) of this section (Description of Potential Pollutant Sources)] shall be considered when determining reasonable and appropriate measures. Appropriate measures may include: vegetated swales, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), infiltration devices, and detention/retention basins or other equivalent measures.

(4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year. Evaluations shall be conducted at least once at portable plant locations that are not in operation for a complete year. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity including; material storage and handling areas, liquid storage tanks, hoppers or silos, vehicle and equipment maintenance, cleaning, and fueling areas, material handling vehicles, equipment and processing areas, and areas where aggregate is stockpiled outdoors shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, (e.g., oil/water separators, detention ponds, sedimentation basins or equivalent measures) sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as dust collection equipment and spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with XI.D.3.a.(2) of this section (description of potential pollutant sources) and pollution prevention measures and controls identified in the plan in accordance with XI.D.3.a.(3) of this section (measures and controls) shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case later than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph (4)(b) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under XI.D.3.a.(3)(d), the compliance evaluation may be conducted in place of one such inspection.

4. Numeric Effluent Limitations. In addition to the numeric effluent limitations listed in Part V.B. of this permit,discharges from areas where production of asphalt paving and roofing emulsions occurs may not exceed a TSS concentration of 23.0 mg/L of runoff for any 1 day, nor shall the average of daily values for 30 executive days exceed a TSS concentration of 15.0 mg/L of runoff. Oil and grease concentrations in storm water discharges from these areas may not exceed 15.0 mg/L of runoff for any 1 day, nor should the average daily values for 30 consecutive days exceed an oil and grease concentration of 10.0 mg/L of runoff. The pH of these discharges must be within the range of 6.0 to 9.0.

5. Monitoring and Reporting Requirements. a. Analytical Monitoring Requirements. During the period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] and the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance], permittees with asphalt paving and roofing materials manufacturing facilities (including portable plants) must monitor their storm water discharges associated with industrial activity at least quarterly (4 times per year) during years 2 and 4 except as provided in paragraphs 5.a.(3) (Sampling Waiver), 5.a.(4) (Representative Discharge), and 5.a.(5) (Alternative Certification). Asphalt paving and roofing materials manufacturing facilities are required to monitor their storm water discharges for the pollutant of concern listed in Table D–1 below. Facilities must report in accordance with 5.b. (Reporting). In addition to the parameters listed in Table D–1 below, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

TABLE D–1.—MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Total Suspended Solids	100 mg/L

(1) Monitoring Periods. Asphalt paving and roofing materials manufacturing facilities shall monitor samples collected during the sampling periods of: January through March, April through June, July through September, and October through December for the years specified in paragraph a. (above).

(2) Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

(3) Sampling Waiver.

(a) Adverse Conditions—When a discharger is unable to collect samples within a specified sampling period due to adverse climatic conditions, the discharger shall collect a substitute sample from a separate qualifying event in the next period and submit the data along with data for the routine sample in that period. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricanes, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(b) Low Concentration Waiver—When the average concentration for a pollutant calculated from all monitoring data collected from an outfall during the monitoring period [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] is less than the corresponding value for that pollutant listed in Table B–1 under the column Monitoring Cut-off Concentration, a facility may waive monitoring and reporting requirements in the monitoring period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance]. The facility must submit to the Director, in lieu of the monitoring data, a certification that there has not been a significant change in industrial activity or the pollution prevention measures in area of the facility that drains to the outfall for which sampling was waived.

(c) When a discharger is unable to conduct quarterly chemical storm water sampling at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirements as long as the facility remains inactive and unstaffed. The facility must submit to the Director, in lieu of monitoring data, a certification statement on the DMR stating that the site is inactive and unstaffed so that collecting a sample during a qualifying event is not possible.

(4) Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan. The permittee shall include the description of the location of the outfalls, explanation of why outfalls are expected to discharge substantially identical effluents, and estimate of the size of the drainage area and runoff coefficient with the Discharge Monitoring Report.

(5) Alternative Certification. A discharger is not subject to the monitoring requirements of this section provided the discharger makes a certification for a given outfall or on a pollutant-by-pollutant basis in lieu of monitoring reports required under paragraph (b) below, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, or significant materials from past industrial activity that are located in areas of the facility within the drainage area of the outfall are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan, and submitted to EPA in accordance with Part VI.C. of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph (b) below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements in part XI.D.5.c of this permit associated with effluent limitations.

b. Reporting. Permittees with asphalt paving and roofing materials manufacturing facilities shall submit monitoring results for each outfall associated with industrial activity [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the reporting period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March [insert the date 2 years after permit issuance]. Monitoring results [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance] shall be submitted on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March. For each outfall, one signed Discharge Monitoring Report Form must be submitted per storm event completed. Signed copies of Discharge Monitoring

Reports, or said certifications, shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office listed in Part VI.G. of the fact sheet.

(1) Additional Notification. In addition to filing copies of discharge monitoring reports in accordance with paragraph b (above), asphalt paving and roofing materials manufacturing facilities with at least one storm water discharge associated with industrial activity through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in paragraph b (above).

c. Quarterly Visual Examination of Storm Water Quality. Facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination must be made at least once in each designated period [described in (1), below] during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(1) Examinations shall be conducted in each of the following periods for the purposes of evaluating storm water quality associated with storm water runoff or snow melt: January through March; April through June; July through September; and October through December.

(2) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for the life of the permit.

(3) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(4) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfalls provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explaining in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(5) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation on site with the results of the visual examination. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricanes, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(6) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

d. Compliance Monitoring Requirements. Permitters with facilities that produce asphalt paving or roofing emulsions must monitor their storm water discharges associated with these activities for the presence of TSS, oil and grease, and for pH at least annually (one time per year). Facilities must report in accordance with 5.d.(2) (reporting). In addition to the parameters listed above, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

(1) Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable.

(2) Reporting. Permittees with asphalt paving or roofing emulsion production facilities shall submit monitoring results obtained during the reporting period beginning [insert date of permit issuance] on Discharge Monitoring Report Form(s) postmarked no later than the last day of the following [insert month after permit issuance date]. Signed copies of Discharge Monitoring Reports shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office indicated in Part VI.B. of this permit. For each outfall one Discharge monitoring form shall be submitted per storm event sampled.

(3) Additional Notification. In addition to filing copies of discharge monitoring reports in accordance with paragraph (2) (above), permittees that discharge through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in paragraph (3) (above).

E. Storm Water Discharges Associated With Industrial Activity From Glass, Clay, Cement, Concrete, and Gypsum Product Manufacturing Facilities

1. Discharges Covered Under This Section. The requirements listed under this section shall apply to storm water discharges from the following activities: manufacturing flat, pressed, or blown glass or glass containers; manufacturing hydraulic cement; manufacturing clay products including tile and brick; manufacturing of pottery and porcelain electrical supplies; manufacturing concrete products; manufacturing gypsum products; nonclay refractories; and grinding or otherwise treating minerals and earths. This section generally includes the following types of manufacturing operations: flat glass, (SIC code 3211); glass containers, (SIC code 3221); pressed and blown glass, not elsewhere classified, (SIC code 3229); hydraulic cement, (SIC code 3241); brick and structural clay tile, (SIC code 3251); ceramic wall and floor tile, (SIC code 3253); clay refractories, (SIC code 3255); structural clay products not elsewhere classified (SIC code 3259); vitreous china table and kitchen articles (SIC code 3262); fine earthenware table and kitchen articles (SIC code 3263); porcelain electrical supplies, (SIC code 3264); pottery products, (SIC code 3269); concrete block and brick, (SIC code 3271); concrete products, except block and brick (SIC code 3272); ready-mix concrete, (SIC code 3273); gypsum products, (SIC code 3275); minerals and earths, ground or otherwise treated, (SIC code 3295); and nonclay refractories, (SIC code 3297).

Facilities engaged in the following activities are not eligible for coverage under this section: lime manufacturing (SIC 3274); cut stone and stone products (SIC 3281); abrasive products (SIC 3291); asbestos products (SIC 3292); mineral wool and mineral wool insulation products (SIC 3296).

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Special Conditions. a. Prohibition of Non-storm Water Discharges. The discharge of pavement washwaters are only authorized where the permittee has minimized the presence of spilled materials in accordance with part XI.E.3.a.(3).(a).(i) of this permit.

3. Storm Water Pollution Prevention Plan Requirements. a. Contents of Plan. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources that may reasonably be expected to add significant amounts of pollutants to storm water discharges or that may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials that may potentially be significant pollutant sources. Each plan shall include, at a minimum:

(a) Drainage.

(i) A site map indicating an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies, locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under Part XI.E.3.a.(2)(c) (Spills and Leaks) of this permit have occurred, and the locations of the following activities where such activities are exposed to precipitation: fueling stations, vehicle and equipment maintenance and/or cleaning areas, loading/unloading areas, locations used for the treatment, storage or disposal of wastes, liquid storage tanks, processing areas and storage areas. Facilities shall also identify, on the site map, the location of any: bag house or other dust control device; recycle/sedimentation pond, clarifier or other device used for the treatment of process wastewater and the areas that drain to the treatment device. The map must indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls.

(ii) For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants that are likely to be present in storm water discharges associated with industrial activity. Factors to consider include the toxicity of chemical; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

(b) Inventory of Exposed Materials.—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

(c) Spills and Leaks—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Such list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(e) Risk Identification and Summary of Potential Pollutant Sources—A narrative description of the potential

pollutant sources from the following activities: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; significant dust or particulate generating processes; and onsite waste disposal practices. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter [e.g., Total Suspended Solids (TSS), etc.] of concern shall be identified.

(3) Measures and Controls. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

(a) Good Housekeeping—Good housekeeping requires the maintenance of areas that may contribute pollutants to storm water discharges in a clean, orderly manner.

(i) Facilities shall prevent or minimize the discharge of spilled cement, aggregate (including sand or gravel), kiln dust, fly ash, settled dust other significant materials in storm water from paved portions of the site that are exposed to storm water. Measures used to minimize the presence of these materials may include regular sweeping, or other equivalent measures. The plan shall indicate the frequency of sweeping or other measures. The frequency shall be determined based upon consideration of the amount of industrial activity occurring in the area and frequency of precipitation, but shall not be less than once per week when cement, aggregate, kiln dust or fly ash are being handled or otherwise processed in the area.

(ii) Facilities shall prevent the exposure of fine granular solids such as cement, fly ash, and kiln dust to storm water. Where practicable, these materials shall be stored in enclosed silos, hoppers or buildings, in covered areas, or under covering.

(b) Preventive Maintenance—A preventive maintenance program shall involve routine inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

(c) Spill Prevention and Response Procedures—Areas where potential spills that can contribute pollutants to storm water discharges can occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

(d) Inspections—Qualified facility personnel shall be identified to inspect designated equipment and areas of the facility specified in the plan. The inspection frequency shall be specified in the plan based upon a consideration of the level of industrial activity at the facility, but shall be a minimum of once per month while the facility is in operation. The inspection shall take place while the facility is in operation and shall at a minimum include all of the following areas that are exposed to storm water at the site: material handling areas, above ground storage tanks, hoppers or silos, dust collection/containment systems, truck wash down and equipment cleaning areas. Tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained.

(e) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping, truck wash out procedures, equipment wash down procedures and material management practices. The pollution prevention plan shall identify periodic dates for such training.

(f) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

(g) Non-storm Water Discharges.

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit that receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with paragraph XI.E.3.a.(3)(g)(iii) (below).

Facilities engaged in production of ready-mix concrete, concrete block, brick or other products shall include in the certification a description of measures that insure that process waste water that results from washing of trucks, mixers, transport buckets, forms or other equipment are discharged in accordance with NPDES requirements or are recycled. Facilities with wash water recycle ponds shall include an estimate of the amount of rainfall (in inches) required to cause the recycle pond to overflow in a 24-hour period.

(ii) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2 (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) Failure to Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 270 days after permit issuance] or, for facilities that begin to discharge storm water

associated with industrial activity after [Insert date 270 days after permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States that are not authorized by an NPDES permit are unlawful, and must be terminated.

(i) Sediment and Erosion Control—The plan shall identify areas that, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

(i) Management of Runoff—The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those that control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity [see paragraph XI.E.3.a.(2) of this section (Description of Potential Pollutant Sources)] shall be considered when determining reasonable and appropriate measures. Appropriate measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices or other equivalent measures.

(4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but, in no case less than once a year. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity including but not limited to: material handling areas, above ground storage tanks, hoppers or silos, dust collection/containment systems, truck wash down and equipment cleaning areas shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures such as recycle ponds, identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with paragraph XI.E.3.a.(2) of this section (Description of Potential Pollutant Sources) and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.E.3.a.(3) of this section (Measures and Controls) shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.E.3.a.(4)(b) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under 3.a.(3)(d), the compliance evaluation may be conducted in place of one such inspection.

4. Numeric Effluent Limitations

In addition to the numeric effluent limitations described by Part V.B, the following limitations shall be met by existing and new dischargers.

a. Cement Manufacturing Facility, Material Storage Runoff. Any discharge composed of runoff that derives from the storage of materials including raw materials, intermediate products, finished products, and waste materials that are used in or derived from the manufacture of cement shall not exceed a maximum concentration for any time of 50 mg/L Total Suspended Solids (TSS) nor the 6.0 to 9.0 range limitation for pH. Runoff from the storage piles shall not be diluted with other storm water runoff or flows to meet this limitation. Any untreated overflow from facilities designed, constructed and operated to treat the volume of material storage pile runoff that is associated with a 10-year, 24-hour rainfall event shall not be subject to the TSS or pH limitations. Dischargers subject to these numeric effluent limitations must be in compliance with these limits upon commencement of coverage and for the entire term of this permit.

5. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. During the period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] and the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance], permittees that manufacture clay products and concrete products and gypsum products must monitor their storm water discharges associated with industrial activity at least quarterly (4 times per year during years 2 and 4) except as provided in paragraphs 5.a.(3) (Sampling Waiver), 5.a.(4) (Representative Discharge), and 5.a.(5) (Alternative Certification).

Clay product manufacturers include; brick and structural clay tile manufacturers (SIC 3251), ceramic wall and floor tile manufacturers (SIC 3253), clay refractories (SIC 3255), manufacturers of structural clay products, not elsewhere classified (SIC 3259), manufacturers of vitreous china table and kitchen articles (SIC 3232), manufacturers of fine earthenware table and kitchen articles (SIC 3263), manufacturers of porcelain electrical supplies (SIC 3264), pottery products (SIC 3269) and non-clay refractories (3297). Facilities with these industrial activities must monitor for the pollutant listed in Table E–1.

Concrete and gypsum product manufacturers include concrete block and brick manufacturers (SIC 3271), concrete products manufacturers (SIC 3272), ready mix concrete manufacturers (SIC 3273), gypsum product manufacturers (SIC 3275) and manufacturers of mineral and earth products (SIC 3295). Facilities with these industrial activities must monitor for the pollutant listed in Table E–2.

Facilities must report in accordance with 5.b. (Reporting). In addition to the parameters listed in Tables E-1 and E-2 below, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

TABLE E–1.—MONITORING REQUIREMENTS FOR CLAY PRODUCT MANUFACTURERS

Pollutants of concern	Monitoring cut-off concentration
Total Recoverable Aluminum	0.75 mg/L

TABLE E–2.—MONITORING REQUIREMENTS FOR CONCRETE AND GYPSUM PRODUCT MANUFACTURERS

Pollutants of concern	Monitoring cut-off concentration
Total Suspended Solids (TSS) ...	100 mg/L
Total Recoverable Iron	1.0 mg/L

(1) Monitoring Periods. Facilities subject to analytical monitoring requirements described in part XI.E.5.a, shall monitor samples collected during the sampling periods of: January to March, April to June, July to September, and October to December for the years specified in paragraph a. (above).

(2) Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or non-process water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

(3) Sampling Waiver.

(a) Adverse Conditions—When a discharger is unable to collect samples within a specified sampling period due to adverse climatic conditions, the discharger shall collect a substitute sample from a separate qualifying event in the next period and submit the data along with data for the routine sample in that period. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(b) Low Concentration Waiver—When the average concentration for a pollutant calculated from all monitoring data collected from an outfall during the monitoring period [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] is less than the corresponding value for that pollutant listed in Table E–1 under the column Monitoring Cut-off Concentration, a facility may waive monitoring and reporting requirements in the monitoring period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance]. The facility must submit to the Director, in lieu of the monitoring data, a certification that there has not been a significant change in industrial activity or the pollution prevention measures in area of the facility that drains to the outfall for which sampling was waived.

(c) When a discharger is unable to conduct quarterly chemical storm water sampling at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirements as long as the facility remains inactive and unstaffed. The facility must submit to the Director, in lieu of monitoring data, a certification statement on the DMR stating that the site is inactive and unstaffed so that collecting a sample during a qualifying event is not possible.

(4) Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan. The permittee shall include the description of the location of the outfalls, explanation of why outfalls are expected to discharge substantially identical effluents, and estimate of the size of the drainage area and runoff coefficient with the Discharge Monitoring Report.

(5) Alternative Certification. A discharger is not subject to the monitoring requirements of this section provided the discharger makes a certification for a given outfall, on pollutant by pollutant basis in lieu of monitoring reports required by paragraph (*b*) below, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, or significant materials from past industrial activity that are located in areas of the facility within the drainage area of the outfall are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan, and submitted to EPA in accordance with Part VI.C. of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph (*b*) below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required

up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations. EPA does not expect facilities to be able to exercise this certification for indicator parameters, such as TSS and BOD.

(b) Reporting. Permittees with monitoring requirements under Part XI.E.5.a. shall submit monitoring results for each outfall associated with industrial activity [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the reporting period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March [insert the date 2 years after permit issuance]. Monitoring results [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance] shall be submitted on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March. For each outfall, one signed Discharge Monitoring Report Form must be submitted for each event sampled. Signed copies of Discharge Monitoring Reports, or said certifications, shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office listed in Part VI.G. of the fact sheet to this permit.

(1) Additional Notification. In addition to filing copies of discharge monitoring reports in accordance with paragraph b (above), facilities with monitoring requirements under Part XI.E.5.a. with at least one storm water discharge associated with industrial activity through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in paragraph b (above).

c. Quarterly Visual Examination of Storm Water Quality. Glass, clay, cement, concrete, and gypsum manufacturing facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination(s) must be made at least once in each of the following three-month periods: January through March, April through June, July through September, and October through December. The examination shall be made during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(1) Examinations shall be made of grab samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.

(2) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(3) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the evaluation data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(4) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(5) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

d. Compliance Monitoring Requirements. Permittees with cement manufacturing facilities must monitor runoff from material storage for the presence of TSS and pH at least annually (one time per year). Facilities must report in accordance with 5.d.(2) below (reporting). In addition to the parameters listed above, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

(1) Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable.

(2) Reporting. Permittees with material storage runoff from cement manufacturing facilities shall submit monitoring results obtained during the reporting period beginning [insert date of permit issuance] on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following [insert month after permit issuance date]. Signed copies of Discharge Monitoring Reports shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office indicated in Part VI.B. of this permit. For each outfall, one signed Discharge Monitoring Report form shall be submitted for each storm event sampled.

(3) Additional Notification. In addition to filing copies of discharge monitoring reports in accordance with paragraph (2) (above), permittees with discharges of material storage runoff from cement manufacturing facilities through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in paragraph 5.d.(3) (above).

F. Storm Water Discharges Associated With Industrial Activity From Primary Metals Facilities

1. Discharges Covered Under This Section

The requirements listed under this section of today's permit shall apply to storm water discharges from the primary metal industry, which includes the following types of facilities:

a. Steel works, blast furnaces, and rolling and finishing mills including: steel wiredrawing and steel nails and spikes; cold-rolled steel sheet, strip, and bars; and steel pipes and tubes (SIC code 331).

b. Iron and steel foundries, including: gray and ductile iron, malleable iron, steel investment, and steel foundries not elsewhere classified (SIC code 332).

c. Primary smelting and refining of nonferrous metals, including: primary smelting and refining of copper, and primary production of aluminum (SIC code 333).

d. Secondary smelting and refining of nonferrous metals (SIC code 334).

e. Rolling, drawing, and extruding of nonferrous metals, including: rolling, drawing, and extruding of copper; rolling, drawing, and extruding of nonferrous metals, except copper and aluminum; and drawing and insulating of nonferrous wire (SIC code 335).

f. Nonferrous foundries (castings), including: aluminum die-castings, nonferrous die-castings, except aluminum, aluminum foundries, copper foundries, and nonferrous foundries, except copper and aluminum (SIC code 336).

g. Miscellaneous primary metal products, not elsewhere classified, including: metal heat treating, and primary metal products, not elsewhere classified (SIC code 339).

Activities covered include, but are not limited to, storm water discharges associated with coking operations, sintering plants, blast furnaces, smelting operations, rolling mills, casting operations, heat treating, extruding, drawing, or forging of all types of ferrous and nonferrous metals, scrap, and ore.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Special Conditions

a. Prohibition of Non-storm Water Discharges. There are no additional requirements beyond those described in Part III.A.2. of this permit.

3. Storm Water Pollution Prevention Plan Requirements

a. Contents of Plan. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources that may reasonably be expected to add significant amounts of pollutants to storm water discharges or that may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials that may potentially be significant pollutant sources. Each plan shall include, at a minimum:

(a) Drainage.

(i) A site map indicating an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies, locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under Part XI.F.3.a.(2)(c) (Spills and Leaks) of this permit have occurred, and the locations of the following activities where such activities are exposed to precipitation: fueling stations, vehicle and equipment maintenance and/or cleaning areas, loading/unloading areas, locations used for the treatment, storage or disposal of wastes such as spent solvents or baths, sand, slag or dross, liquid storage tanks or drums, processing areas including pollution control equipment such as baghouses, and storage areas of raw materials such as coal, coke, scrap, sand, fluxes, refractories, or metal in any form. The map shall also indicate areas of the facility where accumulation of significant amounts of particulate matter from operations such as furnace or oven emissions or losses from coal/coke handling operations, etc., is likely, and could result in a discharge of pollutants to waters of the United States. The map must indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls.

(ii) For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants that are likely to be present in storm water discharges associated with industrial activity. Factors to consider include the toxicity of a chemical; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

(b) Inventory of Exposed Materials—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives. This description should also include areas with the potential for deposition of particulate matter from process air emissions or losses during material handling activities. The description shall be updated whenever there is a significant change in the type or quantity of exposed materials, or material management practices, that may affect the exposure of materials to storm water.

(c) Spills and Leaks—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Such list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(e) Risk Identification and Summary of Potential Pollutant Sources—A narrative description of the potential pollutant sources from the following activities: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; significant dust or particulate generating processes occurring indoors or out, with or without pollution control equipment in place to trap particulates; and onsite waste disposal practices. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., chemical oxygen demand, oil and grease, copper, lead, zinc, etc.) of concern, shall be identified.

(3) Measures and Controls. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

(a) Good Housekeeping—Good housekeeping requires the maintenance of areas that may contribute pollutants to storm water discharges in a clean, orderly manner. The pollution prevention plan should consider implementation of the following measures, or equivalent measures, where applicable.

(i) Establish a cleaning or maintenance program for all impervious areas of the facility where particulate matter, dust, or debris may accumulate, particularly areas of material loading/unloading, material storage and handling, and processing.

(ii) Pave areas of vehicle traffic or material storage where vegetative or other stabilization methods are not practical. Institute sweeping programs in these areas as well.

(iii) For unstabilized areas of the facility where sweeping is not practical, storm water management devices such as sediment traps, vegetative buffer strips, filter fabric fence, sediment filtering boom, gravel outlet protection, or other equivalent measures, that effectively trap or remove sediment should be considered.

(b) Source Controls—The permittee shall consider preventive measures to minimize the potential exposure of all significant materials (as described in Part XI.F.3.a.(3) of this section) to precipitation and storm water runoff. The permittee should consider the implementation of the following measures, or equivalent measures, to reduce the exposure of all materials to storm water:

(i) Relocating all materials, including raw materials, intermediate products, material handling equipment, obsolete equipment, and wastes currently stored outside to inside locations.

(ii) Establishment of a schedule for removal of wastes and obsolete equipment to minimize the volume of these materials stored onsite that may be exposed to storm water.

(iii) Substitution of less hazardous materials, or materials less likely to contaminate storm water, or substitution of recyclable materials for nonrecyclables wherever possible.

(iv) Constructing permanent or semipermanent covers, or other similar forms of protection over stockpiled materials, material handling and processing equipment. Options include roofs, tarps, and covers. This may also include the use of containment bins or covered dumpsters for raw materials, waste materials and nonrecyclable waste materials.

(v) Dikes, berms, curbs, trenches, or other equivalent measures to divert runon from material storage, processing, or waste disposal areas.

(c) Preventive Maintenance—A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

(i) A schedule for inspection and maintenance of all particulate emissions control equipment should be established to ensure proper operation. Inspections should be conducted as described in Section XI.F.3.a.(3)(e) below. Detection of any leaks or defects that could lead to excessive emissions shall be repaired as soon as practicable. Where significant settling or deposition from process emissions are observed during proper operation of existing equipment, the permittee shall consider ways to reduce these emissions including but not limited to: upgrading or replacing existing equipment; collecting runoff from areas of deposition for treatment or recycling; or changes in materials or processes to reduce the generation of particulate matter.

(ii) Structural Best Management Practices (BMPs) will be visually inspected for signs of washout, excessive sedimentation, deterioration, damage, or overflowing, and shall be repaired or maintained as soon as practicable.

(d) Spill Prevention and Response Procedures—Areas where potential spills that can contribute pollutants to storm water discharges may occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage

requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

(e) Inspections—Qualified facility personnel shall be identified to inspect designated equipment and areas of the facility at appropriate intervals, but no less frequently than once during each of the following periods: January through March; April through June; July through September; and October through December. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained. Inspections shall be conducted on a quarterly basis and address, at a minimum, the following areas where applicable:

(i) Air pollution control equipment such as baghouses, electrostatic precipitators, scrubbers, and cyclones, should be inspected on a routine basis for any signs of disrepair such as leaks, corrosion, or improper operation that could limit their efficiency and lead to excessive emissions. The permittee should consider monitoring air flow at inlets and outlets, or equivalent measures, to check for leaks or blockage in ducts. Visual inspections shall be made for corrosion, leaks, or signs of particulate deposition or visible emissions that could indicate leaks.

(ii) All process or material handling equipment such as conveyors, cranes, and vehicles should be inspected for leaks, drips, etc. or for the potential loss of materials.

(iii) Material storage areas such as piles, bins or hoppers for storing coke, coal, scrap, or slag, as well as chemicals stored in tanks or drums, should be examined for signs of material losses due to wind or storm water runoff.

(f) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The pollution prevention plan shall identify periodic dates for such training.

(g) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

(h) Non-storm Water Discharges.

(i) Certification. The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit that receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with paragraph XI.F.3.a.(3)(h)(iii) (below).

(ii) Exceptions. Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2. (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) Failure to Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 270 days after permit issuance] or, for facilities that begin to discharge storm water associated with industrial activity after [Insert 270 days after permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States that are not authorized by an NPDES permit are unlawful, and must be terminated.

(i) Sediment and Erosion Control—The plan shall identify areas that, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion. The plan shall also contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those that control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity (see paragraph XI.F.3.a.(2) of this section (Description of Potential Pollutant Sources) shall be considered when determining reasonable and appropriate measures. Appropriate measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices or other equivalent measures.

(i) Management of Runoff—Facilities shall consider implementation of the following storm water management practices or other equivalent measures to address pollutants of concern:

(i) Vegetative buffer strips, filter fabric fence, sediment filtering boom, or other equivalent measures, that effectively trap or remove sediment prior to discharge through an inlet or catch basin.

(ii) Media filtration such as catch basin filters and sand filters.

(iii) Oil/water separators or the equivalent.

(iv) Structural BMPs such as settling basins, sediment traps, retention or detention ponds, recycling ponds or other equivalent measures.

(4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at

appropriate intervals specified in the plan but in no case less than once a year. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity such as material storage and handling, loading and unloading, process activities, and plant yards shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, other structural pollution prevention measures identified in the plan, as well as process related pollution control equipment shall be observed or tested to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with paragraph XI.F.3.a.(2) of this section (Description of Potential Pollutant Sources) and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.F.3.a.(3) of this section (Measures and Controls) shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.F.3.a.(4)(b) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years from the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under 3.a.(3)(e), the compliance evaluation may be conducted in place of one such inspection.

4. Numeric Effluent Limitations

There are no additional effluent limitations beyond those described in Part V.B. of this permit.

5. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. During the period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] and the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance], permittees with primary metals facilities identified by SIC codes 331, 332, 335, and 336 must monitor their storm water discharges associated with industrial activity at least quarterly (4 times per year during the second and fourth year of coverage) except as provided in paragraphs 5.a.(3) (Sampling Waiver), 5.a.(4) (Representative Discharge), and 5.a.(5) (Alternative Certification). Primary metals facilities are required to monitor their storm water discharges for the pollutants of concern listed in Tables F–1, F–2, F–3, and F–4 below. Facilities must report in accordance with 5.b. (Reporting). In addition to the parameters listed in Tables F–1 through F–4 below, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

TABLE F–1.—STEEL WORKS, BLAST FURNACES, AND ROLLING AND FINISHING MILLS (SIC 331) MONITORING REQUIREMENTS

Pollutants of concern	Monitoring cut-off concentration
Total Recoverable Aluminum	0.75 mg/L
Total Recoverable Zinc	0.065 mg/L

TABLE F–2.—IRON AND STEEL FOUNDRIES (SIC 332) MONITORING REQUIREMENTS

Pollutants of concern	Monitoring cut-off concentration
Total Recoverable Aluminum	0.75 mg/L
Total Suspended Solids	100 mg/L
Total Recoverable Copper	0.0636 mg/L
Total Recoverable Iron	1 mg/L
Total Recoverable Zinc	0.065 mg/L

TABLE F–3.—ROLLING, DRAWING, AND EXTRUDING OF NON-FERROUS METALS (SIC 335) MONITORING REQUIREMENTS

Pollutants of concern	Monitoring cut-off concentration
Total Recoverable Copper	0.0636 mg/L
Total Recoverable Zinc	0.065 mg/L

TABLE F–4.—NON-FERROUS FOUNDRIES (SIC 336) MONITORING REQUIREMENTS

Pollutants of concern	Monitoring cut-off concentration
Total Recoverable Copper	0.0636 mg/L
Total Recoverable Zinc	0.065 mg/L

(1) Monitoring Periods. Primary metals facilities shall monitor samples collected during the sampling periods of: January through March, April through June, July through September, and October through December for the years specified in paragraph a. (above).

(2) Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event internal may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why

a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

(3) Sampling Waiver.

(a) Adverse Conditions—When a discharger is unable to collect samples within a specified sampling period due to adverse climatic conditions, the discharger shall collect a substitute sample from a separate qualifying event in the next period and submit the data along with data for the routine sample in that period. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(b) Low Concentration Waiver—When the average concentration for a pollutant calculated from all monitoring data collected from an outfall during the monitoring period [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] is less than the corresponding value for that pollutant listed in Table F-1 under the column Monitoring Cut-off Concentration, a facility may waive monitoring and reporting requirements in the monitoring period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance]. The facility must submit to the Director, in lieu of the monitoring data, a certification that there has not been a significant change in industrial activity or the pollution prevention measures in area of the facility that drains to the outfall for which sampling was waived.

(c) When a discharger is unable to conduct quarterly chemical storm water sampling at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirements as long as the facility remains inactive and unstaffed. The facility must submit to the Director, in lieu of monitoring data, a certification statement on the DMR stating that the site is inactive and unstaffed so that collecting a sample during a qualifying event is not possible.

(4) Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan. The permittee shall include the description of the location of the outfalls, explanation of why outfalls are expected to discharge substantially identical effluents, and estimate of the size of the drainage area and runoff coefficient with the Discharge Monitoring Report.

(5) Alternative Certification. A discharger is not subject to the monitoring requirements of this section provided the discharger makes a certification for a given outfall or on a pollutant-by-pollutant basis in lieu of monitoring reports required under paragraph (*b*) below, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, or significant materials from past industrial activity that are located in areas of the facility within the drainage area of the outfall are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan, and submitted to EPA in accordance with Part VI.C. of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph (*b*) below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. The certification option is not applicable to compliance monitoring requirements associated with effluent limitations.

b. Reporting. Permittees with primary metals facilities shall submit monitoring results for each outfall associated with industrial activity [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the reporting period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March [insert the date 2 years after permit issuance]. Monitoring results [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance] shall be submitted on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March. For each outfall, one Discharge Monitoring Report Form must be submitted per storm event sampled. Signed copies of Discharge Monitoring Reports, or said certifications, shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office listed in Part VI.G. of the fact sheet.

(1) Additional Notification. In addition to filing copies of discharge monitoring reports in accordance with paragraph b (above), primary metals facilities with at least one storm water discharge associated with industrial activity through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in paragraph b (above).

c. Quarterly Visual Examination of Storm Water Quality. Facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination must be made at least once in each designated period [described in (*1*) below] during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(1) Examinations shall be conducted in each of the following periods for the purposes of visually inspecting storm water quality associated with storm water runoff or snow melt: January through March; April through June; July through September; and October through December.

(2) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snow melt begins discharging. The examinations shall

document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.

(3) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(4) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan, a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(5) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examination. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (e.g., drought, extended frozen conditions, etc.).

(6) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

G. Storm Water Discharges Associated With Industrial Activity From Metal Mining (Ore Mining and Dressing) Facilities

1. Discharges Covered Under This Section

The requirements listed under this section shall apply to storm water discharges from active and inactive metal mining and ore dressing facilities (Standard Industrial Classification (SIC) Major Group 10) if the storm water has come into contact with, or is contaminated by, any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site of the operation. SIC Major Group 10 includes establishments primarily engaged in mining, developing mines, or exploring for metallic minerals (ores) and also includes all ore dressing and beneficiating operations, whether performed at mills operated in conjunction with the mines served or at mills, such as custom mills, operated separately. For the purposes of this part of the permit, the term ''metal mining'' includes all ore mining and/or dressing and beneficiating operations, whether performed at mills operated in conjunction with the mines served or at mills, such as custom mills, operated separately. All storm water discharges from inactive metal mining facilities and the storm water discharges from the following areas of active, and temporarily inactive, metal mining facilities are the only discharges covered by this section of the permit: topsoil piles; offsite haul/access roads if off active area; onsite haul roads if not constructed of waste rock or if spent ore and mine water is not used for dust control; runoff from tailings dams/dikes when not constructed of waste rock/ tailings and no process fluids are present; concentration building, if no contact with material piles; mill site, if no contact with material piles; chemical storage area; docking facility, if no excessive contact with waste product; explosive storage; reclaimed areas released from reclamation bonds prior to December 17, 1990; and partially/ inadequately reclaimed areas or areas not released from reclamation bonds.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

a. Limitations on Coverage. The following storm water discharges associated with industrial activity are not authorized by this permit:

(1) Discharges from active metal mining facilities that are subject to the effluent limitation guidelines for the Ore Mining and Dressing Point Source Point Source Category (40 CFR Part 440). Coverage under this permit does not include adit drainage or contaminated springs or seeps at active facilities, temporarily inactive facilities, or inactive facilities. Also see Limitations on Coverage, Part I.B.3.

(2) Storm water discharges associated with an industrial activity that the Director (EPA) has determined to be, or may reasonably be expected to be, contributing to a violation of a water quality standard.

(3) Storm water discharges associated with industrial activity from inactive mining operations occurring on Federal lands where an operator cannot be identified.

2. Special Definitions

The following definitions are only for this section of today's permit and are not intended to supersede the definitions of active and inactive mining facilities established by 40 CFR 122.26(b)(14)(iii):

''Active Metal Mining Facility'' is a place where work or other related activity to the extraction, removal, or recovery of metal ore is being

conducted. With respect to surface mines, an ''active metal mining facility'' does not include any area of land on or in which grading has been completed to return the earth to a desired contour and reclamation work has begun.

''Inactive Metal Mining Facility'' means a site or portion of a site where metal mining and/or milling activities occurred in the past but is not an active metal mining facility, as defined in this permit and that portion of the facility does not have an active mining permit issued by the applicable (federal or state) governmental agency.

''Temporarily Inactive Metal Mining Facility'' means a site or portion of a site where metal mining and/or milling activities occurred in the past, but currently are not being actively undertaken, and the facility has an active mining permit issued by the applicable (federal or state) government agency that authorizes mining at the site.

3. Storm Water Pollution Prevention Plan Requirements

a. Contents of Plan for Active and Temporarily Inactive Metal Mining Facilities. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Identification of a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Mining Activities. A description of the mining and associated activities taking place at the site that affect or may affect storm water runoff intended to be covered by this permit. The description shall report the total acreage within the mine site, an estimate of the number of acres of disturbed land and an estimate of the total amount of land proposed to be disturbed throughout the life of the mine. A general description of the location of the mining site relative to major transportation routes and communities shall also be provided.

(3) Description of Potential Pollutant Sources. A description of potential sources that may reasonably be expected to add significant amounts of pollutants (including sediment) to storm water discharges or that may result in the discharge of pollutants during dry weather. Each description shall identify all activities and significant materials that may potentially be significant storm water pollutant sources from the active mining activity (see Part XI.G.1.), including, at a minimum:

(a) Drainage.

(i) A site topographic map that indicates, at a minimum: mining/milling site boundaries and access and haul roads; the location of each storm water outfall and an outline of the portions of the drainage area that are within the facility boundaries; equipment storage, fueling and maintenance areas; materials handling areas; storage areas for chemicals and explosives; areas used for storage of overburden, materials, soils or wastes; location of mine drainage (where water leaves mine) or any other process water; tailings piles/ponds, both proposed and existing; heap leach pads; points of discharge from the property for mine drainage or any other process water; springs, streams, wetlands and other surface waters; and boundary of tributary areas that are subject to effluent limitations guidelines. In addition, the map must indicate the types of discharges contained in the drainage areas of the outfalls.

(ii) Prediction of the direction of flow, and identification of the types of pollutants (e.g., heavy metals, sediment) that are likely to be present in storm water discharges associated with industrial activity, for each area of the mine/mill site that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants. Factors to consider include the mineralogy of the ore and waste rock (e.g., acid forming), toxicity and quantity of chemical(s) used, produced or discharged; the likelihood of contact with storm water; vegetation on site if any, and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

(b) Inventory of Exposed Materials—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation for each storm water outfall that may be covered under this permit (see Part XI.G.1.). Such inventory shall include a narrative description of: significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives. The inventory of exposed materials shall include, but shall not be limited to the significant materials stored exposed to storm water, and material management practices employed that were listed for the facility in the approved group application.

A summary of any existing ore or waste rock/overburden characterization data, including results of testing for acid rock generation potential. If the ore or waste rock/overburden characterization data is updated due to a change in the ore type being mined, the storm water pollution prevention plan shall be updated with the new data.

(c) Spills and Leaks—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of submission of a Notice of Intent (NOI) to be covered under this permit. Such list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(e) Risk Identification and Summary of Potential Pollutant Sources—A narrative description of the potential pollutant sources from the following activities associated with metal mining: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; significant dust or particulate generating processes; and onsite waste disposal practices. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., heavy metals, etc.) of concern shall be identified.

(4) Measures and Controls. A description of storm water management controls appropriate for the facility, and procedures for implementing such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management

controls shall address the following minimum components, including a schedule for implementing such controls:

(a) Good Housekeeping—Good housekeeping such as maintenance in a clean, orderly manner of areas that may contribute pollutants to storm water discharges. (For suggested measures for vehicle maintenance operations, see good housekeeping measures specified in Part XI.P. for transportation facilities.)

(b) Preventive Maintenance—A narrative describing the program for timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, catch basins) as well as inspection and testing of facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems. Particular attention shall be given to erosion control and sediment control systems and devices.

(c) Spill Prevention and Response Procedures—Areas where potential spills that can contribute pollutants to storm water discharges, and their accompanying drainage points. The description area shall include, where appropriate, specific material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered; procedures for cleaning up spills and the method for making these plans and the necessary equipment to implement a clean up available to the appropriate personnel.

(d) Inspections—Provisions for qualified personnel to inspect designated equipment and mine areas at least on a monthly basis for active sites. The monthly inspections can be done at any time during the month and do not have to be done immediately following a precipitation event. For temporarily inactive sites, the inspections should be quarterly; however, inspections are not required when adverse weather conditions (e.g., snow) make the site inaccessible. All material handling areas shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion control systems and sediment control devices shall also be inspected to determine if they are working properly. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained. The use of a checklist developed by the facility is encouraged.

(e) Employee Training—Outlines of employee training programs that inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping, and material management practices. The pollution prevention plan shall specify how often training shall take place, but in all cases training must be held at least annually (once per calendar year).

(f) Recordkeeping and Internal Reporting Procedures—Descriptions of incidents (such as spills, major storm events, or other discharges), as well as information describing the quality and quantity of storm water discharges. Inspections, maintenance activities, and training sessions shall also be documented and records of such activities shall be incorporated into the plan.

(g) Non-storm Water Discharges.

(i) A certification that any discharge has been tested or evaluated for the presence of non-storm water discharges, such as seeps or adit discharges or discharges subject to effluent limitation guidelines (e.g., 40 CFR Part 440), such as mine drainage or process water of any kind. The certification shall include the identification of potential significant sources of non-storm water or water subject to effluent limitation guidelines at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit that receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with paragraph XI.G.3.a.(4)(g)(iii) (below).

Alternatively, the plan may include a certification that any non-storm water discharge that mixes with storm water is subject to a separate NPDES permit that applies applicable effluent limitations prior to the mixing of non-storm water and storm water. In such cases, the certification shall identify the non-storm water discharge(s), the applicable NPDES permit(s), the effluent limitations placed on the non-storm water discharge by the NPDES permit(s), and the point(s) at which the limitations are applied.

(ii) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2 (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) Failure to Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 270 days after permit issuance] or, for facilities that begin to discharge storm water associated with industrial activity after [Insert date 270 days after permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States that are not authorized by an NPDES permit are unlawful, and must be terminated.

(h) Sediment and Erosion Control—Identification of areas that, due to topography, activities, or other factors, have a high potential for significant erosion of soil and/or other materials, and measures to be used to limit erosion and/or remove sediment from storm water runoff. The measures to consider include diversion of flow away from areas susceptible to erosion (such as interceptor dikes and swales; diversion dikes curbs and berms; pipe slope drains; subsurface drains; and drainage/storm water conveyance systems [channels or gutters; open top box culverts, and waterbars; rolling dips and road sloping; roadway surface water deflector; and culverts]), stabilization methods to prevent or minimize erosion (such as temporary or permanent seeding; vegetative buffer strips; protection of trees; topsoiling; soil

conditioning; contouring; mulching; geotextiles [matting; netting; or blankets]; riprap; gabions; and retaining walls), and structural methods for controlling sediment (such as check dams; rock outlet protection; level spreaders; gradient terraces; straw bale barriers; silt fences; gravel or stone filter berms; brush barriers; sediment traps; grass swales; pipe slope drains; earth dikes; other controls such as entrance stabilization, waterway crossings or wind breaks; or other equivalent measures).

(i) Management of Runoff—A narrative consideration of the appropriateness of traditional storm water management practices (practices other than those that control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site and provisions for implementation and maintenance of measures that the permittee determines to be reasonable and appropriate. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity [see paragraph XI.G.3.a.(3) of this section (Description of Potential Pollutant Sources)] shall be considered when determining reasonable and appropriate measures. Appropriate measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices, or impoundments.

(i) Capping—Where capping of a contaminant source is necessary, the source being capped and materials and procedures used to cap the contaminant source must be identified. In some cases, the elimination of a pollution source through capping contaminant sources may be the most effective control measure for discharges from inactive ore mining and dressing facilities.

(k) Treatment—A description of how storm water will be treated prior to discharging to waters of the United States if treatment of a storm water discharge is necessary. Storm water treatments include the following: chemical/physical treatment; oil/water separators; and artificial wetlands.

(5) Comprehensive Site Compliance Evaluation. Procedures for qualified personnel to conduct site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year. Such evaluations shall include:

(a) Visual inspections of areas contributing to a storm water discharge associated with industrial activity for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with paragraph XI.G.3.a.(3) of this section (Description of Potential Pollutant Sources) and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.G.3.a.(4) of this section (Measures and Controls) shall be revised as appropriate within 30 days of such inspection and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation unless additional time is authorized by the permit issuing authority.

(c) Preparation of a report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.G.3.a.(5)(b) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under XI.G.3.a.(4)(d), the compliance evaluation may be conducted in place of one such inspection.

b. Contents of Plan for Inactive Metal Mining Facilities. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Identification of a specific individual or individuals that are responsible for the development, implementation, maintenance, and revision of the storm water pollution prevention plan. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the storm water pollution prevention plan at the inactive facility.

(2) Description of Mining Activities. A description of the mining and associated activities that took place at the site. The description shall report the approximate dates of operation, the total acreage within the mine and/or processing site, an estimate of the number of acres of disturbed area, and the current activities (e.g., reclamation) that are taking place at the facility. A general description of the location of the mining site relative to major transportation routes and communities shall also be provided.

(3) Description of Potential Pollutant Sources. A description of potential sources that may reasonably be expected to add significant amounts of pollutants (including sediment) to storm water discharges or that may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials that may potentially be significant storm water pollutant sources form the inactive mining site. Each description shall include, at a minimum:

(a) Site Map—A generalized site map or maps that depict any of the following that may be applicable: mining/milling site boundaries and access and haul roads; the location of each storm water outfall and an outline of the portions of the drainage area that are within the facility boundaries; areas used for storage of overburden, materials, soils, tailings, or wastes; areas used for outdoor manufacturing, storage, or disposal of materials; any remaining equipment storage, fueling, and maintenance ares; tailings piles/ponds; mine drainage or any other process water discharge points; an estimate of the direction(s) of flow; existing structural controls to reduce pollutants in storm water runoff; and springs, streams, wetlands, and other surface waters. The map must also indicate the types of discharges contained in the drainage areas of the outfalls.

(b) Inventory of Exposed Materials—An inventory and narrative description

for each outfall of any significant materials that may still be at the site. This description of sources should agree with sources identified on the map.

(c) Sampling Data—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(d) Risk Identification and Summary of Potential Pollutant Sources—For each potential pollutant source at the site the pollutants of concern (e.g., heavy metals) shall be identified and an assessment made of the potential of these pollutant sources to contribute pollutants to storm water discharges.

(4) Measures and Controls. A description of storm water management controls appropriate for the facility, and procedures for implementing such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

(a) Storm Water Diversion—Description of how and where storm water will be diverted away from potential pollutant sources to prevent storm water contamination. Storm water diversions may include the following: interceptor dikes and swales; diversion dikes curbs and berms; pipe slope drains; subsurface drains; drainage/storm water conveyance systems (channels or gutters; open top box culverts, and waterbars; rolling dips and road sloping; roadway surface water deflector; and culverts) or equivalent measures.

(b) Sediment and Erosion Control—Identification of areas that, due to topography, activities, or other factors, have a high potential for significant erosion of soil and/or other materials, and measures to be used to limit erosion and/or remove sediment from storm water runoff. The measures to consider include diversion of flow away from areas susceptible to erosion, stabilization methods to prevent or minimize erosion (such as temporary or permanent seeding; vegetative buffer strips; protection of trees; topsoiling; soil conditioning; contouring; mulching; geotextiles (matting; netting; or blankets); riprap; gabions; and retaining walls), structural methods for controlling sediment (such as check dams; rock outlet protection; level spreaders; gradient terraces; straw bale barriers; silt fences; gravel or stone filter berms; brush barriers; sediment traps; grass swales; pipe slope drains; earth dikes; and other controls such as entrance stabilization, waterway crossings or wind breaks; or other equivalent measures).

(c) Management of Runoff—A narrative consideration of the appropriateness of traditional storm water management practices (practices other than those that control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site and provisions for implementation and maintenance of measures that the permittee determines to be reasonable and appropriate. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity [see paragraph XI.G.3.b.(3) of this section (Description of Potential Pollutant Sources)] shall be considered when determining reasonable and appropriate measures. Appropriate measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls, snow management activities, infiltration devices, and wet detention/retention devices, or impoundments.

(d) Capping—Where capping of a contaminant source is necessary, the source being capped and materials and procedures used to cap the contaminant source must be identified. In some cases, the elimination of a pollution source through capping contaminant sources may be the most effective control measure for discharges from inactive ore mining and dressing facilities.

(e) Treatment—A description of how storm water will be treated prior to discharging to waters of the United States if treatment of a storm water discharge is necessary. Storm water treatments include the following: chemical/physical treatment; oil/water separators; artificial wetlands or other equivalent measures.

(f) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as spills, or other discharges), as well as information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

(5) Comprehensive Site Compliance Evaluation. Procedures for qualified personnel to conduct site compliance evaluations at appropriate intervals specified in the plan, but, except as provided in paragraph XI.G.3.b.(5)(d) (below), in no case less than once a year. Such evaluations shall include:

(a) Visual inspection of areas contributing to a storm water discharge associated with industrial activity for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with paragraph XI.G.3.a.(3) of this section (Description of Potential Pollutant Sources) and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.G.3.a.(4) of this section (Measures and Controls) shall be revised as appropriate within 30 days of such inspection and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation unless additional time is authorized by the permit issuing authority.

(c) Preparation of a report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.G.3.b.(5)(b) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where annual site compliance evaluations are shown in the plan to be impractical for inactive mining sites due to the remote location and inaccessibility of the site, site

evaluations required under this part shall be conducted at appropriate intervals specified in the plan, but, in no case less than once in 3 years.

4. Numeric Effluent Limitations

There are no additional numeric effluent limitations beyond those described in Part V.B of this permit.

5. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. During the period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] and the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance], copper ore mining and dressing facilities must monitor their storm water discharges associated with industrial activity at least quarterly (4 times per year) during years 2 and 4 except as provided in paragraphs 5.a.(3) (Sampling Waiver), 5.a.(4) (Representative Discharge), and 5.a.(5) (Alternative Certification). Active copper ore mining and dressing facilities are required to monitor their storm water discharges for the pollutants of concern listed in Table G-1 below. Facilities must report in accordance with 5.b. (Reporting). In addition to the parameters listed in Table G-1 below, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

TABLE G–1.—MONITORING REQUIREMENTS FOR ACTIVE FACILITIES

Pollutants of concern	Monitoring cut-off concentration
Chemical Oxygen Demand (COD).	120 mg/L
Total Suspended Solids (TSS)	100 mg/L
Nitrate plus Nitrite Nitrogen	0.68 mg/L

(1) Monitoring Periods. Active copper ore mining and dressing facilities shall monitor samples collected during the sampling periods of: January through March, April through June, July through September, and October through December for the years specified in paragraph a. (above).

(2) Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or non-process water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

(3) Sampling Waiver.

(a) Adverse Conditions—When a discharger is unable to collect samples within a specified sampling period due to adverse climatic conditions, the discharger shall collect a substitute sample from a separate qualifying event in the next period and submit the data along with data for the routine sample in that period. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(b) Low Concentration Waiver—When the average concentration for a pollutant calculated from all monitoring data collected from an outfall during the monitoring period [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] is less than the corresponding value for that pollutant listed in Table G-1 under the column Monitoring Cut-off Concentration, a facility may waive monitoring and reporting requirements in the monitoring period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance]. The facility must submit to the Director, in lieu of the monitoring data, a certification that there has not been a significant change in industrial activity or the pollution prevention measures in area of the facility that drains to the outfall for which sampling was waived.

(4) Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan. The permittee shall include the description of the location of the outfalls, explanation of why outfalls are expected to discharge substantially identical effluents, and estimate of the size of the drainage area and runoff coefficient with the Discharge Monitoring Report.

(5) Alternative Certification. A discharger is not subject to the monitoring requirements of this section provided the discharger makes a certification for a given outfall, or on a pollutant-by-pollutant basis in lieu of the monitoring reports required under paragraph *b* below, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, or significant materials from past industrial activity that are located in areas of the facility within the drainage area of the outfall are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan, and submitted to EPA in accordance with Part VI.C. of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under

paragraph *b.* below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations.

b. Reporting. Permittees with active copper ore mining and dressing facilities shall submit monitoring results for each outfall associated with industrial activity [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the reporting period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March [insert the date 2 years after permit issuance]. Monitoring results [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance] shall be submitted on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March. For each outfall, one signed Discharge Monitoring Report form must be submitted to the Director per storm event sampled. Signed copies of Discharge Monitoring Reports, or said certifications, shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office listed in Part VI.G. of the fact sheet to this permit.

(1) Additional Notification. In addition to filing copies of discharge monitoring reports in accordance with paragraph b (above), active ore mining and dressing facilities with at least one storm water discharge associated with industrial activity through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in paragraph b (above).

c. Visual Examination of Storm Water Quality. Mining facilities covered under this sector shall perform and document a visual examination of storm water discharges associated with industrial activity from each outfall, except discharges exempted below. The examination must be made during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event. Mining facilities must examine storm water quality at least once in each of the following periods: January through March; April through June; July through September; and October through December.

(1) Examinations shall be made of grab samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.

(2) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(3) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(4) When a discharger is unable to conduct one of the required visual examinations during the required period as a result of adverse climatic conditions or inaccessibility, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examination. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(5) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

H. Storm Water Discharges Associated With Industrial Activity From Coal Mines and Coal Mining-Related Facilities

1. Discharges Covered Under This Section

The requirements listed under this section shall apply to storm water discharges from coal mining-related areas (SIC Major Group 12) if they are not subject to effluent limitations guidelines under 40 CFR Part 434.

a. Coverage. Storm water discharges from the following portions of coal mines may be eligible for this permit: haul roads (nonpublic roads on which coal or coal refuse is conveyed), access roads (nonpublic roads providing light vehicular traffic within the facility property and to public roadways), railroad spurs, sidings, and internal haulage lines (rail lines used for hauling coal within the facility property and to offsite commercial railroad lines or loading areas), conveyor belts, chutes, and aerial tramway haulage areas (areas under and around coal or refuse conveyor areas, including transfer stations), equipment storage and maintenance yards, coal handling buildings and structures, and inactive coal mines and related areas (abandoned and other inactive mines, refuse disposal sites and other mining-related areas on private lands).

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

b. Limitations. Storm water discharges from inactive mining activities occurring on Federal lands where an operator cannot be identified are not eligible for coverage under this permit.

2. Special Conditions

a. Prohibition of Non-storm Water Discharges. In addition to the broad prohibition of non-storm water discharges of Part III.A.2. of the permit, point source discharges of pollutant seeps or underground drainage from inactive coal mines and refuse disposal areas that do not occur as storm water discharges in response to precipitation events are also excluded from coverage under this permit. In addition, floordrains from maintenance buildings and other similar drains in mining and preparation plant areas are prohibited.

3. Storm Water Pollution Prevention Plan Requirements

Most of the active coal mining-related areas, described in paragraph XI.H.1. above, are subject to sediment and erosion control regulations of the U.S. Office of Surface Mining (OSM) that enforces the Surface Mining Control and Reclamation Act (SMCRA). OSM has granted authority to most coal-producing states to implement SMCRA through State SMCRA regulations. All SMCRA requirements regarding control of erosion, siltation and other pollutants resulting from storm water runoff, including road dust resulting from erosion, shall be primary requirements of the pollution prevention plan and shall be included in the contents of the plan directly, or by reference. Where determined to be appropriate for protection of water quality, additional sedimentation and erosion controls may be warranted.

a. Contents of Plan. The plan shall include at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources that may reasonably be expected to add significant amounts of pollutants to storm water discharges or that may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials that may potentially be significant pollutant sources. Each plan shall include, at a minimum:

Drainage.

(i) Asite map, such as a drainage map required for SMCRA permit applications, that indicate drainage areas and storm water outfalls. These shall include but not be limited to the following:

(a) Drainage direction and discharge points from all applicable mining-related areas described in Section XI.H.1.a. (discharges covered under this section) above, including culvert and sump discharges from roads and rail beds and also from equipment and maintenance areas subject to storm runoff of fuel, lubricants and other potentially harmful liquids.

(b) Location of each existing erosion and sedimentation control structure or other control measures for reducing pollutants in storm water runoff.

(c) Receiving streams or other surface water bodies.

(d) Locations exposed to precipitation that contain acidic spoil, refuse or unreclaimed disturbed areas.

(e) Locations where major spills or leaks of toxic or hazardous pollutants have occurred.

(f) Locations where liquid storage tanks containing potential pollutants, such as caustics, hydraulic fluids and lubricants, are exposed to precipitation.

(g) Locations where fueling stations, vehicle and equipment maintenance areas are exposed to precipitation.

(h) Locations at outfalls and the types of discharges contained in the drainage areas of the outfalls.

(ii) For each area of the facility that generates storm water discharges associated with the mining-related activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants that are likely to be present in storm water discharges associated with the activity. Factors to consider include the toxicity of the pollutant; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

(b) Inventory of Exposed Materials—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

(c) Spills and Leaks—A list of significant spills and leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Such list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—A summary of any existing discharge sampling data describing pollutants in storm water discharges from the portions of the facility covered by this permit, including a summary of any sampling data collected during the term of this permit.

(e) Risk Identification and Summary of Potential Pollutant Sources—A narrative description of the potential pollutant sources from the following activities: truck traffic on haul roads and resulting generation of sediment subject to runoff and dust generation; fuel or

other liquid storage; pressure lines containing slurry, hydraulic fluid or other potential harmful liquids; and loading or temporary storage of acidic refuse or spoil. Specific potential pollutants shall be identified, where known.

(3) Measures and Controls. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls.

(a) Good Housekeeping—Good housekeeping requires the maintenance of areas that may contribute pollutants to storm water discharges in a clean, orderly manner. These would be practices that would minimize the generation of pollutants at the source or before it would be necessary to employ sediment ponds or other control measures at the discharge outlets. Where applicable, such measures or other equivalent measures would include the following: sweepers and covered storage to minimize dust generation and storm runoff; conservation of vegetation where possible to minimize erosion; watering of haul roads to minimize dust generation; collection, removal, and proper disposal of waste oils and other fluids resulting from vehicle and equipment maintenance; or other equivalent measures.

(b) Preventive Maintenance—A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems. Where applicable, such measures would include the following: removal and proper disposal of settled solids in catch basins to allow sufficient retention capacity; periodic replacement of siltation control measures subject to deterioration such as straw bales; inspections of storage tanks and pressure lines for fuels, lubricants, hydraulic fluid or slurry to prevent leaks due to deterioration or faulty connections; or other equivalent measures.

(c) Spill Prevention and Response Procedures—Areas where potential spills that can contribute pollutants to storm water discharges can occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

(d) Inspections—In addition to or as part of the comprehensive site evaluation required under paragraph XI.H.3.a.(4) of this section, qualified facility personnel shall be identified to inspect designated areas of the facility at appropriate intervals specified in the plan. The following shall be included in the plan:

(i) Active Mining-Related Areas and Those Inactive Areas Under SMCRA Bond Authority—The plan shall require quarterly inspections by the facility personnel for areas of the facility covered by pollution prevention plan requirements. This inspection interval corresponds with the quarterly inspections for the entire facility required to be provided by SMCRA authority inspectors for all mining-related areas under SMCRA authority, including sediment and erosion control measures. Inspections by the facility representative may be done at the same time as the mandatory inspections performed by SMCRA inspectors. Records of inspections of the SMCRA *authority facility representative* shall be maintained.

(ii) Inactive Mining-Related Areas Not Under SMCRA Bond.—The plan shall require annual inspections by the facility representative except in situations referred to in paragraph XI.H.3.a.(4)(d) below.

(iii) Inspection Records—The plan shall require that inspection records of the facility representative and those of the SMCRA authority inspector shall be maintained. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections.

(e) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The pollution prevention plan shall identify periodic dates for such training.

(f) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as spills, or other discharges) along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

(g) Non-storm Water Discharges

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges such as drainage from underground portions of inactive mines or floor drains from maintenance or coal handling buildings. The certification shall include the identification of potential significant sources of non-storm water discharges at the site, a description of the results of any test and/or evaluation, a description of the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit.

(ii) Except for flows from fire fighting activities, authorized sources of non-storm water listed in Part III.A.2. (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) Any facility that is unable to provide the certification required (testing or other evaluation for non-storm water discharges) must notify the Director by [270 days after permit issuance] or, for facilities that begin to discharge storm water associated with industrial activity after [insert date 270 days after permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water to the storm discharge lines; and why adequate tests for such storm

discharge lines were not feasible. Non-storm water discharges to waters of the United States that are not authorized by an NPDES permit are unlawful, and must be terminated.

(h) Sediment and Erosion Control—The plan shall identify areas that, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion and reduce sediment concentrations in storm water discharges. As indicated in paragraph XI.H.3.a.(3) above, SMCRA requirements regarding sediment and erosion control measures are primary requirements of the pollution prevention plan for mining-related areas subject to SMCRA authority. The following sediment and erosion control measures or other equivalent measures, should be included in the plan where reasonable and appropriate for all areas subject to storm water runoff:

(i) Stabilization Measures—Interim and permanent stabilization measures to minimize erosion and lessen amount of structural sediment control measures needed, including: mature vegetation preservation; temporary seeding; permanent seeding and planting; temporary mulching, matting, and netting; sod stabilization; vegetative buffer strips; temporary chemical mulch, soil binders, and soil palliatives; nonacidic roadsurfacing material; and protective trees.

(ii) Structural Measures—Structural measures to lessen erosion and reduce sediment discharges, including: silt fences; earth dikes; straw dikes; gradient terraces; drainage swales; sediment traps; pipe slope drains; porous rock check dams; sedimentation ponds; riprap channel protection; capping of contaminated sources; and physical/chemical treatment of storm water.

(i) Management of Flow—The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (other than those as sediment and erosion control measures listed above) used to manage storm water runoff in a manner that reduces pollutants in storm water runoff from the site. The plan shall provide that the measures, which the permittee determines to be reasonable and appropriate, shall be implemented and maintained. Appropriate measures may include: discharge diversions; drainage/storm water conveyances; runoff dispersion; sediment control and collection; vegetation/soil stabilization; capping of contaminated sources; treatment; or other equivalent measures.

(4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at intervals specified in the plan, but in no case less than once a year. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with coal mining-related areas shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. These areas include haul and access roads; railroad spurs, sidings, and internal haulage lines; conveyor belts, chutes and aerial tramways; equipment storage and maintenance yards; coal handling buildings and structures; and inactive mines and related areas. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures, as indicated in paragraphs XI.H.3.a.(3)(h) and XI.H.3.a.(3)(i) above and where identified in the plan, shall be observed to ensure that they are operating correctly. A visual evaluation of any equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan, in accordance with paragraph XI.H.3.a.(2) of this section, and pollution prevention measures and controls identified in the plan, in accordance with paragraph XI.H.3.a.(3) of this section, shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner. For inactive mines, such revisions may be extended to a maximum of 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.H.3.a.(4)(b) above shall be made and retained as part of the storm water pollution prevention plan for at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under 3.a.(3)(d), the compliance evaluation may be conducted in place of one such inspection. Where annual site compliance evaluations are shown in the plan to be impractical for inactive mining sites due to the remote location and inaccessibility of the site, site inspections required under this part shall be conducted at appropriate intervals specified in the plan, but, in no case less than once in 3 years.

4. Numeric Effluent Limitations

There are no additional numeric effluent limitations beyond those described in Part V.B. of this permit.

5. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. During the period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] and the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance], permittees with coal mining activities must monitor their storm water discharges associated with industrial activity at least quarterly (4 times per year) during years 2 and 4 except as provided in paragraphs 5.a.(3) (Sampling Waiver), 5.a.(4) (Representative Discharge), and 5.a.(5) (Alternative Certification). Coal mining facilities are required to monitor their storm water discharges for the pollutants of concern listed in Table H-1 below. Facilities must report in accordance with 5.b. (Reporting). In addition to the parameters listed in Table H-1 below, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

TABLE H–1.—MONITORING REQUIREMENTS FOR COAL MINING FACILITIES

Pollutants of concern	Cut-off concentration (mg/L)
Total Recoverable Aluminum	0.75
Total Recoverable Iron	1.0
Total Suspended Solids	100

(1) Monitoring Periods. Coal mining facilities shall monitor samples collected during the sampling periods of: January through March, April through June, July through September, and October through December for the years specified in paragraph a. (above).

(2) Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

(3) Sampling Waiver

(a) Adverse Conditions—When a discharger is unable to collect samples within a specified sampling period due to adverse climatic conditions, the discharger shall collect a substitute sample from a separate qualifying event in the next monitoring period and submit the data along with the data for the routine sample in that period. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricanes, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(b) Low Concentration Waiver—When the average concentration for a pollutant calculated from all monitoring data collected from an outfall during the monitoring period [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] is less than the corresponding value for that pollutant listed in Table H-1 under the column Monitoring Cut-off Concentration, a facility may waive monitoring and reporting requirements in the monitoring period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance]. The facility must submit to the Director, in lieu of the monitoring data, a certification that there has not been a significant change in industrial activity or the pollution prevention measures in area of the facility that drains to the outfall for which sampling was waived.

(c) When a discharger is unable to conduct quarterly chemical storm water sampling at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirements as long as the facility remains inactive and unstaffed. The facility must submit to the Director, in lieu of monitoring data, a certification statement on the DMR stating that the site is inactive and unstaffed so that collecting a sample during a qualifying event is not possible.

(4) Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan. The permittee shall include the description of the location of the outfalls, explanation of why outfalls are expected to discharge substantially identical effluents, and estimate of the size of the drainage area and runoff coefficient with the Discharge Monitoring Report.

(5) Alternative Certification. A discharger is not subject to the monitoring requirements of this section provided the discharger makes a certification for a given outfall or on a pollutant-by-pollutant basis in lieu of monitoring reports required under paragraph *b.* below, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, or significant materials from past industrial activity that are located in areas of the facility within the drainage area of the outfall are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan, and submitted to EPA in accordance with Part VI.C. of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph *b.* below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations.

b. Reporting. Permittees shall submit monitoring results for each outfall associated with industrial activity [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the reporting period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March [insert the date 2 years after permit issuance]. Monitoring results [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance] shall be submitted on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March. For each outfall, one signed Discharge Monitoring Report form must be submitted to the Director per storm event sampled. Signed copies of

Discharge Monitoring Reports, or said certifications, shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office listed in Part VI.B.1. of the permit.

(1) Additional Notification. In addition to filing copies of discharge monitoring reports in accordance with paragraph *b.* (above), coal-mining related facilities with at least one storm water discharge associated with industrial activity through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in paragraph *b.* (above).

c. Visual Examination of Storm Water Quality. Coal mining-related facilities shall perform and document a visual examination of a representative storm water discharge at the following frequencies: quarterly for active areas under SMCRA bond located in areas with average annual precipitation over 20 inches; semi-annually for inactive areas under SMCRA bond, and active areas under SMCRA bond located in areas with average annual precipitation of 20 inches or less; visual examinations are not required at inactive areas not under SMCRA bond.

(1) Examinations shall be conducted in each of the following periods for the purposes of visually inspecting storm water runoff or snow melt: Quarterly—January through March; April through June; July through September; and October through December. Semi-annually—January through June and July through December.

(2) Examinations shall be made of samples collected within the first 60 minutes (or as soon thereafter as practical, but not to exceed two hours) of when the runoff or snow melt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual will carry out the collection and examination of discharges for the life of the permit.

(3) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(4) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfalls provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explaining in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(5) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricanes, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(6) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

I. Storm Water Discharges Associated With Industrial Activity From Oil and Gas Extraction Facilities

1. Discharges Covered Under This Section

a. Coverage. This permit covers all existing point source discharges of storm water associated with industrial activity to waters of the United States from oil and gas facilities listed under Standard Industrial Classification (SIC) Major Group 13 which are required to be permitted under 40 CFR 122.26. These include ''* * * oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contract with or that has come into contact with any overburden raw material, intermediate products, finished products, by-products or waste products located on the site of such operations.'' Contaminated storm water discharges from petroleum refining or drilling operations that are subject to nationally established BAT or BPT guidelines found at 40 CFR 419 and 435 respectively are not included. Industries in SIC Major Group 13 include the extraction and production of crude oil, natural gas, oil sands and shale; the production of hydrocarbon liquids and natural gas from coal; and associated oil field service, supply and repair industries.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

b. Limitations. Storm water discharges associated with industrial activity from inactive oil and gas operations occurring on Federal lands where an operator cannot be identified are not covered by this permit.

2. Special Conditions

There are no additional requirements beyond those listed in Part III. of this permit.

3. Storm Water Pollution Prevention Plan Requirements

a. Contents of Plan. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials which may potentially be significant pollutant sources. Each plan shall include, at a minimum:

(a) Drainage

(i) A site map indicating an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies, locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under Part IX.I.3.a.(1)(c) (Spills and Leaks) of this permit have occurred, location of any areas where RQ releases have occurred; and the locations of the following activities where such activities are exposed to precipitation: fueling stations, vehicle and equipment maintenance and/or cleaning areas, loading/unloading areas, locations used for the treatment, storage or disposal of wastes, liquid storage tanks, processing areas and storage areas, chemical mixing areas, construction and drilling areas. The site map will indicate all areas subject to the effluent guidelines requirement of ''No Discharge'' in accordance with 40 CFR 435.32 and the existing structural controls to achieve compliance with the ''No Discharge'' requirement. The map must indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls.

(ii) For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants which are likely to be present in storm water discharges associated with industrial activity. Factors to consider include the toxicity of chemical; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. The permittee should consider the cause of RQ releases, the materials used to contain and remediate releases, and any other aspect of releases or clean-up which could potentially contribute pollutants to a storm water discharge. Flows with a significant potential for causing erosion shall be identified.

(b) Inventory of Exposed Materials—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

(c) Spills and Leaks—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Such list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(e) Risk Identification and Summary of Potential Pollutant Sources—A narrative description of the potential pollutant sources from the following activities: loading and unloading operations; outdoor storage activities; chemical, cement, mud or gel mixing activities; outdoor manufacturing or processing activities; drilling or mining activities; significant dust or particulate generating processes; and onsite waste disposal practices, equipment cleaning and rehabilitation activities. List any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., biochemical oxygen demand, etc.) of concern shall be identified.

In its description of potential pollutant sources, a facility must include information about the RQ release which triggered the permit application requirements. Such information must include: the nature of the release (e.g., spill of oil from a drum storage area); the amount of oil or hazardous substance released; amount of substance recovered; date of the release; cause of the release (e.g., poor handling techniques as well as lack of containment in area); area affected by release, including land and waters; procedure to cleanup release; actions or procedures implemented to prevent or better respond to a release; and remaining potential contamination of storm water from release. The analysis shall take into account human health risks, the control of drinking water intakes, and the designated uses of the receiving stream.

(3) Measures and Controls. Each facility covered by this permit shall develop and implement storm water management controls appropriate for the facility. The controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such measures:

(a) Good Housekeeping—Good housekeeping requires the maintenance of areas which may contribute pollutants to storm water discharges in a clean, orderly manner.

(b) Preventive Maintenance—A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, catch basins) as well as inspecting and testing facility

equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems. The preventative maintenance program shall also include the inspection of all on site and off site mixing tanks and equipment, and all vehicles which carry supplies and chemicals to oil field activities.

(c) Spill Prevention and Response Procedures—Areas where potential spills which can contribute pollutants to storm water discharges can occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Materials shall be stored indoors where possible, and drainage systems designed to discharge downstream from drinking water intakes. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

(d) Inspections—In addition to or as part of the comprehensive site evaluation required under paragraph XI.I.3.a.(4) of this section, qualified facility or plant personnel shall be identified to inspect designated equipment and areas of the facility at appropriate intervals specified in the plan. All equipment and areas addressed in the pollution prevention plan shall be inspected at a minimum of 6-month intervals. Equipment and vehicles which store, mix or transport hazardous materials will be inspected routinely, but not less than quarterly. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained.

(e) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The pollution prevention plan shall identify periodic dates for such training.

(f) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan. All records shall be kept for a period of not less than 3 years.

(g) Non-storm Water Discharges

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with paragraph XI.I.a.(3)(g)(iii) (below).

(ii) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2. (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) Failure to Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 270 days after permit issuance] or, for facilities which begin to discharge storm water associated with industrial activity after [Insert date 270 days after permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States which are not authorized by an NPDES permit are unlawful, and must be terminated.

(h) Sediment and Erosion Control—The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion. Unless covered by the General Permit for Construction Activity (57 FR 41209), the additional erosion control requirement for well drillings oil, sand, and shale mining areas are as follows:

(i) Site Description—Each plan shall provide a description of the following: (1) A description of the nature of the exploration activity; (2) estimates of the total area of the site and the area of the site that is expected to be disturbed due to the exploration activity; (3) an estimate of the runoff coefficient of the site; (4) a site map indicating drainage patterns and approximate slopes, the location of major control structures identified in the plan, and surface waters; and (5) the name of the receiving water(s) and the ultimate receiving water(s) of the runoff.

(ii) Controls—The pollution prevention plan shall include a description of controls appropriate for the activity and implement such controls. The description of controls shall address the following minimum components:

(a) A description of vegetative practices designed to preserve existing vegetation where attainable and revegetate open areas as soon as practicable after grade drilling. Such practices may include: temporary seeding, permanent seeding, mulching, sod stabilization, vegetative buffer strips, protection of trees, or other equivalent measures. The operator shall initiate appropriate vegetative practices on all disturbed areas within 14 calendar days of the last activity at that area.

(b) A description of structural practices that, to the degree attainable, divert flows from exposed soils, store flows or otherwise limit runoff from exposed areas of the site. Such practices

may include straw bale dikes, silt fences, earth dikes, brush barriers, drainage swales, check dams, subsurface drain, pipe slope drain, level spreaders storm drain inlet protection, rock outlet protection, sediment traps, temporary sediment basins, or other equivalent measures.

(iii) Offsite vehicle tracking of sediments shall be minimized.

(iv) Procedures in a plan shall provide that all erosion controls on the site are inspected at least once every 7 calendar days. Weekly inspections are necessary to ensure erosion controls continue to effectively reduce the amount of sediment carried offsite. A silt fence or silt trap is no longer effective when filled with silt.

(i) Management of Runoff—The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide the measures that the permittee determines to be reasonable and appropriate which shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity shall be considered when determining reasonable and appropriate measures. Appropriate measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, wet detention/retention devices, or other equivalent measures.

(j) Reportable Quantity (RQ) Release—The permittee must describe the measures taken to clean up RQ releases or related spills of materials, as well as measures proposed to avoid future releases of RQs. Such measures may include, among others: Improved handling or storage techniques; containment around handling areas of liquid materials; and use of improved spill cleanup materials and techniques.

(k) Vehicle and Equipment Storage Areas—The storage of vehicles and equipment awaiting or having completed maintenance must be confined to designated areas (delineated on the site map). The plan must describe measures that prevent or minimize contamination of the storm water runoff from these areas. The facility may consider the use of drip pans under vehicles and equipment, indoor storage of the vehicles and equipment, installation of berming and diking of this area, or other equivalent measures.

(l) Vehicle and Equipment Cleaning and Maintenance Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from all areas used for vehicle and equipment cleaning. The facility may consider performing all cleaning operations indoors, covering the cleaning operation, ensuring that all washwaters drain to a sanitary sewer, and/or collecting the storm water runoff from the cleaning area and providing treatment or recycling. The discharge of vehicle and equipment wash waters, including tank cleaning operations, are not authorized by this permit and must be authorized under a separate NPDES permit or discharged to a sanitary sewer in accordance with applicable industrial pretreatment requirements.

The plan must describe measures that prevent or minimize contamination of the storm water runoff from all areas used for vehicle and equipment maintenance and rehabilitation. The facility may consider performing all maintenance activities indoors, using drip pans, maintaining an organized inventory of materials used in the shop, draining all parts of fluids prior to disposal, prohibiting the practice of hosing down the shop floor where the practice would result in the exposure of pollutants to storm water, using dry cleanup methods, collecting the storm water runoff from the maintenance area and providing treatment or recycling, or other equivalent measures.

(m) Materials and Chemical Storage Areas—Storage units of all chemicals and materials (e.g., fuels, oils, used filters, spent solvents, paint wastes, radiator fluids, transmission fluids, hydraulic fluids, detergents drilling mud components, acids, organic additives) must be maintained in good condition so as to prevent contamination of storm water. Hazardous materials must be plainly labeled. The plan must describe measures that prevent or minimize contamination of the storm water runoff from such storage areas. The facility may consider indoor storage of the materials and/or installation of berming and diking at the area.

(n) Chemical Mixing Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from chemical mixing areas. The facility may consider covering the mixing area, using spill and overflow protection, minimizing runon of storm water to the mixing area, using dry cleanup methods, and/or collecting the storm water runoff and providing treatment or recycling. The facility may consider installation of berming and diking of the area.

Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity (e.g., materials and chemical storage areas, vehicle and equipment cleaning and maintenance areas, vehicle and equipment storage areas, chemical mixing areas, and areas of materials handling at the drill site areas) shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with paragraph XI.I.3.a.(2) of this section (Description of Potential Pollutant Sources) and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.I.3.a.(3) of this section (Measures and Controls) shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, and major observations relating to the implementation of the storm water pollution prevention plan the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in

accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under 3.a.(3)(d), the compliance evaluation may be conducted in place of one such inspection.

4. Numeric Effluent Limitations

There are no additional requirements beyond those listed in Part V.B. of this permit.

5. Monitoring and Reporting Requirements

a. Monitoring Requirements

(1) Quarterly Visual Examination of Storm Water Quality. Facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination(s) must be made at least once in each designated period [described in (a), below] during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(a) Examinations shall be conducted in each of the following periods for the purposes of visually inspecting storm water quality associated with storm water runoff or snow melt: January through March; April through June; July through September; and October through December.

(b) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed one hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual will carry out the collection and examination of discharges for the life of the permit.

(c) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(d) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfalls provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explaining in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(e) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(f) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

J. Storm Water Discharges Associated With Industrial Activity From Mineral Mining and Processing Facilities

1. Discharges Covered Under This Section

This permit covers all existing point source discharges of storm water associated with industrial activity to waters of the United States from active and inactive mineral mining and processing facilities (generally identified by Standard Industrial Classification (SIC) Major Group 14), except for storm water discharges identified under paragraph XI.J.1.a.

This permit may authorize storm water discharges associated with industrial activity that are mixed with storm water discharges associated with industrial activity from construction activities, provided that the storm water discharge from the construction activity is in compliance with the terms, including applicable Notice of Intent (NOI) or application requirements, of a different NPDES general permit or individual permit authorizing such discharges.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

a. Limitations on Coverage. The following storm water discharges associated with industrial activity are not authorized by this permit:

(1) Storm water discharges associated with industrial activity which are subject to an existing effluent limitation guideline (40 CFR Part 436), except mine dewatering discharges composed entirely of storm water or ground water seepage from construction sand and gravel, industrial sand, and crushed stone mining facilities located in Region VI (the States of Louisiana, New Mexico, Oklahoma, and Texas) and Arizona.

(2) Storm water discharges associated with industrial activity from inactive mineral mining activities occurring on Federal lands where an operator cannot

be identified are not eligible for coverage under this permit.

2. Special Conditions

a. Prohibition of Non-storm Water Discharges. This section of today's permit does not cover any discharge subject to process wastewater effluent limitation guidelines, including storm water that combines with process wastewater. Part III.A.2 of today's permit does allow certain non-storm water discharges to be covered by this permit.

3. Storm Water Pollution Prevention Plan Requirements

a. Contents of Plan. The plan shall include at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each storm water pollution prevention plan must describe industrial activities, significant materials, and physical features of the facility that may contribute to storm water runoff or, during periods of dry weather, result in dry weather flows and mine pumpout. Plans must describe the following elements:

(a) Drainage—The plan must contain a map of the site that shows the pattern of storm water drainage, structural or nonstructural features that control pollutants in storm water runoff and process wastewater discharges, surface water bodies (including wetlands), places where significant materials are exposed to rainfall and runoff, and locations of major spills and leaks that occurred in the 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. The map also must show areas where the following activities take place: fueling, vehicle and equipment maintenance and/or cleaning, loading and unloading, material storage (including tanks or other vessels used for liquid or waste storage), material processing, and waste disposal, haul roads, access roads, and rail spurs. In addition, the map must indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls.

(b) Inventory of Exposed Materials—Facility operators are required to carefully conduct an inspection of the site and related records to identify significant materials that are or may be exposed to storm water. The inventory must address materials that within 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit have been handled, stored, processed, treated, or disposed of in a manner to allow exposure to storm water. Findings of the inventory must be documented in detail in the pollution prevention plan. At a minimum, the plan must describe the method and location of onsite storage or disposal; practices used to minimize contact of materials with rainfall and runoff; existing structural and nonstructural controls that reduce pollutants in storm water runoff; existing structural controls that limit process wastewater discharges; and any treatment the runoff receives before it is discharged to surface waters or a separate storm sewer system. The description must be updated whenever there is a significant change in the types or amounts of materials, or material management practices, that may affect the exposure of materials to storm water.

(c) Significant Spills and Leaks—The plan must include a list of any significant spills and leaks of toxic or hazardous pollutants that occurred in the 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Significant spills include, but are not limited to, releases of oil or hazardous substances in excess of quantities that are reportable under Section 311 of CWA (see 40 CFR 110.10 and 117.21) or Section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (see 40 CFR 302.4). Significant spills may also include releases of oil or hazardous substances that are not in excess of reporting requirements and releases of materials that are not classified as oil or a hazardous substance.

(d) Sampling Data—Any existing data on the quality or quantity of storm water discharges from the facility must be described in the plan. The description should include a discussion of the methods used to collect and analyze the data. Sample collection points should be identified in the plan and shown on the site map.

(e) Risk Identification and Summary of Potential Pollutant Sources—The description of potential pollution sources culminates in a narrative assessment of the risk potential that sources of pollution pose to storm water quality. This assessment should clearly point to activities, materials, and physical features of the facility that have a reasonable potential to contribute significant amounts of pollutants to storm water. Any such industrial activities, significant materials, or features must be addressed by the measures and controls subsequently described in the plan. In conducting the assessment, the facility operator must consider the following activities: loading and unloading operations; outdoor storage activities; outdoor processing activities; significant dust or particulate generating processes; and onsite waste disposal practices. The assessment must list any significant pollution sources at the site and identify the pollutant parameter or parameters (i.e., total suspended solids, total dissolved solids, etc.) associated with each source.

(3) Measures and Controls. Following completion of the source identification and assessment phase, the permittee must evaluate, select, and describe the pollution prevention measures, best management practices (BMPs), and other controls that will be implemented at the facility. The permittee must assess the applicability of the following BMPs for their site: discharge diversions, drainage/storm water conveyance systems, runoff dispersions, sediment control and collection mechanisms, vegetation/soil stabilization, and capping of contaminated sources. In addition, BMPs include processes, procedures, schedules of activities, prohibitions on practices, and other management practices that prevent or reduce the discharge of pollutants in storm water runoff.

The pollution prevention plan must discuss the reasons each selected control or practice is appropriate for the facility and how each will address the potential sources of storm water pollution. The plan also must include a schedule specifying the time or times during which each control or practice will be implemented. In addition, the plan should discuss ways in which the controls and practices relate to one another and, when taken as a whole, produce an integrated and consistent approach for preventing or controlling potential storm water contamination problems.

(a) Good Housekeeping—Good housekeeping requires the maintenance of areas which may contribute pollutants to storm waters discharges in a clean, orderly manner.

(b) Preventive Maintenance—The maintenance program requires periodic

removal of debris from discharge diversions and conveyance systems. These activities should be conducted in the spring, after snowmelt, and during the fall season. Permittees using ponds to control their effluents frequently use impoundments or sedimentation ponds as their BAT/BCT. Maintenance schedules for these ponds must be provided in the pollution prevention plan.

(c) Spill Prevention and Response Procedures—Areas where potential spills which can contribute pollutants to storm water discharges can occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

(d) Inspections—Operators of active facilities are required to conduct quarterly visual inspections of all BMPs. Temporarily and permanently inactive operations are required to perform annual inspections. The inspections shall include: (1) An assessment of the integrity of storm water discharge diversions, conveyance systems, sediment control and collection systems, and containment structures; (2) visual inspections of vegetative BMPs, serrated slopes, and benched slopes to determine if soil erosion has occurred; and (3) visual inspections of material handling and storage areas and other potential sources of pollution for evidence of actual or potential pollutant discharges of contaminated storm water.

The inspection must be made at least once in each designated period during daylight hours unless there is insufficient rainfall or snow-melt to produce a runoff event. Inspections shall be conducted in each of the following periods for the purposes of inspecting storm water quality associated with storm water runoff and snow melt: January through March (storm water runoff or snow melt); April through June (storm water runoff); July through September (storm water runoff); October through December (storm water runoff or snow melt).

(e) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The pollution prevention plan shall identify periodic dates for such training.

(f) Recordkeeping and Internal Reporting Procedures—A description of incidents such as spills or other discharges along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. The permittee must describe procedures for developing and retaining records on the status and effectiveness of plan implementation. The plan must address spills, monitoring, and BMP inspection and maintenance activities. Ineffective BMPs must be recorded and the date of their corrective action noted.

(g) Non-storm Water Discharges

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with Part XI.J.3.a.(g)(iii) (Failure to Certify) of this permit.

(ii) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2 (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) Failure to Certify.—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 270 days after permit issuance] or, for facilities which begin to discharge storm water associated with industrial activity after [Insert date 270 days after permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe the procedure of any test conducted for the presence of non-storm water discharges to the storm sewer and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States which are not authorized by an NPDES permit are unlawful and must be terminated.

(h) Sediment and Erosion Control—The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

Permittees must indicate the location and design for proposed BMPs to be implemented prior to land disturbance activities. For sites already disturbed but without BMPs, the permittee must indicate the location and design of BMPs that will be implemented. The permittee is required to indicate plans for grading, contouring, stabilization, and establishment of vegetative cover for all disturbed areas, including road banks. Reclamation activities must continue until final closure notice has been issued.

(i) Management of Runoff—The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity [see Part XI.J.3.a.(2) (Description of Potential Pollutant Sources) of this permit] shall be considered when determining reasonable and appropriate measures. Appropriate measures may include: vegetative swales and practices, reuse of

collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, wet detention/retention devices, or equivalent measures. In addition, the permittee must describe the storm water pollutant source area or activity (i.e., loading and unloading operations, raw material storage piles, etc.) to be controlled by each storm water management practice.

(*4*) *Comprehensive Site Compliance Evaluation.* Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but, in no case less than once a year. When annual compliance evaluations are shown in the plan to be impractical for inactive mining sites, due to remote location and inaccessibility, site evaluations must be conducted at least once every 3 years. Such evaluations shall provide:

(*a*) Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(*b*) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with Part XI.J.3.a.(2) (Description of Potential Pollutant Sources) of this permit and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.J.3.a.(3) (Measures and Controls) of this permit shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(*c*) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.J.3.a.(4)(b) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years from the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(*d*) The storm water pollution prevention plan must describe the scope and content of comprehensive site evaluation that qualified personnel will conduct to 1) confirm the accuracy of the description of potential pollution sources contained in the plan, 2) determine the effectiveness of the plan, and 3) assess compliance with the terms and conditions of the permit. Where compliance evaluation schedules overlap with inspections required under 3.a.(3)(d), the compliance evaluation may be conducted in place of one such inspection.

4. Numeric Effluent Limitations

Except as discussed in *a* below, there are no additional numeric effluent limitations beyond those described in Part V.B of this permit.

a. Region VI—Construction Sand and Gravel; Industrial Sand, and Crushed Stone Mining, Mine Dewatering. Any discharge composed entirely of storm water or ground water seepage that derives from mine dewatering activities at construction sand and gravel, industrial sand, or crushed stone mining facilities located in Region VI (the States of Louisiana, New Mexico, Oklahoma, and Texas) and in Arizona shall not exceed a maximum concentration for any day of 45 mg/L or an average of daily values for 30 consecutive days of 25 mg/L Total Suspended Solids (TSS) nor the 6.0 to 9.0 range limitation for pH. The discharge from the dewatering activity shall not be diluted with other storm water runoff or flows to meet this limitation. Dischargers subject to these numeric effluent limitations must be in compliance with these limits upon commencement of coverage and for the entire term of this permit.

5. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. During the period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] and the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance], permittees with dimension and crushed stone, and nonmetallic minerals (except fuels), and sand and gravel mining activities must monitor their storm water discharges associated with industrial activity at least quarterly (4 times per year) during years 2 and 4 except as provided in paragraphs 5.a.(3) (Sampling Waiver), 5.a.(4) (Representative Discharge), and 5.a.(5) (Alternative Certification). Such facilities are required to monitor their storm water discharges for the pollutants of concern listed in Table J–1 below. Facilities must report in accordance with 5.b. (Reporting). In addition to the parameters listed in Table J–1 below, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

TABLE J–1.—MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Sand and Gravel Mining	
Nitrate plus Nitrite Nitrogen ..	0.68 mg/L.
Total Suspended Solids (TSS).	100 mg/L.
Dimension and Crushed Stone and Nonmetallic Minerals (except fuels):	
Total Suspended Solids (TSS).	100 mg/L.

(*1*) *Monitoring Periods.* Facilities subject to analytical monitoring requirements shall monitor samples collected during the sampling periods of: January through March, April through June, July through September, and October through December for the years specified in paragraph a. (above).

(*2*) *Sample Type.* A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

(*3*) *Sampling Waiver*

(*a*) *Adverse Conditions*—When a discharger is unable to collect samples within a specified sampling period due to adverse climatic conditions, the discharger shall collect a substitute sample from a separate qualifying event in the next period and submit the data along with the data for the routine sample in that period. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricanes, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(*b*) *Low Concentration Waiver*—When the average concentration for a pollutant calculated from all monitoring data collected from an outfall during the monitoring period [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] is less than the corresponding value for that pollutant listed in Table J–1 under the column Monitoring Cut-off Concentration, a facility may waive monitoring and reporting requirements in the monitoring period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance]. The facility must submit to the Director, in lieu of the monitoring data, a certification that there has not been a significant change in industrial activity or the pollution prevention measures in area of the facility that drains to the outfall for which sampling was waived.

(*c*) When a discharger is unable to conduct quarterly chemical storm water sampling at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirements as long as the facility remains inactive and unstaffed. The facility must submit to the Director, in lieu of monitoring data, a certification statement on the DMR stating that the site is inactive and unstaffed so that collecting a sample during a qualifying event is not possible.

(*4*) *Representative Discharge.* When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan. The permittee shall include the description of the location of the outfalls, explanation of why outfalls are expected to discharge substantially identical effluents, and estimate of the size of the drainage area and runoff coefficient with the Discharge Monitoring Report.

(5) Alternative Certification. A discharger is not subject to the monitoring requirements of this section provided the discharger makes a certification for a given outfall or on a pollutant-by-pollutant basis in lieu of monitoring reports required under paragraph *b* below, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, or significant materials from past industrial activity that are located in areas of the facility within the drainage area of the outfall are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan, and submitted to EPA in accordance with Part VI.C. of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph (*b*) below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent guidelines.

b. Reporting. Permittees with dimension and crushed stone, sand and gravel or nonmetallic mineral (except fuels) mining facilities shall submit monitoring results for each outfall associated with industrial activity [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the reporting period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March [insert the date 2 years after permit issuance]. Monitoring results [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance] shall be submitted on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March. For each outfall, one signed Discharge Monitoring Report Form must be submitted to the Director per storm event sampled. Signed copies of Discharge Monitoring Reports, or said certifications, shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office listed in Part VI.G. of the fact sheet.

(1) Additional Notification. In addition to filing copies of discharge monitoring reports in accordance with paragraph b (above), sand and gravel mining facilities with at least one storm water discharge associated with industrial activity through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in paragraph b (above).

c. Quarterly Visual Examination of Storm Water Quality. Mineral mining and processing facilities covered under this sector shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examinations must be made at least once in each designated period [described in (1), below] during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(1) Examinations shall be conducted in each of the following periods for the purposes of visually inspecting storm water quality associated with storm water runoff or snow melt: January through March; April through June; June through September; and October through December.

(2) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed one hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual will carry out the collection and examination of discharges for the life of the permit.

When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(3) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(4) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfalls provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explaining in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area (e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(5) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

d. Compliance Monitoring Requirements. Permittees with construction sand and gravel, industrial sand, and crushed stone mining facilities in Region VI that have mine dewatering discharges composed entirely of storm water or ground water seepage which are covered by this permit must monitor the discharge from the dewatering activity for the presence of TSS and pH at least quarterly (four times per year). Facilities must report in accordance with 5.d.(2) below (reporting). In addition to the parameters listed above, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

(1) Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable.

(2) Reporting. Permittees with mine dewatering discharges from construction sand and gravel, industrial sand, or crushed stone mining facilities located in Region VI and Arizona shall submit monitoring results obtained during the reporting period beginning [insert date of permit issuance] on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following [insert month after permit issuance date]. Signed copies of Discharge Monitoring Reports shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office indicated in Part VI.B. of this permit. For each outfall, one signed Discharge Monitoring Report form shall be submitted for each storm event sampled.

(3) Additional Notification. In addition to filing copies of discharge monitoring reports in accordance with paragraph (2) (above), permittees with discharges of material storage runoff from cement manufacturing facilities through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in paragraph 5.d.(3) (above).

K. Storm Water Discharges Associated With Industrial Activity From Hazardous Waste Treatment, Storage, or Disposal Facilities

1. Discharges Covered Under This Section

The requirements listed under this section shall apply to storm water discharges associated with industrial activity from facilities that treat, store, or dispose of hazardous wastes, including those that are operating under interim status or a permit under subtitle C of RCRA.

Coverage under this sector for facilities located in Region VI is limited to Hazardous Waste Treatment Storage or Disposal Facilities (TSDFs) that are self-generating or totally residential wastes and to those facilities that only store hazardous waste and do not treat or dispose. These permits are issued by EPA Region VI for Louisiana (LAR05*###), New Mexico

(NMR05*###), Oklahoma (OKR05*###), Texas (TXR05*###), and Federal Indian Reservations in these States (LAR05*##F, NMR05*##F, OKR05*##F, or TXR05*##F). Disposal facilities that have been properly closed and capped, and have no significant materials exposed to storm water, are considered inactive and do not require permits [(40 CFR 122.26(b)(14)]. Prohibited from coverage under this sector are those commercial hazardous wastes disposal and treatment facilities located in Region VI that dispose and treat on a commercial basis any produced hazardous waste (not their own) as a service to generators.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Special Conditions

a. Prohibition of Non-storm Water Discharges. There are no additional requirements under this section other than those stated in Part III.A.2 of this permit.

3. Storm Water Pollution Prevention Plan Requirements

a. Contents of Plan. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials which may potentially be significant pollutant sources. Each plan shall include, at a minimum:

(a) Drainage.

(i) A site map indicating an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies, locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under Part IV.D.3.c. (Spills and Leaks) of this permit have occurred, and the locations of the following activities where such activities are exposed to precipitation: fueling stations, vehicle and equipment maintenance and/or cleaning areas, loading/unloading areas, locations used for the treatment, storage or disposal of wastes, liquid storage tanks, processing areas and storage areas. The map must indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls.

(ii) For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants which are likely to be present in storm water discharges associated with industrial activity. Factors to consider include the toxicity of chemicals; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

(b) Inventory of Exposed Materials—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

(c) Spills and Leaks—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Such list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(e) Risk Identification and Summary of Potential Pollutant Sources—A narrative description of the potential pollutant sources from the following activities: loading and unloading operations; outdoor storage activities; outdoor processing activities; significant dust or particulate generating processes; and onsite waste disposal practices. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., chemical oxygen demand, etc.) of concern shall be identified.

(e) Measures and Controls. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

(a) Good Housekeeping—Good housekeeping requires the maintenance of areas which may contribute pollutants to storm water discharges in a clean, orderly manner.

(b) Preventive Maintenance—A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., berms, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause

breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

Spill Prevention and Response Procedures—Areas where potential spills which can contribute pollutants to storm water discharges can occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

(d) Inspections—In addition to or as part of the comprehensive site evaluation required under paragraph XI.K.3.a.(4) of this section, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility at appropriate intervals specified in the plan. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained.

(e) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The pollution prevention plan shall identify periodic dates for such training.

(f) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

(g) Non-storm Water Discharges

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with paragraph (iii) (below).

(ii) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2 (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) Failure to Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 270 days after permit issuance] or, for facilities which begin to discharge storm water associated with industrial activity after [Insert date 270 days after permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States which are not authorized by an NPDES permit are unlawful, and must be terminated.

(h) Sediment and Erosion Control—The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

(i) Management of Runoff—The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity [see paragraph XI.K.3.a.(2) of this section (Description of Potential Pollutant Sources)] shall be considered when determining reasonable and appropriate measures. Appropriate measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, wet detention/retention devices, or other equivalent measures.

(4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan but in no case less than once a year. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with paragraph XI.K.3.a.(2) of this section (Description of Potential Pollutant Sources) and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.K.3.a.(3) of this section (Measures and Controls) shall be revised as appropriate within 2

weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph (4)(b) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years from the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under 3.a.(3)(d), the compliance evaluation may be conducted in place of one such inspection.

4. Numeric Effluent Limitations

There are no additional numeric effluent limitations beyond those in Part V.B of this permit.

5. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. During the period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] and the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance], permittees with hazardous waste treatment, storage, or disposal facilities (TSDFs) must monitor their storm water discharges associated with industrial activity at least quarterly (4 times per year) during years 2 and 4 except as provided in paragraphs 5.a.(3) (Sampling Waiver), 5.a.(4) (Representative Discharge), and 5.a.(5) (Alternative Certification). TSDFs are required to monitor their storm water discharges for the pollutants of concern listed in Table K–1 below. Facilities must report in accordance with 5.b. (Reporting). In addition to the parameters listed in Table K–1 below, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

TABLE K–1.—INDUSTRY MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Ammonia	19.0 mg/L.
Total Recoverable Magnesium*.	0.0636 mg/L.
Chemical Oxygen Demand (COD).	120.0 mg/L.
Total Recoverable Arsenic.	0.16854 mg/L.
Total Recoverable Cadmium.	0.0159 mg/L.
Total Cyanide**	0.0636 mg/L.
Total Recoverable Lead	0.0816 mg/L.
Total Recoverable Mercury.	0.0024 mg/L.
Total Recoverable Selenium.	0.2385 mg/L.
Total Recoverable Silver	0.0318 mg/L.

*The MDL for magnesium is 0.02 mg/L method 200.6.

**The MDL for cyanide is 0.02 mg/L method 335.1, 335.2, or 335.3.

(1) Monitoring Periods. TSDFs shall monitor samples collected during the sampling periods of: January through March, April through June, July through September, and October through December for the years specified in paragraph a. (above).

(2) Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

(3) Sampling Waiver.

(a) Adverse Conditions—When a discharger is unable to collect samples within a specified sampling period due to adverse climatic conditions, the discharger shall collect a substitute sample from a separate qualifying event in the next period and submit the data along with data for the routine sample in that period. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(b) Low Concentration Waiver—When the average concentration for a pollutant calculated from all monitoring data collected from an outfall during the monitoring period [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] is less than the corresponding value for that pollutant listed in Table K–1 under the column Monitoring Cut-off Concentration, a facility may waive monitoring and reporting requirements in the monitoring period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance]. The facility must submit to the Director, in lieu of the monitoring data, a certification that there has not been a significant change in industrial activity or the pollution prevention measures in area of the facility which drains to the outfall for which sampling was waived.

(c) When a discharger is unable to conduct quarterly chemical storm water sampling at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirements as long as the facility remains inactive and unstaffed. The facility must submit to the Director, in lieu of monitoring data, a certification statement on the DMR stating that the site is inactive and unstaffed so that collecting a sample during a qualifying event is not possible.

(4) Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the

effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan. The permittee shall include the description of the location of the outfalls, explanation of why outfalls are expected to discharge substantially identical effluents, and estimate of the size of the drainage area and runoff coefficient with the Discharge Monitoring Report.

(5) Alternative Certification. A discharger is not subject to the monitoring requirements of this section provided the discharger makes a certification for a given outfall, or on a pollutant-by-pollutant basis in lieu of monitoring reports required under paragraph b below, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, or significant materials from past industrial activity that are located in areas of the facility within the drainage area of the outfall are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan, and submitted to EPA in accordance with Part VI.B. of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph (*b*) below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations.

b. Reporting. Permittees with TSDFs shall submit monitoring results for each outfall associated with industrial activity [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the reporting period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March [insert the date 2 years after permit issuance]. Monitoring results [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance] shall be submitted on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March. For each outfall, one signed Discharge Monitoring Report form must be submitted to the Director per storm event sampled. Signed copies of Discharge Monitoring Reports, or said certifications, shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office listed in Part VI.G. of the fact sheet.

(1) Additional Notification. In addition to filing copies of discharge monitoring reports in accordance with paragraph b (above), TSDFs with at least one storm water discharge associated with industrial activity through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in paragraph b (above).

c. Quarterly Visual Examination of Storm Water Quality. Facilities shall perform and document a visual examination of a representative storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination must be made at least once in each of the following periods: January through March, April through June, July through September, and October through December during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(*1*) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.

(*2*) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(*3*) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the observation data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(*4*) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(*5*) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

L. Storm Water Discharges Associated With Industrial Activity From Landfills and Land Application Sites

1. Discharges Covered Under This Section

a. Coverage. The requirements listed under this section shall apply to storm water discharges associated with industrial activity from waste disposal at landfills and land application sites that receive or have received industrial wastes. Landfill and land application operators that have storm water discharges from other types of industrial activities such as vehicle maintenance, truck washing, and/or recycling may be subject to additional requirements specified elsewhere in this permit.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

b. Limitations. Storm water discharges associated with industrial activities from inactive landfills and land application sites occurring on Federal lands where an operator cannot be identified are ineligible for coverage under this permit.

2. Special Conditions

a. Prohibition of Non-storm Water Discharges. In addition to the broad non-storm water prohibition in Part III.A of today's permit, the discharge of leachate and vehicle and equipment washwaters to waters of the United States or a municipal separate storm sewer system is not authorized by this permit. Operators with such discharges must obtain coverage under a separate NPDES permit (other than this permit). Discharges from open dumps as defined under RCRA are also not authorized under this permit (e.g., leachate, runoff).

3. Storm Water Pollution Prevention Plan Requirements

a. Contents of Plan. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutant to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials which may potentially be significant pollutant sources. Each plan shall include, at a minimum:

(a) Drainage.

(i) A site map indicating an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies, locations of active and closed landfill cells or trenches, locations of active and closed land application areas, locations of any known leachate springs or other areas where uncontrolled leachate may commingle with runoff, locations of any leachate collection and handling systems, locations where major spills or leaks identified under Part XI.L.3.a.(2)(c) (Spills and Leaks) of this permit have occurred, and locations of the following activities where such activities are exposed to precipitation: fueling station, vehicle and equipment maintenance and/or cleaning areas, and waste and other significant material loading/unloading and storage areas. The map must indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls.

(ii) For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants which are likely to be present in storm water discharges associated with industrial activity. Factors to consider include the toxicity of chemicals; quantities of chemicals used, produced or discharged; the likelihood of contact with storm water; and the history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

(b) Inventory of Exposed Materials—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, or disposed of in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives. The inventory of exposed materials shall include, but shall not be limited to the significant material management practices employed.

(c) Spills and Leaks—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Such list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—A summary of existing discharge sampling data describing pollutants in storm water of sampling data collected during the term of this permit. Permittees shall also provide all available sampling data for leachate generated at the site.

(e) Risk Identification and Summary of Potential Pollutant Sources—Include a narrative description of potential

pollutant sources associated with any of the following, providing they occur at the facility: fertilizer, herbicide and pesticide application; earth/soil moving; waste hauling and loading/unloading; outdoor storage of significant materials including daily, interim and final cover material stockpiles as well as temporary waste storage areas; exposure of active and inactive landfill and land application areas; uncontrolled leachate flows; failure or leaks from leachate collection and treatment systems; haul roads; and vehicle tracking of sediments. The description shall specifically list any significant potential sources of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., biochemical oxygen demand, etc.) of concern shall be identified.

(3) Measures and Controls. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

(a) Good Housekeeping—Good housekeeping requires the maintenance of areas which may contribute pollutants to storm water discharges in a clean, orderly manner. Permittees shall consider providing protected materials storage areas for pesticides, herbicides, fertilizers, and other significant materials.

(b) Preventive Maintenance—A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

Where applicable, permittees addressed by this section shall also: (1) maintain containers used for outdoor chemical and significant materials storage to prevent leaking or rupture; (2) maintain all elements of leachate collection and treatment systems to prevent commingling of leachate with storm water; and (3) maintain the integrity and effectiveness of any intermediate or final cover, including making repairs to the cover as necessary to minimize the effects of settlement, sinking, and erosion.

(c) Spill Prevention and Response Procedures—Areas where potential spills which can contribute pollutants to storm water discharges can occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

(d) Inspections—Qualified facility personnel shall be identified to inspect designated equipment and areas of the facility at appropriate intervals specified in the plan.

(i) For operating landfills and land application sites, inspections shall be conducted at least once every 7 days. Qualified personnel shall inspect areas of landfills that have not yet been finally stabilized, active land application areas, areas used for storage of materials/wastes that are exposed to precipitation, stabilization and structural control measures, leachate collection and treatment systems, and locations where equipment and waste trucks enter and exit the site. Where landfill areas have been finally stabilized and where land application has been completed, or during seasonal arid periods in arid areas (areas with an average annual rainfall of 0 to 10 inches) and semiarid areas (areas with an average annual rainfall of 10 to 20 inches), inspections will be conducted at least once every month. Erosion and sediment control measures shall be observed to ensure they are operating correctly.

(ii) For inactive landfills and land application sites, inspections shall be conducted at least quarterly, and qualified personnel shall inspect: landfill stabilization and structural erosion control measures and leachate collection and treatment systems, and all closed land application areas.

A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. The pollution prevention plan shall be revised to address any problems found during inspections. Records of inspections shall be maintained.

(e) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as conducting inspections, spill response, good housekeeping, conducting inspections and material management practices. The pollution prevention plan shall identify periodic dates for such training.

(f) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan. Landfill operators shall provide for a tracking system for the types of wastes disposed of in each cell or trench of a landfill. Land application site operators shall track the types and quantities of wastes applied in specific areas.

(g) Non-storm Water Discharges.

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges including leachate and vehicle wash waters. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with paragraph XI.L.3.a.(3)(g)(iii) (below).

(ii) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2 (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water

discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) Failure to Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 180 days after permit issuance] or, for facilities which begin to discharge storm water associated with industrial activity after [Insert date of permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the Unites States which are not authorized by an NPDES permit are unlawful, and must be terminated.

(h) Sediment and Erosion Control—The plan shall identify areas which, due to topography activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

Landfill operators shall provide for temporary stabilization of materials stockpiled for daily, intermediate and final cover. Stabilization practices to consider include, but are not limited to, temporary seeding, mulching, and placing geotextiles on the inactive portions of the stockpiles.

Landfill operators shall provide for temporary stabilization of inactive areas of the landfill which have an intermediate cover but no final cover.

Landfill operators shall provide for temporary stabilization of any landfill areas which have received a final cover until vegetation has established itself. Land application site operators shall also stabilize areas where waste application has been completed until vegetation has been established.

(i) Management of Runoff—The plan shall also contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity [see paragraph XI.L.3.a.(2) of this section (Description of Potential Pollutant Sources)] shall be considered when determining reasonable and appropriate measures. Appropriate measures may include: silt fences, earth dikes, gradient terraces, drainage swales, sediment traps, check dams, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions and temporary or permanent sediment basins, or other equivalent measures. Structural practices should be placed on upland soils as practicable.

(4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity at landfill and land application sites shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with paragraph XI.L.3.a.(2) of this section (Description of Potential Pollutant Sources) and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.L.3.a.(3) of this section (Measures and Controls) shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan for at least 3 years from the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under 3.a.(3)(d), the compliance evaluation may be conducted in place of one such inspection.

4. Numeric Effluent Limitations

There are no additional numeric effluent limitations beyond those in Part V.B of this permit.

5. Monitoring and Reporting Requirements

(a) Analytical Monitoring Requirements. During the period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] and the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance], permittees with landfill/land application sites must monitor their storm water discharges associated with industrial activity at least quarterly (4 times per year) during years 2 and 4 except as provided in paragraphs 5.a.(3) (Sampling Waiver), 5.a.(4) (Representative Discharge), and 5.a.(5) (Alternative Certification). Landfill/land application sites are required to monitor their storm water discharges for the pollutants of concern listed in Table L–1 below. Facilities must report in accordance with 5.b. (Reporting). In addition to the parameters listed in Table L–1 below, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

TABLE L–1.—INDUSTRY MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Total Suspended Solids (TSS) [i].	100 mg/L
Total Recoverable Iron [ii] .	1.0 mg/L

[i] Applicable to all landfill and land application sites.
[ii] Applicable to all facilities except MSWLF areas closed in accordance with 40 CFR 258.60 requirements.

(1) Monitoring Periods. Landfill/land application sites shall monitor samples collected during the sampling periods of: January through March, April through June, July through September, and October through December for the years specified in paragraph a (above).

(2) Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable, permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

(3) Sampling Waiver.

(a) Adverse Conditions—When a discharger is unable to collect samples within a specified sampling period due to adverse climatic conditions, the discharger shall collect a substitute sample from a separate qualifying event in the next period and submit the data along with data for the routine sample in that period. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (e.g., drought, extended frozen conditions, etc.).

(b) Low Concentration Waiver—When the average concentration for a pollutant calculated from all monitoring data collected from an outfall during the monitoring period [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] is less than the corresponding value for that pollutant listed in Table L–1 under the column Monitoring Cut-off Concentration, a facility may waive monitoring and reporting requirements in the monitoring period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance]. The facility must submit to the Director, in lieu of the monitoring data, a certification that there has not been a significant change in industrial activity or the pollution prevention measures in area of the facility which drains to the outfall for which sampling was waived.

(c) When a discharger is unable to conduct quarterly chemical storm water sampling at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirements as long as the facility remains inactive and unstaffed. The facility must submit to the Director, in lieu of monitoring data, a certification statement on the DMR stating that the site is inactive and unstaffed so that collecting a sample during a qualifying event is not possible.

(4) Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan. The permittee shall include the description of the location of the outfalls, explanation of why outfalls are expected to discharge substantially identical effluents, and estimate of the size of the drainage area and runoff coefficient with the Discharge Monitoring Report.

(5) Alternative Certification. A discharger is not subject to the monitoring requirements of this section provided the discharger makes a certification for a given outfall or on a pollutant-by-pollutant basis in lieu of monitoring reports required under paragraph (b) below, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, or significant materials from past industrial activity, that are located in areas of the facility within the drainage area of the outfall are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan, and submitted to EPA in accordance with Part VI.C. of the fact sheet to this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph (b) below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations.

(b) Reporting. Permittees with landfill/land application sites shall submit monitoring results for each outfall associated with industrial activity [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the reporting period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March [insert the date 2 years after permit issuance]. Monitoring results [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance] shall be submitted on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March. For each outfall, one Discharge Monitoring

Report form must be submitted per storm event sampled. Signed copies of Discharge Monitoring Reports, or said certifications, shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office listed in Part VI.G. of the fact sheet to this permit.

(1) Additional Notification. In addition to filing copies of discharge monitoring reports in accordance with paragraph b (above) landfill/land application sites, with at least one storm water discharge associated with industrial activity through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in paragraph b (above).

(c) Quarterly Visual Examination of Storm Water Quality. Facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination must be made at least once in each designated period [described in (*1*) below] during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(1) Examinations shall be conducted in each of the following periods for the purposes of visually inspecting storm water quality associated with storm water runoff or snow melt: January through March; April through June; July through September; October through December.

(2) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for the entire permit term.

(3) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(4) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(5) When a discharger is unable to conduct a visual examination as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(6) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

6. Definition

''Inactive Landfill''— For the purposes of this permit, a landfill is considered inactive when, on a permanent basis, it will no longer receive waste and has completed closure in accordance with any applicable Federal, State, and/or local requirements.

M. Storm Water Discharges Associated With Industrial Activity From Automobile Salvage Yards

1. Discharges Covered Under This Section

The requirements of this section apply to point source discharges of storm water associated with industrial activity from facilities engaged in dismantling or wrecking used motor vehicles for parts recycling or resale and for scrap (Standard Industrial Classification (SIC) Code 5015).

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Storm Water Pollution Prevention Plan Requirements

(a.) Contents of Plan. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each storm water pollution prevention plan must describe industrial activities, significant

materials, and physical features of the facility that may contribute to storm water runoff or, during periods of dry weather, result in dry weather flows. Plans must include the following elements:

(a) Site Map—The plan must contain a map of the site that shows structural features that control pollutants in storm water runoff [4] and process wastewater discharges, surface water bodies (including wetlands), places where significant materials are exposed to rainfall and runoff, and locations of major spills and leaks that occurred in the 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. The map must also indicate the flow direction of storm water runoff. The location of each storm water outfall associated with an industrial activity, as well as an outline of the drainage area for each storm water outfall and an indication of the types of discharges in each drainage area must be indicated. The map must indicate the location of each monitoring point. The map must include an estimation (in acres) of the total area used for industrial activity including, but not limited to, dismantling, storage, and maintenance of used motor vehicles and motor vehicle parts. The map must also indicate the location of the following activities where such activities are exposed to precipitation: vehicle storage areas; dismantling areas; parts storage areas, including engine blocks, tires, hub caps, batteries, hoods, and mufflers; fueling stations; vehicle and equipment maintenance areas; cleaning areas (parts, vehicles, and/or equipment); loading and unloading areas; locations used for the treatment, storage, and disposal of wastes; and liquid storage tanks and drums for fuel and other fluids.

(b) Inventory of Potential Pollutant Sources—Facility operators are required to carefully conduct an inspection of the site to identify significant materials exposed to precipitation that may contribute pollutants to storm water discharges. The inventory must address materials that within 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit have been handled, stored, processed, treated, or disposed of in a manner to allow exposure to storm water. Findings of the inventory must be documented in detail in the pollution prevention plan. At a minimum, the plan must describe the method and location of onsite storage or disposal; practices used to minimize contact of materials with rainfall and runoff; existing structural and nonstructural controls that reduce pollutants in storm water runoff; existing structural controls that prohibit/control process wastewater discharges; and any treatment the runoff receives before it is discharged to surface waters or through a separate storm sewer system. The description must be updated whenever there is a significant change in the types or amounts of materials, or material management practices, that may affect the exposure of materials to storm water.

(c) Significant Spills and Leaks—The plan must include a list of any significant spills and leaks of toxic or hazardous pollutants that occurred in the 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Significant spills include, but are not limited to, releases of oil or hazardous substances in excess of quantities that are reportable under Section 311 of CWA (see 40 CFR 110.10 and 40 CFR 117.21) or Section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (see 40 CFR 302.4). Significant spills may also include releases of oil or hazardous substances that are not in excess of reporting requirements and releases of materials that are not classified as oil or a hazardous substance. This list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—Any existing data or data collected during the term of this permit describing the quality or quantity of storm water discharges from the facility must be summarized in the plan. The description should include a discussion of the methods used to collect and analyze the data. Sample collection points should be identified in the plan and shown on the site map.

(e) Summary of Potential Pollutant Sources—The description of potential pollution sources should clearly point to activities, materials, and physical features of the facility that have a reasonable potential to contribute significant amounts of pollutants to storm water discharges. Any such industrial activities, significant materials, or features must be addressed by the measures and controls subsequently described in the plan. In conducting the assessment, the facility operator must consider the potential for the following activities to contribute pollutants: vehicle storage areas; dismantling areas; parts storage areas, including engine blocks, tires, hub caps, batteries, and hoods; fueling stations; vehicle and equipment maintenance areas; cleaning areas (parts and vehicles and/or equipment); loading/unloading areas; locations used for the treatment, storage, and disposal of wastes; and liquid storage tanks and drums for fuel and other fluids.

The assessment must identify the pollutant parameter or parameters (i.e., copper, iron, lead, oil and grease, total suspended solids, etc.) associated with each pollutant source.

(3) Measures and Controls. Following completion of the source identification and assessment phase, the permittee must evaluate, select, and describe the pollution prevention measures, best management practices (BMPs), and other controls that will be implemented at the facility. BMPs include processes, procedures, schedules of activities, prohibitions on practices, and other management practices that prevent or reduce the discharge of pollutants in storm water runoff.

The pollution prevention plan must discuss the reasons each selected control or practice is appropriate for the facility and how each will address the potential sources of storm water pollution. The plan also must include a schedule specifying the time or times during which each control or practice will be implemented. In addition, the plan should discuss ways in which the controls and practices relate to one another and, when taken as a whole, produce an integrated and consistent approach for preventing or controlling potential storm water contamination problems.

(a) Good Housekeeping—Good housekeeping requires the maintenance of areas which may contribute pollutants to storm water discharges in a clean, orderly manner.

(b) Preventive Maintenance—The preventive maintenance program shall schedule periodic inspections and ensure appropriate maintenance of storm water management devices and facility equipment and systems. This program will address conditions that could cause breakdowns or failures resulting in the discharge of pollutants to surface waters. The maintenance program shall include periodic removal of debris from discharge diversions, conveyance systems, and impoundments/ponds. These activities should be conducted in the spring, after snow melt, and during the fall season. Maintenance schedules for sedimentation/impoundments must be provided in the pollution prevention plan.

(c) Spill and Leak Prevention and Response Procedures—Areas where potential spills which can contribute

[4] Features such as grass swales and vegetative buffer strips also should be shown.

pollutants to storm water discharges can occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel. After clean up from a spill, absorbents must be promptly placed in containers for proper disposal. All vehicles that are intended to be dismantled must be properly drained of all fluids upon arrival at the site, or as soon as feasible thereafter, or other equivalent means must be taken to prevent leaks or spills of such fluids.

(d) Inspections—Upon arrival at the site, or as soon as feasible thereafter, vehicles must be inspected for leaks. Any equipment containing oily parts, hydraulic fluids, or any other types of fluids shall be inspected at least quarterly (four times per year) for signs of leaks. Any outdoor storage of fluids including, but not limited to, brake fluid, transmission fluid, radiator water, and antifreeze, must be inspected at least quarterly for leaks. All outdoor liquid storage containers (e.g., tanks, drums) must be inspected at least quarterly for leaks.

Qualified facility personnel are required to conduct quarterly visual inspections of BMPs. The inspections shall include: (1) An assessment of the integrity of storm water flow diversion and source minimization systems; (2) visual inspections of dismantling areas, vehicle and equipment maintenance areas, vehicle, equipment, and parts cleaning and storage areas, and other potential sources of pollution for evidence of actual or potential pollutant discharges of contaminated storm water.

Inspections shall be conducted in each of the following periods: January through March; April through June; July through September; and October through December.

Reports of the quarterly inspections (or more frequent if appropriate) shall be retained as part of the plan. Based on the results of each inspection the plan must be revised as appropriate within 2 weeks after each inspection. Changes in the measures and controls must be implemented on the site in a timely manner, and never more than 12 weeks after completion of the inspection.

(e) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. The pollution prevention plan shall include a schedule for training. Employee training must, at a minimum, address the following areas when applicable to a facility: proper handling (collection, storage, and disposal) of oil, used mineral spirits, anti-freeze, and solvents; spill prevention and response; fueling procedures; good housekeeping practices; and used battery management.

(f) Recordkeeping and Internal Reporting Procedures—A description of incidents such as spills, or other discharges, along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. The permittee must describe procedures for developing and retaining records on the status and effectiveness of plan implementation. The plan must address monitoring, and BMP inspection and maintenance activities. Ineffective BMPs must be reported and the date of their corrective action noted.

(g) Non-storm Water Discharges

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with Part XI.M.2.b.(3)(g)(iii) (Failure to Certify) of this permit.

(ii) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2 (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) Failure to Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 270 days after permit issuance] or, for facilities which begin to discharge storm water associated with industrial activity after [Insert date 270 days after permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States which are not authorized by an NPDES permit are unlawful, and must be terminated.

(h) Sediment and Erosion Control—The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion. Permittees must consider measures to maximize stabilization of industrial areas using vegetative cover, gravel, impervious surfaces or other appropriate measures.

(i) Management of Runoff—The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide measures that the permittee determines to be reasonable and appropriate and shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity (see Part XI.M.2.a.(2) (Description of Potential Pollutant Sources) of this permit) shall be considered when determining reasonable and appropriate measures. Appropriate measures may include:

vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, wet detention/retention devices, or other equivalent measures. In addition, the permittee must describe the storm water pollutant source area or activity (e.g., dismantling area, storage area, cleaning operations) to be controlled by each storm water management practice.

The plan must consider management practices, such as berms or drainage ditches on the property line, that may be used to prevent runon from neighboring properties. Berms must be considered for uncovered outdoor storage of oily parts, engine blocks, and above ground liquid storage. The installation of detention ponds must also be considered. The permittee shall consider the installation of a filtering device to receive runoff from industrial areas. The installation of oil/water separators must also be considered.

(4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct comprehensive site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year. The storm water pollution prevention plan must describe the scope and content of comprehensive site evaluations that qualified personnel will conduct to (1) confirm the accuracy of the description of potential pollution sources contained in the plan, (2) determine the effectiveness of the plan, and (3) assess compliance with the terms and conditions of the permit. The individual or individuals who will conduct the evaluations must be identified in the plan and should be members of the pollution prevention team. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with Part XI.M.2.a.(2) (Description of Potential Pollutant Sources) of this permit and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.M.2.a.(3) (Measures and Controls) of this permit shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.M.2.a.(4)(b) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under 3.a.(3)(d), the compliance evaluation may be conducted in place of one such inspection.

3. Numeric Effluent Limitations

There are no additional numeric effluent limitations beyond those described in Part V.B of this permit.

4. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. During the period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] and the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance], permittees operating automobile salvage yards must monitor their storm water discharges associated with industrial activity at least quarterly (4 times per year) during years 2 and 4 except as provided in paragraphs 4.a.(3) (Sampling Waiver), 4.a.(4) (Representative Discharge), and 4.a.(5) (Alternative Certification). Automobile salvage yards are required to monitor their storm water discharges for the pollutants of concern listed in Table M–1 below. Facilities must report in accordance with 5.b. (Reporting). In addition to the parameters listed in Table M–1 below, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

TABLE M–1.—Monitoring Requirements

Pollutants of concern	Monitoring cut-off concentration (mg/L)
Total Suspended Solids	100
Total Recoverable Aluminum	0.75
Total Recoverable Iron	1.0
Total Recoverable Lead	0.0816

(1) Monitoring Periods. Automobile salvage yards shall monitor samples collected during the sampling periods of: January through March, April through June, July through September, and October through December for the years specified in paragraph a. (above).

(2) Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water

discharge before it mixes with the non-storm water discharge.

(3) Sampling Waiver

(a) Adverse Conditions—When a discharger is unable to collect samples within a specified sampling period due to adverse climatic conditions, the discharger shall collect a substitute sample from a separate qualifying event in the next period and submit the data along with data for the routine sample in that period. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (e.g., drought, extended frozen conditions, etc.).

(b) Low Concentration Waiver—When the average concentration for a pollutant calculated from all monitoring data collected from an outfall during the monitoring period [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] is less than the corresponding value for that pollutant listed in Table M–1 under the column Monitoring Cut-off Concentration, a facility may waive monitoring and reporting requirements in the monitoring period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance]. The facility must submit to the Director, in lieu of the monitoring data, a certification that there has not been a significant change in industrial activity or the pollution prevention measures in the area of the facility which drains to the outfall for which sampling was waived.

(c) When a discharger is unable to conduct quarterly chemical storm water sampling at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirements as long as the facility remains inactive and unstaffed. The facility must submit to the Director, in lieu of monitoring data, a certification statement on the DMR stating that the site is inactive and unstaffed so that collecting a sample during a qualifying event is not possible.

(4) Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan. The permittee shall include the description of the location of the outfalls, explanation of why outfalls are expected to discharge substantially identical effluents, and estimate of the size of the drainage area and runoff coefficient with the Discharge Monitoring Report.

(5) Alternative Certification. A discharger is not subject to the monitoring requirements of this section provided the discharger makes a certification for a given outfall or on a pollutant-by-pollutant basis in lieu of monitoring reports required under b below, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, or significant materials from past industrial activity, that are located in areas of the facility within the drainage area of the outfall are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan, and submitted to EPA in accordance with Part VI.C. of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph (b) below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and conduct any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations.

b. Reporting. Permittees with automobile salvage yards shall submit monitoring results for each outfall associated with industrial activity [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the reporting period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March [insert the date 2 years after permit issuance]. Monitoring results (or a certification in accordance with Sections (3), (4), or (5) above] obtained during the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance] shall be submitted on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March. For each outfall, one signed Discharge Monitoring Report Form must be submitted per storm event sampled. Signed copies of Discharge Monitoring Reports, or said certifications, shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office listed in Part VI.C. of the fact sheet.

(1) Additional Notification. In addition to filing copies of discharge monitoring reports in accordance with paragraph b (above), automobile salvage yards with at least one storm water discharge associated with industrial activity through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in paragraph b (above).

c. Quarterly Visual Examination of Storm Water Quality. All automobile salvage yard facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination(s) must be made at least once in each of the following 3-month periods: January through March, April through June, July through September, and October through December. The examination shall be made during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(1) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event

that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for the entire permit term.

(2) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(3) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(4) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (e.g., drought, extended frozen conditions, etc.).

(5) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

5. Retention of Records

The permittee shall retain records of all inspections and monitoring information, including certification reports, noncompliance reports, calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports, and supporting data, requested by the permitting authority for at least 3 years after the date of the inspection or monitoring event.

N. Storm Water Discharges Associated With Industrial Activity From Scrap Recycling and Waste Recycling Facilities

1. Discharges Covered Under This Section

The requirements listed under this section are applicable to storm water discharges from the following activities: facilities that are engaged in the processing, reclaiming and wholesale distribution of scrap and waste materials such as ferrous and nonferrous metals, paper, plastic, cardboard, glass, animal hides (these types of activities are typically identified as SIC code 5093). Facilities that are engaged in reclaiming and recycling liquid wastes such as used oil, antifreeze, mineral spirits, and industrial solvents (also identified as SIC code 5093) are also covered under this section. Separate permit requirements have been established for recycling facilities that only receive source-separated recyclable materials primarily from non-industrial and residential sources (also identified as SIC 5093) (e.g., common consumer products including paper, newspaper, glass, cardboard, plastic containers, aluminum and tin cans). This includes recycling facilities commonly referred to as material recovery facilities (MRF).

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Special Conditions

a. Prohibition of Non-storm Water Discharges

(1) Except as provided in paragraph XI.N.2.b., all discharges covered by this permit shall be composed entirely of storm water. Non storm water discharges from turnings containment areas are not covered under this permit.

(a) Except as provided in paragraph XI.N.2.b. (below), discharges of material other than storm water to waters of the United States, or through municipal separate storm sewer systems, are not authorized by this permit. The operators of such discharges must obtain coverage under a separate National Pollutant Discharge Elimination System (NPDES) permit (other than this permit) issued for the discharge.

(b) The following non-storm water discharges are authorized by this permit provided the non-storm water component of the discharge is in compliance with paragraph XI.N.3.a.(3) (Measures and Controls for Storm Water Discharges): discharges from fire fighting activities; fire hydrant flushing; potable water sources including waterline flushings; irrigation drainage; lawn watering; routine external building washdown which does not use detergents or other compounds; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled materials have been removed) and where detergents are not used; air conditioning condensate; springs; and uncontaminated ground water.

3. Storm Water Pollution Prevention Plan Requirements

a. Contents of Plan. The following general requirements for the storm water pollution prevention plan are applicable to activities which reclaim and recycle either recyclable nonliquid and liquid waste materials. In addition to the general requirements, Paragraph XI.N.3.a.(3)(a) (below) identifies special requirements for scrap recycling and waste recycling facilities (nonsource-separated facilities) that handle nonliquid wastes. Paragraph XI.N.3.a.(3)(b) (below) identifies special requirements for waste recycling facilities that handle only liquid wastes. Paragraph XI.N.3.a.(3)(c) identifies special requirements for recycling facilities, including MRFs, that receive only source-separated recyclable materials primarily from non-industrial and residential sources. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials which may potentially be significant pollutant sources or, during periods of dry weather, result in dry weather flows. Each plan shall include, at a minimum:

(a) Drainage

(i) A site map indicating the outfall locations and the types of discharges contained in the drainage areas of the outfalls, an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies (including wetlands), locations where significant materials are exposed to precipitation including scrap and waste material storage and outdoor scrap and waste processing equipment, locations where major spills or leaks identified in paragraph XI.N.3.a.(2)(c) of this section have occurred, and the locations of the following activities where such activities are exposed to precipitation: fueling stations, vehicle and equipment maintenance and/or cleaning areas, loading/unloading areas, locations used for the treatment, storage or disposal of wastes, material storage (including tanks or other vessels used for liquid or waste storage). Scrap recycling facilities that handle turnings that have been previously exposed to cutting fluids will delineate these containment areas as required in paragraph XI.N.3.a.(iii). The site map must also identify monitoring locations.

(ii) For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants which are likely to be present in storm water discharges associated with industrial activity. Factors to consider include the toxicity of a chemical; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

(b) Inventory of Exposed Materials—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

(c) Spills and Leaks—A list of significant spills and leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Significant spills include, but are not limited to, releases of oil or hazardous substances in excess of quantities that are reportable under Section 311 of the Clean Water Act (CWA) (see 40 CFR 110.10 and 117.21) or Section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (see 40 CFR 302.4). Such a list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(e) Risk Identification and Summary of Potential Pollutant Sources—A narrative description of potential pollutant sources from the following activities: loading and unloading operations; outdoor storage activities, outdoor processing activities; significant dust or particulate generating processes and onsite waste disposal practices. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., Chemical Oxygen Demand (COD), oil and grease, Total Suspended Solids (TSS), zinc, lead, copper, etc.) of concern shall be identified.

(3) Measures and Controls. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls for scrap recycling and waste recycling facilities (nonsource-separated, nonliquid recyclable materials), waste recycling facilities (recyclable liquid wastes), and recycling facilities (source-separated materials) are identified in Parts XI.N.3.a.(3)(a), XI.N.3.a.(3)(b), and XI.N.3.a.(3)(c), respectively. At a minimum, the description shall also include a schedule for implementing such controls:

(a) Scrap and Waste Recycling Facilities (nonsource-separated, nonliquid recyclable wastes)—The following special conditions have been established for the pollution prevention plan for those scrap and waste recycling facilities that receive, process and provide wholesale distribution of nonliquid recyclable wastes, (e.g., ferrous and nonferrous metals, plastics, glass, cardboard, and paper). This section of the permit is intended to distinguish waste recycling facilities that receive both nonrecyclable and recyclable materials from those recycling facilities that only accept recyclable materials primarily from non-industrial and residential sources. Under the description of measures and controls in the storm water pollution prevention plan, the plan will address all areas that have a reasonable potential to contribute pollutants to storm water discharges and will be maintained in a clean and orderly manner. At a minimum, the plan will address the following activities and areas within the plan:

(i) Inbound Recyclable and Waste Material Control Program—The plan shall include a recyclable and waste material inspection program to

minimize the likelihood of receiving materials that may be significant pollutant sources to storm water discharges. At a minimum, the plan shall address the following:

(a) Provision of information/education (flyers, brochures and pamphlets) to encourage suppliers of scrap and recyclable waste materials to drain residual fluids, whenever applicable, prior to its arrival at the facility. This includes vehicles and equipment engines, radiators, and transmissions, oil-filled transformers, and individual containers or drums;

(b) Activities which accept scrap and materials that may contain residual fluids, e.g., automotive engines containing used oil, transmission fluids, etc., shall describe procedures to minimize the potential for these fluids from coming in contact with either precipitation or runoff. The description shall also identify measures or procedures to properly store, handle and dispose of these residual fluids;

(c) Procedures pertaining to the acceptance of scrap lead-acid batteries. Additional requirements for the handling, storage and disposal or recycling of batteries shall be in conformance with conditions for a scrap lead-acid battery program, see paragraph XI.N.3.a.(3)(a)(vi) (below);

(d) A description of training requirements for those personnel engaged in the inspection and acceptance of inbound recyclable materials.

(e) Liquid wastes, including used oil, shall be stored in materially compatible and nonleaking containers and disposed or recycled in accordance with all requirements under the Resource Recovery and Conservation Act (RCRA), and other State or local requirements.

(ii) Scrap and Waste Material Stockpiles/Storage (outdoors)—The plan shall address areas where significant materials are exposed to either storm water runoff or precipitation. The plan must describe those measures and controls used to minimize contact of storm water runoff with stockpiled materials, processed materials and nonrecyclable wastes. The plan should include measures to minimize the extent of storm water contamination from these areas. The operator may consider the use of permanent or semipermanent covers, or other similar forms of protection over stockpiled materials where the operator determines that such measures are reasonable and appropriate. The operator may consider the use of sediment traps, vegetated swales and strips, to facilitate settling or filtering out of pollutants. The operator shall consider within the plan the use of the following BMPs (either individually or in combination) or their equivalent to minimize contact with storm water runoff:

(a) Promoting the diversion of runoff away from these areas through such practices as dikes, berms, containment trenches, culverts and/or surface grading;

(b) Media filtration such as catch basin filters and sand filters; and,

(c) Silt fencing; and,

(d) Oil/water separators, sumps and dry adsorbents in stockpile areas that are potential sources of residual fluids, e.g., automotive engine storage areas.

(iii) Stockpiling of Turnings Previously Exposed to Cutting Fluids (outdoors)—The plan shall address all areas where stockpiling of industrial turnings previously exposed to cutting fluids occurs. The plan shall implement those measures necessary to minimize contact of surface runoff with residual cutting fluids. The operator shall consider implementation of either of the following two alternatives or a combination of both or equivalent measures:

(a) Alternative 1: Storage of all turnings previously exposed to cutting fluids under some form of permanent or semi-permanent cover. Discharges of residual fluids from these areas to the storm sewer system in the absence of a storm event is prohibited. Discharges to the storm sewer system as a consequence of a storm event is permitted provided the discharge is first directed through an oil/water separator or its equivalent. Procedures to collect, handle, and dispose or recycle residual fluids that may be present shall be identified in the plan, or,

(b) Alternative 2: Establish dedicated containment areas for all turnings that have been exposed to cutting fluids where runoff from these areas is directed to a storm sewer system, providing the following:

(i) containment areas constructed of either concrete, asphalt or other equivalent type of impermeable material;

(ii) a perimeter around containment areas to prevent runoff from moving across these areas. This would include the use of shallow berms, curbing, or constructing an elevated pad or other equivalent measure;

(iii) a suitable drainage collection system to collect all runoff generated from within containment areas. At a minimum, the drainage system shall include a plate-type oil/water separator or its equivalent. The oil/water separator or its equivalent shall be installed according to the manufacturer's recommended specifications, whenever available, specifications will be kept with the plan.

(iv) a schedule to maintain the oil/water separator (or its equivalent) to prevent the accumulation of appreciable amounts of fluids. In the absence of a storm event, no discharge from containment areas to the storm sewer system are prohibited unless covered by a separate NPDES permit;

(v) identify procedures for the proper disposal or recycling of collected residual fluids.

(iv) Scrap and Waste Material Stockpiles/Storage (covered or indoor storage)—The plan shall address measures and controls to minimize residual liquids and accumulated particulate matter, originating from scrap and recyclable waste materials stored indoors or under cover, from coming in contact with surface runoff. The operator shall consider including in the plan the following or equivalent measures:

(a) Good housekeeping measures, including the use of dry absorbent or wet vacuum clean up methods, to collect, handle, store and dispose or recycle residual liquids originating from recyclable containers, e.g., beverage containers, paint cans, household cleaning products containers, etc.;

(b) Prohibiting the practice of allowing washwater from tipping floors or other processing areas from discharging to any portion of a storm sewer system;

(c) Disconnecting or sealing off all existing floor drains connected to any portion of the storm sewer system.

(v) Scrap and Recyclable Waste Processing Areas—The plan shall address areas where scrap and waste processing equipment are sited. This includes measures and controls to minimize surface runoff from coming in contact with scrap processing equipment. In the case of processing equipment that generate visible amounts of particulate residue, e.g., shredding facilities, the plan shall describe good housekeeping and preventive maintenance measures to minimize contact of runoff with residual fluids and accumulated particulate matter. At a minimum, the operator shall consider including in the plan the following or other equivalent measures:

(a) A schedule of periodic inspections of equipment for leaks, spills, malfunctioning, worn or corroded parts or equipment;

(b) Preventive maintenance program to repair and/or maintain processing equipment;

(c) Measures to minimize shredder fluff from coming in contact with surface runoff;

(d) Use of dry-absorbents or other cleanup practices to collect and to dispose or recycle spilled or leaking fluids;

(e) Installation of low-level alarms or other equivalent protection devices on unattended hydraulic reservoirs over 150 gallons in capacity. Alternatively, provide secondary containment with sufficient volume to contain the entire volume of the reservoir.

The operator shall consider employing the following additional BMPs or equivalent measures: diversion structures such as dikes, berms, culverts, containment trenches, elevated concrete pads, grading to minimize contact of storm water runoff with outdoor processing equipment; oil/water separators, sumps or equivalent, in processing areas that are potential sources of residual fluids and grease; permanent or semipermanent covers, or other similar measures; retention and detention basins or ponds, sediment traps or vegetated swales and strips, to facilitate settling or filtering out of pollutants in runoff from processing areas; or media filtration such as catch basin filters and sand filters.

(vi) Scrap Lead-Acid Battery Program—The plan shall address measures and controls for the proper handling, storage and disposition of scrap lead-acid batteries (note. this permit does apply to the reclaiming of scrap lead-acid batteries, i.e., breaking up battery casings to recover lead). The operator shall consider including in the plan the following or equivalent measures:

(a) Segregating all scrap lead-acid batteries from other scrap materials;

(b) A description of procedures and/or measures for the handling, storage and proper disposal of cracked or broken batteries;

(c) A description of measures to collect and dispose of leaking battery fluid (lead-acid);

(d) A description of measures to minimize and, whenever possible, eliminate exposure of scrap lead-acid batteries to precipitation or runoff; and

(e) A description of employee training for the management of scrap batteries.

(vii) Erosion and Sediment Control—The plan shall identify all areas associated with industrial activity that have a high potential for soil erosion and suspended solids loadings, i.e., areas that tend to accumulate significant particulate matter. Appropriate source control, stabilization measures, nonstructural, structural controls or an equivalent shall be provided in these areas. The plan shall also contain a narrative discussion of the reason(s) for selected erosion and sediment controls. At a minimum, the operator shall consider in the plan, either individually or in combination, the following erosion and sediment control measures:

(a) Filtering or diversion practices, such as filter fabric fence, sediment filter boom, earthen or gravel berms, curbing or other equivalent measure,

(b) Catch basin filters, filter fabric fence, or equivalent measure, place in or around inlets or catch basins that receive runoff from scrap and waste storage areas, and processing equipment; or

(c) Sediment traps, vegetative buffer strips, or equivalent, to remove sediment prior to discharge through an inlet or catch basin.

(viii) Structural Controls for Sediment and Erosion Control—In instances where significant erosion and suspended solids loadings continue after installation of one or more of the BMPs identified in paragraph XI.N.3.a.(3)(a)(vii) (above), the operator shall consider providing in the plan for a detention or retention basin or other equivalent structural control. All structural controls shall be designed using good engineering practice. All structural controls and outlets that are likely to receive discharges containing oil and grease must include appropriate measures to minimize the discharge of oil and grease through the outlet. This may include the use of an absorbent boom or other equivalent measures.

Where space limitations (e.g., obstructions caused by permanent structures such as buildings and permanently-sited processing equipment and limitations caused by a restrictive property boundary) prevent the siting of a structural control, i.e., retention basin, such a determination will be noted in the plan. The operator will identify in the plan what existing practices shall be modified or additional measures shall be undertaken to minimize erosion and suspended sediment loadings in lieu of a structural BMP.

(ix) Spill Prevention and Response Procedures—To prevent or minimize storm water contamination at loading and unloading areas, and from equipment or container failures, the operator shall consider including in the plan the following practices:

(a) Description of spill prevention and response measures to address areas that are potential sources of leaks or spills of fluids;

(b) Leaks and spills should be contained and cleaned up as soon as possible. If malfunctioning equipment is responsible for the spill or leak, repairs should also be conducted as soon as possible;

(c) Cleanup procedures should be identified in the plan, including the use of dry absorbent materials or other cleanup methods. Where dry absorbent cleanup methods are used, an adequate supply of dry absorbent material should be maintained onsite. Used absorbent material should be disposed of properly;

(d) Drums containing liquids, including oil and lubricants, should be stored indoors; or in a bermed area; or in overpack containers or spill pallets; or in similar containment devices;

(e) Overfill prevention devices should be installed on all fuel pumps or tanks;

(f) Drip pans or equivalent measures should be placed under any leaking piece of stationary equipment until the leak is repaired. The drip pans should be inspected for leaks and checked for potential overflow and emptied regularly to prevent overflow and all liquids will be disposed of in accordance with all requirements under RCRA.

(g) An alarm and/or pump shut off system should be installed and maintained on all outside equipment with hydraulic reservoirs exceeding 150 gallons (only those reservoirs not directly visible by the operator of the equipment) in order to prevent draining the tank contents in the event of a line break. Alternatively, the equipment may have a secondary containment system capable of containing the contents of the hydraulic reservoir plus adequate freeboard for precipitation. Leaking hydraulic fluids should be disposed of in accordance with all requirements under RCRA.

(x) Quarterly Inspection Program—A quarterly inspection shall include all designated areas of the facility and equipment identified in the plan. The inspection shall include a means of tracking and conducting follow up actions based on the results of the inspection. The inspections shall be conducted by members of the Storm Water Pollution Prevention team. At a minimum, quarterly inspections shall include the following areas: all outdoor scrap processing areas; all material unloading and loading areas (including rail sidings) that are exposed to either precipitation or storm water runoff; areas where structural BMPs have been installed; all erosion and sediment BMPs; outdoor vehicle and equipment maintenance areas; vehicle and equipment fueling areas; and all areas where waste is generated, received, stored, treated, or disposed and which are exposed to either precipitation or storm water runoff.

The objective of the inspection shall be identify any corroded or leaking containers, corroded or leaking pipes, leaking or improperly closed valves and valve fittings, leaking pumps and/or hose connections, and deterioration in diversionary or containment structures that are exposed to precipitation or storm water runoff.

Spills or leaks identified during the visual inspection shall be immediately addressed using the procedures identified in Part XI.N.3.a.(3)(a)(ix) (Spill Prevention and Response Procedures). Structural BMPs shall be visually inspected for signs of washout, breakage, deterioration, damage, or overflowing and breaks shall be repaired or replaced as expeditiously as possible.

(xi) Employee Training—At a minimum, storm water control training appropriate to their job function shall be provided for truck drivers, scale operators, supervisors, buyers and other operating personnel. The plan shall include a proposed schedule for the training. The employee training program shall address at a minimum: BMPs and other requirements of the plan; proper scrap inspection, handling and storage procedures; procedures to follow in the event of a spill, leak, or break in any structural BMP. A training and education program shall be developed for employees and for suppliers for implementing appropriate activities identified in the storm water pollution prevention plan.

(xii) Supplier Notification—The plan shall include a supplier notification program that will be applicable to major suppliers and shall include: description of scrap materials that will not be accepted at the facility or that are accepted only under certain conditions.

(*b*) *Waste Recycling Facilities (liquid recyclable wastes)*—The following special conditions have been established for the pollution prevention plan for those facilities that reclaim and recycle liquid wastes (e.g., used oil, antifreeze, mineral spirits, and industrial solvents). For these facilities, the storm water pollution prevention plan shall address all areas that have a reasonable potential to contribute pollutants to storm water discharges and will be maintained in a clean and orderly manner. At a minimum, the plan shall address the following activities and areas within the plan:

(i) Waste Material Storage (indoors)—The plan shall address measures and controls to minimize/eliminate residual liquids from waste materials stored indoors from coming in contact with surface runoff. The plan may refer to applicable portions of other existing plans such as SPCC plans required under 40 CFR Part 112. At a minimum, the operator shall consider including in the plan the following:

(a) Procedures for material handling (including labeling and marking);

(b) A sufficient supply of dry-absorbent materials or a wet vacuum system to collect spilled or leaked materials;

(c) An appropriate containment structure, such as trenches, curbing, gutters or other equivalent measures; and

(d) A drainage system to handle discharges from diked or bermed areas. The drainage system should include appurtenances, (e.g., pumps or ejectors, manually operated valves). Drainage should be discharged to an appropriate treatment facility, sanitary sewer system, or otherwise disposed of properly. Discharges from these areas should be covered by a separate NPDES permit or industrial user permit under the pretreatment program.

(ii) Waste Material Storage (outdoors)—The plan shall address areas where waste materials are exposed to either storm water runoff or precipitation. The plan shall include measures to provide appropriate containment, drainage control and other appropriate diversionary structures. The plan may refer to applicable portions of other existing plans such as SPCC plans required under 40 CFR Part 112. At a minimum, the plan shall describe those measures and controls used to minimize contact of storm water runoff with stored materials. The operator shall consider including in the plan the following preventative measures, or an equivalent:

(a) An appropriate containment structure such as dikes, berms, curbing or pits, or other equivalent measures. The containment should be sufficient to store the volume of the largest single tank and should include sufficient freeboard for precipitation;

(b) A sufficient supply of dry-absorbent materials or a wet vacuum system, or other equivalent measure, to collect liquids from minor spills and leaks in contained areas; and

(c) Discharges of precipitation from containment areas containing used oil shall be in accordance with applicable sections of 40 CFR Part 112.

(iii) Truck and Rail Car Waste Transfer Areas—The plan shall describe measures and controls for truck and rail car loading and unloading areas. This includes appropriate containment and diversionary structures to minimize contact with precipitation or storm water runoff. The plan shall also address measures to clean up minor spills and/or leaks originating from the transfer of liquid wastes. This may include the use of dry-clean up methods, roof coverings, runoff controls, or other equivalent measures.

(iv) Erosion and Sediment Control—The plan shall identify all areas associated with industrial activity that have a high potential for soil erosion. Appropriate stabilization measures, nonstructural and structural controls shall be provided in these areas. The plan shall contain a narrative consideration of the appropriateness for selected erosion and sediment controls. Where applicable, the facility shall consider the use of the following types of preventive measures: sediment traps; vegetative buffer strips; filter fabric fence; sediment filtering boom; gravel outlet protection; or other equivalent measures that effectively trap or remove sediment prior to discharge through an inlet or catch basin.

(v) Spill Prevention and Response Procedures—The plan shall address measures and procedures to address potential spill scenarios that could occur at the facility. This includes all applicable handling and storage procedures, containment and/or diversion equipment, and clean-up procedures. The plan shall specifically address all outdoor and indoor storage areas, waste transfer areas, material receiving areas (loading and unloading), and waste disposal areas.

(vi) Quarterly Inspections—Quarterly visual inspections shall be conducted by a member, or members, of the storm water pollution prevention team. The quarterly inspection shall include all designated areas of the facility and equipment identified in the plan. The inspection shall include a means of tracking and conducting follow up actions based on the results of the inspection. At a minimum, the inspections shall include the following areas: material storage areas; material unloading and loading areas (including rail sidings) that are exposed to either precipitation or storm water runoff; areas where structural BMPs have been installed; all erosion and sediment BMPs; outdoor vehicle and equipment maintenance areas (if applicable); vehicle and equipment fueling areas (if applicable); and all areas where waste is generated, received, stored, treated, or disposed and which are exposed to either precipitation or storm water runoff.

The inspection shall identify the presence of any corroded or leaking containers, corroded or leaking pipes, leaking or improperly closed valves and valve fittings, leaking pumps and/or hose connections, and deterioration in diversionary or containment structures that are exposed to precipitation or storm water runoff. Spills or leaks shall be immediately addressed according to the facility's spill prevention and response procedures.

(c) Recycling Facilities (source separated materials)—The following special conditions have been established for the pollution prevention plan for recycling facilities, including MRFs, that receive only source-separated recyclable materials primarily from non-industrial and residential sources.

(i) Inbound Recyclable Material Control Program. The plan shall include a recyclable material inspection program to minimize the likelihood of receiving non-recyclable materials (e.g., hazardous materials) that may be a significant source of pollutants in surface runoff. At a minimum, the operator shall consider addressing in the plan the following:

(a) A description of information and education measures to educate the appropriate suppliers of recyclable materials on the types of recyclable materials that are acceptable and those that are not acceptable, e.g., household hazardous wastes;

(b) A description of training requirements for drivers responsible for pickup of recyclable materials;

(c) Clearly mark public drop-off containers as to what materials can be accepted;

(d) Rejecting non-recyclable wastes or household hazardous wastes at the source; and

(e) A description of procedures for the handling and disposal of non-recyclable materials.

(ii) Outdoor Storage. The plan shall include BMPs to minimize or reduce the exposure of recyclable materials to surface runoff and precipitation. The plan, at a minimum, shall include good housekeeping measures to prevent the accumulation of visible quantities of residual particulate matter and fluids, particularly in high traffic areas. The plan shall consider tarpaulins or their equivalent to be used to cover exposed bales of recyclable waste paper. The operator shall consider within the plan the use of the following types of BMPs (individually or in combination) or their equivalent, where practicable:

(a) Provide totally-enclosed drop-off containers for public.

(b) Provide a sump and sump pump with each containment pit. Discharge collected fluids to sanitary sewer system. Prevent discharging to the storm sewer system;

(c) Provide dikes and curbs for secondary containment, i.e., around bales of recyclable waste paper;

(d) Divert surface runoff away from outside material storage areas; and/or

(e) Provide covers over containment bins, dumpsters, roll-off boxes; and,

(f) Store the equivalent one day's volume of recyclable materials indoors.

(iii) Indoor Storage and Material Processing. The plan shall address BMPs to minimize the release of pollutants from indoor storage and processing areas to the storm sewer system. The plan shall establish specific measures to ensure that all floor drains do not discharge to the storm sewer system. The following BMPs shall be considered for inclusion in the plan:

(a) Schedule routine good housekeeping measures for all storage and processing areas;

(b) Prohibit a practice of allowing tipping floor washwaters from draining to any portion of the storm sewer system;

(c) Provide employee training on pollution prevention practices.

(iv) Vehicle and Equipment Maintenance. The plan shall also provide for BMPs in those areas where vehicle and equipment maintenance is occurring outdoors. At a minimum, the following BMPs or equivalent measures shall be considered for inclusion in the plan:

(a) Prohibit vehicle and equipment washwater from discharging to the storm sewer system;

(b) Minimize or eliminate outdoor maintenance areas, wherever possible;

(c) Establish spill prevention and clean-up procedures in fueling areas;

(d) Provide employee training on avoiding topping off fuel tanks;

(e) Divert runoff from fueling areas;

(f) Store lubricants and hydraulic fluids indoors;

(g) Provide employee training on proper, handling, storage of hydraulic fluids and lubricants.

(d) Recordkeeping and Internal Reporting Procedures—The following record and internal reporting procedures are applicable to all discharges seeking coverage under this permit. The plan shall include a description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan. The plan must address spills, monitoring, and BMP inspection and maintenance activities. BMPs which are ineffective must be reported and the date of their corrective action noted. Employees must report incidents of leaking fluids to facility management and these reports must be incorporated into the plan.

(e) Non-storm Water Discharges

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with paragraph XI.N.3.a.(3)(d)(iii) (below).

(ii) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2 (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) Failure to Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director [Insert date 270 days after permit issuance] or, for facilities which begin to discharge storm water associated with industrial activity after [Insert date 270 days after permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate

tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States which are not authorized by an NPDES permit are unlawful, and must be terminated.

(4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with paragraph XI.N.3.a.(2) of this section (Description of Potential Pollutant Sources) and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.N.3.a.(3) of this section (Measures and Controls) shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.N.3.a.(4)(b) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) The storm water pollution prevention plan must describe the scope and content of comprehensive site evaluations that qualified personnel shall conduct to (1) confirm the accuracy of the description of potential pollution sources contained in the plan, (2) determine the effectiveness of the plan, and (3) assess compliance with the terms and conditions of the permit. The individual or individuals who shall conduct the evaluation must be identified in the plan and should be members of the pollution prevention team.

4. Numeric Effluent Limitations

There are no additional numeric effluent limitations beyond those described in Part V.B of this permit.

5. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. During the period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] and the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance], permittees with scrap recycling and waste recycling facilities must monitor their storm water discharges associated with industrial activity at least quarterly (4 times per year) during years 2 and 4 except as provided in paragraphs 5.a.(3) (Sampling Waiver), 5.a.(4) (Representative Discharge), and 5.a.(5) (Alternative Certification). Scrap recycling and waste recycling facilities are required to monitor their storm water discharges for the pollutants of concern listed in Table N-1 below. Facilities must report in accordance with 5.b. (Reporting). In addition to the parameters listed in Table N-1 below, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

TABLE N–1.—INDUSTRY MONITORING REQUIREMENTS

Pollutants of concern [i]	Cut-off concentration (mg/L
Chemical Oxygen Demand (COD)	120
Total Suspended Solids (TSS)	100
Total Recoverable Aluminum	0.75
Total Recoverable Copper	0.0636
Total Recoverable Iron	1.0
Total Recoverable Lead	0.0816
Total Recoverable Zinc	0.065

[i] Several congeners of PCBs (PCB–1016, –1221, –1242, –1248, –1260) were above established benchmarks, however, EPA believes that these constituents will readily bound up with sediment and particulate matter. Therefore, EPA believes that BMPs will effectively address sources of PCBs and that monitoring for TSS will serve as an adequate indicator of the control of PCBs.

(1) Monitoring Periods. Scrap and waste material processing and recycling facilities shall monitor samples collected during the sampling periods of: January to March, April to June, July to September, and October to December for the years specified in paragraph a. (above).

(2) Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or non-process water, then where practicable, permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

(3) Sampling Waiver

(a) Adverse Conditions—When a discharger is unable to collect samples within a specified sampling period due

to adverse climatic conditions, the discharger shall collect a substitute sample from a separate qualifying event in the next period and submit the data along with data for the routine sample in that period. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (e.g., drought, extended frozen conditions, etc.).

(b) Low Concentration Waiver—When the average concentration for a pollutant calculated from all monitoring data collected from an outfall during the monitoring period [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] is less than the corresponding value for that pollutant listed in Table N-1 under the column Monitoring Cut-off Concentration, a facility may waive monitoring and reporting requirements in the monitoring period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance]. The facility must submit to the Director, in lieu of the monitoring data, a certification that there has not been a significant change in industrial activity or the pollution prevention measures in the area of the facility which drains to the outfall for which sampling was waived.

(c) When a discharger is unable to conduct quarterly chemical storm water sampling at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirements as long as the facility remains inactive and unstaffed. The facility must submit to the Director, in lieu of monitoring data, a certification statement on the DMR stating that the site is inactive and unstaffed so that collecting a sample during a qualifying event is not possible.

(4) Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan. The permittee shall include the description of the location of the outfalls, explanation of why outfalls are expected to discharge substantially identical effluents, and estimate of the size of the drainage area and runoff coefficient with the Discharge Monitoring Report.

(5) Alternative Certification. A discharger is not subject to the monitoring requirements of this section provided the discharger makes a certification for a given outfall or on a pollutant-by-pollutant basis in lieu of the monitoring reports required under paragraph *b* below, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, or significant materials from past industrial activity, that are located in areas of the facility within the drainage area of the outfall are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan, and submitted to EPA in accordance with Part VI.C. of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph b. below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations.

b. Reporting. Permittees with scrap and waste material processing and recycling facilities shall submit monitoring results for each outfall associated with industrial activity [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the reporting period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March [insert the date 2 years after permit issuance]. Monitoring results (or a certification in accordance with Sections (3), (4), or (5) above] obtained during the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance] shall be submitted on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March. For each outfall, one signed Discharge Monitoring Report form must be submitted to the Director per storm event sampled. Signed copies of Discharge Monitoring Reports, or said certifications, shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office listed in Part VI.G. of the fact sheet.

(1) Additional Notification. In addition to filing copies of discharge monitoring reports in accordance with paragraph b (above), scrap and waste material processing and recycling facilities with at least one storm water discharge associated with industrial activity through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in paragraph b (above).

c. Quarterly Visual Examination of Storm Water Quality. Facilities shall perform and document a visual examination of a representative storm water discharge associated with industrial activity exposed to storm water. The examination must be made at least once each quarter during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event. Examinations must be conducted at least once in each of the following periods: January through March; April through June; July through September; and October through December.

(1) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm

event. Where practicable, the same individual should carry out the collection and examination of discharges for the entire permit term.

(2) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(3) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(4) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain the documentation on-site with the records of the visual examinations. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(5) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

O. Storm Water Discharges Associated With Industrial Activity From Steam Electric Power Generating Facilities, Including Coal Handling Areas

1. Discharges Covered Under This Section

The requirements listed under this section shall apply to storm water discharges from steam electric power generating facilities, including coal handling areas. Non-storm water discharges subject to effluent limitations guidelines are not covered by this permit. Storm water discharges from coal pile runoff subject to numeric limitations are eligible for coverage under this permit, but are subject to the limitations established by 40 CFR 423.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

a. Limitations on Coverage. Storm water discharges from ancillary facilities such as fleet centers, gas turbine stations, and substations that are not contiguous to a steam electric power generating facility are not covered by this permit. Heat capture co-generation facilities are not covered by this permit; however, dual fuel co-generation facilities are included.

2. Special Conditions

a. Prohibition of Non-storm Water Discharges. Except as provided under Part III.A.2 of this permit, non-storm water discharges are not authorized by this permit. The operators of such discharges must obtain coverage under a separate National Pollutant Discharge Elimination System (NPDES) permit if discharged to waters of the United States or through a municipal separate storm sewer system. Storm water discharges associated with industrial activities that are mixed with sources of non-storm water are not authorized by this permit, except if mixed with non-storm water discharges that are in compliance with a different NPDES permit or identified by and in compliance with Part III.A.2 (Prohibition of Non-storm Water Discharges) of this permit.

Storm Water Pollution Prevention Plan Requirements

a. Contents of Plan. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials which may potentially be significant pollutant sources. Each plan shall include, at a minimum:

(a) Drainage.

(i) A site map which clearly outlines the locations of the following, as they apply to the facility: The outfall locations and the types of discharges contained in the drainage areas of the outfalls, and an outline of the drainage area of each storm water outfall that is within the facility boundaries (and indicating the direction of storm water flow); processing areas and buildings; treatment ponds; locations where significant materials are exposed to precipitation; storage tanks; scrap yards, and general refuse areas; fuel storage and distribution areas; vehicle and equipment maintenance and storage areas; loading/unloading areas; locations used for treatment,storage or disposal of wastes; location of short and long term storage of general materials (including but not limited to: supplies, construction materials, plant

equipment, oils, fuels, used and unused solvents, cleaning materials, paint, water treatment chemicals, fertilizers, and pesticides); landfills; location of construction sites; locations of stock pile areas (such as coal piles and limestone piles); locations where major spills or leaks identified under Part XI.O.3.a.(2)(c) (Spills and Leaks) of this permit have occurred; surface water bodies; and existing structural control measures to reduce pollutants in storm water runoff (such as bermed areas, grassy swales, etc.).

(ii) For each storm water outfall identify the types of pollutants which are likely to be present in the storm water discharges. Factors to consider include the toxicity of a chemical; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

(b) Inventory of Exposed Materials—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

(c) Spills and Leaks—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Such list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(e) Risk Identification and Summary of Potential Pollutant Sources—A narrative description of the potential pollutant sources from the following activities: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; significant dust or particulate generating processes; and onsite waste disposal practices. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., total suspended solids, copper, etc.) of concern shall be identified.

(3) Measures and Controls. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

(a) Good Housekeeping—Good housekeeping requires the maintenance of areas which may contribute pollutants to storm water discharges in a clean, orderly manner. The following areas must be specifically addressed:

(i) Fugitive Dust Emissions—The plan must describe measures that prevent or minimize fugitive dust emissions from coal handling areas. The permittee shall consider establishing procedures to minimize offsite tracking of coal dust. To prevent offsite tracking the facility may consider specially designed tires, or washing vehicles in a designated area before they leave the site, and controlling the wash water.

(ii) Delivery Vehicles—The plan must describe measures that prevent or minimize contamination of storm water runoff from delivery vehicles arriving on the plant site. At a minimum the permittee should consider the following:

(a) Develop procedures for the inspection of delivery vehicles arriving on the plant site, and ensure overall integrity of the body or container; and

(b) Develop procedures to deal with leakage or spillage from vehicles or containers, and ensure that proper protective measures are available for personnel and environment.

(iii) Fuel Oil Unloading Areas—The plan must describe measures that prevent or minimize contamination of storm water runoff from fuel oil unloading areas. At a minimum the facility operator must consider using the following measures, or an equivalent:

(a) Use containment curbs in unloading areas;

(b) During deliveries station personnel familiar with spill prevention and response procedures must be present to ensure that any leaks or spills are immediately contained and cleaned up; and

(c) Use spill and overflow protection (drip pans, drip diapers, and/or other containment devices shall be placed beneath fuel oil connectors to contain any spillage that may occur during deliveries or due to leaks at such connectors).

(iv) Chemical Loading/Unloading Areas—The plan must describe measures that prevent or minimize the contamination of storm water runoff from chemical loading/unloading areas. Where practicable, chemical loading/unloading areas should be covered, and chemicals should be stored indoors.

At a minimum the permittee must consider using the following measures or an equivalent:

(a) Use containment curbs at chemical loading/unloading areas to contain spills; and

(b) During deliveries station personnel familiar with spill prevention and response procedures must be present to ensure that any leaks or spills are immediately contained and cleaned up.

(v) Miscellaneous Loading/Unloading Areas—The plan must describe measures that prevent or minimizes the contamination of storm water runoff from loading and unloading areas. The facility may consider covering the loading area, minimizing storm water runon to the loading area by grading, berming, or curbing the area around the loading area to direct storm water away from the area, or locate the loading/unloading equipment and vehicles so that leaks can be contained in existing containment and flow diversion systems.

(vi) Liquid Storage Tanks—The plan must describe measures that prevent or minimize contamination of storm water runoff from above ground liquid storage tanks. At a minimum the facility operator must consider employing the following measures or an equivalent:

(a) Use protective guards around tanks;

(b) Use containment curbs;

(c) Use spill and overflow protection (drip pans, drip diapers, and/or other containment devices shall be placed beneath chemical connectors to contain any spillage that may occur during deliveries or due to leaks at such connectors); and

(d) Use dry cleanup methods.

(vii) Large Bulk Fuel Storage Tanks—The plan must describe measures that prevent or minimize contamination of storm water runoff from liquid storage tanks. At a minimum the facility operator must consider employing the following measures, or an equivalent:

(a) Comply with applicable State and Federal laws, including Spill Prevention Control and Countermeasures (SPCC); and

(b) Containment berms.

(viii) The plan must describe measures to reduce the potential for an oil spill, or a chemical spill, or reference the appropriate section of their SPCC plan. At a minimum the structural integrity of all above ground tanks, pipelines, pumps and other related equipment shall be visually inspected on a weekly basis. All repairs deemed necessary based on the findings of the inspections shall be completed immediately to reduce the incidence of spills and leaks occurring from such faulty equipment.

(ix) Oil Bearing Equipment in Switchyards—The plan must describe measures to reduce the potential for storm water contamination from oil bearing equipment in switchyard areas. The facility operator may consider level grades and gravel surfaces to retard flows and limit the spread of spills; collection of storm water runoff in perimeter ditches.

(x) Residue Hauling Vehicles—All residue hauling vehicles shall be inspected for proper covering over the load, adequate gate sealing and overall integrity of the body or container. Vehicles without load coverings or adequate gate sealing, or with leaking containers or beds must be repaired as soon as practicable.

(xi) Ash Loading Areas—Plant procedures shall be established to reduce and/or control the tracking of ash or residue from ash loading areas including, where practicable, requirements to clear the ash building floor and immediately adjacent roadways of spillage, debris and excess water before each loaded vehicle departs.

(xii) Areas Adjacent to Disposal Ponds or Landfills—The plan must describe measures that prevent or minimize contamination of storm water runoff from areas adjacent to disposal ponds or landfills. The facility must develop procedures to:

(a) Reduce ash residue which may be tracked on to access roads traveled by residue trucks or residue handling vehicles; and

(b) Reduce ash residue on exit roads leading into and out of residue handling areas.

(xiii) Landfills, Scrapyards, Surface Impoundments, Open Dumps, General Refuse Sites—The plan must address landfills, scrapyards, surface impoundments, open dumps and general refuse sites. The permittee is referred to Parts XI.L. and XI.N of the permit for applicable Best Management Practices (BMPs).

(xiv) Maintenance Activities—For vehicle maintenance activities performed on the plant site, the permittee shall use the applicable BMPs outlined in Part XI.P. of the permit (Storm Water Discharges Associated With Industrial Activity From Motor Freight Transportation Facilities, Passenger Transportation Facilities, Rail Transportation Facilities, and United States Postal Service Transportation Facilities).

(xv) Material Storage Areas—The plan must describe measures that prevent or minimize contamination of storm water from material storage areas (including areas used for temporary storage of miscellaneous products, and construction materials stored in lay down areas). The facility operator may consider flat yard grades, runoff collection in graded swales or ditches, erosion protection measures at steep outfall sites (e.g., concrete chutes, riprap, stilling basins), covering lay down areas, storing the materials indoors, covering the material with a temporary covering made of polyethylene, polyurethane, polypropylene, or hypalon. Storm water runon may be minimized by constructing an enclosure or building a berm around the area.

(b) Preventive Maintenance—A preventive maintenance program shall be implemented and shall include timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

(c) Spill Prevention and Response Procedures—Areas where potential spills which can contribute pollutants to storm water discharges can occur, and their accompanying drainage points, shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

(d) Inspections—In addition to or as part of the comprehensive site evaluation required under Part XI.O.3.a.(4) of this section, qualified facility personnel shall be identified to inspect the following areas on a monthly basis: coal handling areas, loading/unloading areas, switchyards, fueling areas, bulk storage areas, ash handling areas, areas adjacent to disposal ponds and landfills, maintenance areas, liquid storage tanks, and long term and short term material storage areas. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained onsite. Such records are subject to review by the U.S. Environmental Protection Agency, and State, and local agencies with jurisdiction, and must be retained onsite a minimum of 3 years after the date of the inspection.

(e) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as goals of the pollution prevention plan, spill prevention and control, proper handling procedures for hazardous wastes, good housekeeping and material management practices, and storm water sampling techniques. The pollution prevention plan shall identify periodic dates for such training, but in all cases training must be held at least annually.

(f) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

(g) Non-storm Water Discharges.

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the

evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with paragraph XI.O.3.a.(3)(g)(iii) (below).

(ii) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2 (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) Failure to Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 270 days after permit issuance] or, for facilities which begin to discharge storm water associated with industrial activity after [Insert date 270 days after permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and, why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States which are not authorized by an NPDES permit are unlawful, and must be terminated.

(h) Sediment and Erosion Control—The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

(i) Management of Runoff—The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity (see Part XI.O.3.a.(2)) shall be considered when determining reasonable and appropriate measures. Appropriate measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, wet detention/retention devices, or other equivalent measures.

(4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual evaluation of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with Part XI.O.3.a.(2) of this section (Description of Potential Pollutant Sources) and pollution prevention measures and controls identified in the plan in accordance with Part XI.O.3.a.(3) of this section (Measures and Controls) shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.O.3.a.(4)(b) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years from the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under 3.a.(3)(d), the compliance evaluation may be conducted in place of one such inspection.

4. Numeric Effluent Limitations

Coal pile runoff is subject to the effluent guidelines described in Part V.B. of this permit. However, steam electric generating facilities must comply with the requirement of Part V.B. immediately upon permit issuance. Steam electric generating facilities are not permitted to take 3 years to meet this requirement.

5. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. During the period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] and the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance], permittees with steam electric power generating facilities must monitor their storm water discharges associate with industrial activity at least quarterly (4 times per year) during years 2 and 4 except as provided in paragraphs 5.a.(3).(sampling waiver), 5.a.(4).(representative discharge), and 5.a.(5).(alternative certification), steam electric power generating facilities are required to monitor their storm water discharges for the pollutant of concern listed in Table O–1 below. Facilities must report in accordance with 5.b.(reporting). In addition to the parameter listed in Table O–1 below, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event which generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled;

TABLE O–1.—MONITORING REQUIREMENTS FOR STEAM ELECTRIC POWER GENERATING FACILITIES

Pollutant of concern	Cut-Off concentration (mg/L2)
Total Recoverable Iron	1.0

(1) Monitoring Periods. Steam electric power generating facilities shall monitor samples collected during the sampling periods of: January through March, April through June, July through September, and October through December for the years specified in paragraph a (above).

(2) Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

(3) Sampling Waiver.

(a) Adverse Conditions—When a discharger is unable to collect samples within a specified sampling period due to adverse climatic conditions, the discharger shall collect a substitute sample from a separate qualifying event in the next period and submit the data along with data for the routine sample in that period. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(b) Low Concentration Waiver—When the average concentration for a pollutant calculated from all monitoring data collected from an outfall during the monitoring period [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] is less than the corresponding value for that pollutant listed in Table O–1 under the column Monitoring Cut-off Concentration, a facility may waive monitoring and reporting requirements in the monitoring period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance]. The facility must submit to the Director, in lieu of the monitoring data, a certification that there has not been a significant change in industrial activity or the pollution prevention measures in area of the facility which drains to the outfall for which sampling was waived.

(c) When a discharger is unable to conduct quarterly chemical storm water sampling at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirements as long as the facility remains inactive and unstaffed. The facility must submit to the Director, in lieu of monitoring data, a certification statement on the DMR stating that the site is inactive and unstaffed so that collecting a sample during a qualifying event is not possible.

(4) Representative Discharge. When a facility has 2 or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfalls provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explaining in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area (e.g., low (under 40 percent), medium (40 to 65 percent) or high (above 65 percent)) shall be provided in the plan. The permittee shall include the description of the location of the outfalls, explanation of why outfalls are expected to discharge substantially identical effluents, and estimate of the size of the drainage area and runoff coefficient with the Discharge Monitoring Report.

(5) Alternative Certification. A discharger is not subject to the monitoring requirements of this section provided the discharger makes a certification for a given outfall, or on a pollutant-by-pollutant basis in lieu of monitoring reports required under paragraph b below, under penalty of law, signed in accordance with Part VII.G. (signatory requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, significant materials from past industrial activity that are located in areas of the facility within the drainage area of the outfall are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan, and submitted to EPA in accordance with Part VI.C. of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph (*b*) below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations.

b. Reporting. Permittees with steam electric power generating facilities shall submit monitoring results, or a certification that there has not been a significant change in industrial activity or the pollution prevention measures in area of the facility which drains to the outfall for which sampling was waived, obtained during the reporting period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March [insert the date 2 years after permit issuance]. Monitoring results, or a certification that there has not been a significant change in industrial activity or the pollution prevention measures in area of the facility which drains to the outfall for which sampling was waived, obtained during the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance] shall be submitted on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March. For each outfall, one signed Discharge Monitoring Report form must be submitted to the Director per storm event sampled. Signed copies of Discharge Monitoring Reports, or said certifications, shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office listed in VI.G. of the fact sheet to this permit.

(1) Additional Notification. In addition to filing copies of discharge monitoring reports in accordance with paragraph b (above) steam electric power generating facilities with at least one storm water discharge associated with industrial activity through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in paragraph b (above).

c. Compliance Monitoring Requirements. Permittees with point sources of coal pile runoff associated with steam electric power generation must monitor these storm water discharges for the presence of TSS and for pH at least annually (one time per year). Facilities must report in accordance with 5.c.(2) (reporting). In addition to the parameters listed above, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

(1) Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable.

(2) Reporting. Permittees with asphalt paving or roofing emulsion production facilities shall submit monitoring results obtained during the reporting period beginning [insert date of permit issuance] on Discharge Monitoring Report Form(s) postmarked no later than the last day of the following [insert month after permit issuance date]. Signed copies of Discharge Monitoring Reports shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office indicated in Part VI.B. of this permit. For each outfall one Discharge monitoring form shall be submitted per storm event sampled.

(3) Additional Notification. In addition to filing copies of discharge monitoring reports in accordance with paragraph (2) (above), permittees that discharge through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in paragraph (3) (above).

d. Quarterly Visual Examination of Storm Water Quality. Facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination must be made at least once in each designated period [described in paragraph (*1*) below] during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(1) Examinations shall be conducted in each of the following periods for the purposes of visually inspecting storm water quality associated with storm water runoff or snow melt: January through March; April through June; July through September; and October through December.

(2) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed one hour) of when the runoff or snowmelt begins discharging. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable the same individual should carry out the collection and examination of discharges for entire permit term.

(3) Visual examination reports must be maintained on-site in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution, and probable sources of any observed storm water contamination.

(4) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfalls provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explaining in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area (e.g., low (under 40 percent), medium (40 to 65 percent) or high (above 65 percent)) shall be provided in the plan.

(5) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation with the records of the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(6) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility

remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

P. Storm Water Discharges Associated With Industrial Activity From Motor Freight Transportation Facilities, Passenger Transportation Facilities, Petroleum Bulk Oil Stations and Terminals, Rail Transportation Facilities, and United States Postal Service Transportation Facilities

1. Discharges Covered Under This Section

Storm water discharges from ground transportation facilities and rail transportation facilities (generally identified by Standard Industrial Classification (SIC) codes 40, 41, 42, 43, and 5171), that have vehicle and equipment maintenance shops (vehicle and equipment rehabilitation, mechanical repairs, painting, fueling and lubrication) and/or equipment cleaning operations are eligible for coverage under this section.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Storm Water Pollution Prevention Plan Requirements

a. Deadlines for Plan Preparation and Compliance. There are no additional deadlines for plan preparation and compliance, other than those stated in Part IV.A.

b. Contents of the Plan. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team who are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials which may potentially be significant pollutant sources. Each plan shall include, at a minimum:

(a) Drainage—A site map indicating the location of each point of discharge of storm water associated with industrial activity, an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries (with a prediction of the direction of flow), each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies, locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under Part XI.P.3.b.(2)(c) (Spills and Leaks) of this permit have occurred, and the locations of the following activities: fueling stations, vehicle and equipment maintenance and/or cleaning areas, storage areas for vehicles and equipment with actual or potential fluid leaks loading/unloading areas, locations used for the treatment, storage or disposal of wastes, liquid storage tanks, processing areas, storage areas, and all monitoring locations. The site map must also indicate the types of discharges contained in the drainage areas of the outfalls (e.g., storm water and air conditioner condensate). In order to increase the readability of the map, the inventory of the types of discharges contained in each outfall may be kept as an attachment to the site map.

(b) Inventory of Exposed Materials—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; dirt or gravel parking areas for storage of vehicles to be maintained; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

(c) Spills and Leaks—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Such list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(e) Summary of Potential Pollutant Sources—A narrative description of the potential pollutant sources from the following activities associated with vehicle and equipment maintenance and equipment cleaning: fueling stations; maintenance shops; equipment or vehicle cleaning areas; paved dirt or gravel parking areas for vehicles to be maintained; loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; significant dust or particulate generating processes; and onsite waste disposal practices. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., oil and grease, etc.) of concern shall be identified.

(3) Measures and Controls. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

(a) Good Housekeeping—All areas that may contribute pollutants to storm

water discharges shall be maintained in a clean, orderly manner. The following areas must be specifically addressed:

(i) Vehicle and Equipment Storage Areas—The storage of vehicles and equipment awaiting maintenance with actual or potential fluid leaks must be confined to designated areas (delineated on the site map). The plan must describe measures that prevent or minimize contamination of the storm water runoff from these areas. The facility shall consider the use of drip pans under vehicles and equipment, indoor storage of the vehicles and equipment, installation of berming and diking of this area, use of absorbents, roofing or covering storage areas, cleaning pavement surface to remove oil and grease, or other equivalent methods.

(ii) Fueling Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from fueling areas. The facility shall consider covering the fueling area, using spill and overflow protection and cleanup equipment, minimizing runon/runoff of storm water to the fueling area, using dry cleanup methods, collecting the storm water runoff and providing treatment or recycling, or other equivalent measures.

(iii) Material Storage Areas—Storage units of all materials (e.g., used oil, used oil filters, spent solvents, paint wastes, radiator fluids, transmission fluids, hydraulic fluids) must be maintained in good condition, so as to prevent contamination of storm water, and plainly labeled (e.g., ''used oil,'' ''spent solvents,'' etc.). The plan must describe measures that prevent or minimize contamination of the storm water runoff from such storage areas. The facility shall consider indoor storage of the materials, installation of berming and diking of the area, minimizing runon/runoff of storm water to the areas, using dry cleanup methods, collecting the storm water runoff and providing treatment, or other equivalent methods.

(iv) Vehicle and Equipment Cleaning Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from all areas used for vehicle and equipment cleaning. The facility shall consider performing all cleaning operations indoors, covering the cleaning operation, ensuring that all washwaters drain to the intended collection system (i.e., not the storm water drainage system unless NPDES permitted), collecting the storm water runoff from the cleaning area and providing treatment or recycling, or other equivalent measures. The discharge of vehicle and equipment wash waters, including tank cleaning operations, are not authorized by this permit and must be covered under a separate NPDES permit or discharged to a sanitary sewer in accordance with applicable industrial pretreatment requirements.

(v) Vehicle and Equipment Maintenance Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from all areas used for vehicle and equipment maintenance. The facility shall consider performing all maintenance activities indoors, using drip pans, maintaining an organized inventory of materials used in the shop, draining all parts of fluids prior to disposal, prohibiting wet clean up practices where the practices would result in the discharge of pollutants to storm water drainage systems, using dry cleanup methods, collecting the storm water runoff from the maintenance area and providing treatment or recycling, minimizing runon/runoff of storm water areas or other equivalent measures.

(vi) Locomotive Sanding (loading sand for traction) Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from areas used for locomotive sanding. The facility shall consider covering sanding areas, minimizing storm water runon/runoff, appropriate sediment removal practices to minimize the offsite transport of sanding material by storm water, or other equivalent measures.

(b) Preventive Maintenance—A preventive maintenance program shall include timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, catch basins, drip pans, vehicle-mounted drip containment devices) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

(c) Spill Prevention and Response Procedures—Areas where potential spills could contribute pollutants to storm water discharges, and their accompanying drainage points, shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures and equipment for cleaning up spills shall be identified in the plan and made available to the appropriate personnel.

(d) Inspections—Qualified facility personnel shall be identified to inspect designated equipment and areas of the facility on a quarterly basis. The following areas shall be included in all inspections: storage area for vehicles and equipment awaiting maintenance, fueling areas, vehicle and equipment maintenance areas (both indoors and outdoors), material storage areas, vehicle and equipment cleaning areas, and loading and unloading areas. Follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained. The use of a checklist should be considered by the facility.

(e) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The pollution prevention plan shall identify how often training will take place; at a minimum, training must be held annually (once per calendar year). Employee training must, at a minimum, address the following areas when applicable to a facility: summary of the facility's pollution prevention plan requirements; used oil management; spent solvent management; spill prevention, response and control; fueling procedures; general good housekeeping practices; proper painting procedures; and used battery management.

(f) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

(g) Non-storm Water Discharges.

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage

points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit. Such certification may not be practical if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not practical, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with Part XI.P.3.b.(3)(iv) (Failure to Certify) of this permit.

(ii) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2. (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) A copy of the NPDES permit issued for vehicle and equipment washwaters or, if an NPDES permit has not yet been issued, a copy of the pending application must be attached to or referenced in the plan. For facilities that discharge vehicle and equipment washwaters to the sanitary sewer system, the operator of the sanitary system and associated treatment plant must be notified. In such cases, a copy of the notification letter must be attached to the plan. If an industrial user permit is issued under a pretreatment program, a copy of that permit must be attached in the plan. In all cases, any permit conditions or pretreatment requirements must be considered in the plan. If the washwaters are handled in another manner (e.g., hauled offsite), the disposal method must be described and all pertinent documentation (e.g., frequency, volume, destination, etc.) must be attached to the plan.

(iv) Failure to Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 270 days after permit issuance] or, for facilities which begin to discharge storm water associated with industrial activity after [Insert date 270 days after permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States which are not authorized by an NPDES permit are unlawful, and must be terminated.

(h) Sediment and Erosion Control—The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

(i) Management of Runoff—The plan shall contain a narrative consideration of the appropriateness of storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide for the implementation and maintenance of measures that the permittee determines to be reasonable and appropriate. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity (see XI.P.3.b.(2) (description of potential pollutant sources) of this permit) shall be considered when determining reasonable and appropriate measures. Appropriate measures or other equivalent measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices.

(4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct comprehensive site compliance evaluations at appropriate intervals specified in the plan, but, in no case less than once a year. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with Part XI.P.3.b.(2) (Description of Potential Pollutant Sources) of this permit and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.P.3.b.(3) (Measures and Controls) of this permit shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.P.3.b.(3)(b) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under 3.a.(3)(d), the compliance evaluation may be conducted in place of one such inspection.

3. Numeric Effluent Limitations

There are no additional numeric effluent limitations beyond those described in Part V.B of this permit.

4. Monitoring and Reporting Requirements

a. Monitoring Requirements.

(1) Quarterly Visual Examination of Storm Water Quality. Facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges

exempted under paragraph (d) below. The examination(s) must be made at least once in each designated period [described in (a), below] during facility operation in the daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(a) Examinations shall be conducted in each of the following periods for the purposes of visually inspecting storm water quality associated with storm water runoff or snow melt: January through March; April through June; July through September; and October through December.

(b) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed one hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual will carry out the collection and examination of discharges for the life of the permit.

When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricanes, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(c) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(d) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfalls provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explaining in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(e) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

Q. Storm Water Discharges Associated With Industrial Activity From Water Transportation Facilities That Have Vehicle Maintenance Shops and/or Equipment Cleaning Operations

1. Discharges Covered Under This Section

The requirements listed under this section shall apply to storm water discharges from water transportation facilities that have vehicle (vessel) maintenance shops and/or equipment cleaning operations. The water transportation industry includes facilities engaged in foreign or domestic transport of freight or passengers in deep sea or inland waters; marine cargo handling operations; ferry operations; towing and tugboat services; and marinas (facilities commonly identified by Standard Industrial Classification (SIC) code Major Group 44).

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Special Conditions

a. Prohibition of Non-storm Water Discharges. In addition to the general discharge prohibitions in part III.A, this section specifically prohibits non-storm water discharges of wastewaters, such as bilge and ballast water, sanitary wastes, pressure wash water, and cooling water originating from vessels. The operators of such discharges must obtain coverage under a separate NPDES permit if discharged to waters of the United States or through a municipal separate storm sewer system.

3. Storm Water Pollution Prevention Plan Requirements

a. Contents of Plan. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team who are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials which may potentially be significant pollutant sources. Each plan shall include, at a minimum:

(a) Drainage.

(i) A site map indicating an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies, locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under Part XI.Q.3.a.(2)(c) (Spills and Leaks) of this section have occurred, and the locations of the following activities where such activities are exposed to precipitation: fueling, engine maintenance and repair, vessel maintenance and repair, pressure washing, painting, sanding, blasting, welding, metal fabrication, loading/unloading areas, locations used for the treatment, storage or disposal of wastes; liquid storage tanks, liquid storage areas (i.e., paint, solvents, resins), and material storage areas (i.e., blasting media, aluminum, steel, scrap iron). In addition, the map must indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls.

(ii) For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants which are likely to be present in storm water discharges associated with industrial activity. Factors to consider include the toxicity of chemical; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

(b) Inventory of Exposed Materials—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

(c) Spills and Leaks—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Such list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(e) Risk Identification and Summary of Potential Pollutant Sources—A narrative description of the potential pollutant sources from the following activities if applicable: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities (i.e., welding, metal fabricating); significant dust or particulate generating processes (i.e., abrasive blasting, sanding, painting); loading/unloading areas; and onsite waste disposal practices. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., biochemical oxygen demand, etc.) of concern shall be identified.

(3) Measures and Controls. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

(a) Good Housekeeping—Good housekeeping requires the maintenance of areas which may contribute pollutants to storm water discharges in a clean, orderly manner. The following areas must be specifically addressed, when applicable at a facility:

(i) Pressure Washing Area—When pressure washing is used to remove marine growth from vessels, the discharge water must be permitted by an NPDES permit. The pollution prevention plan must describe the measures to collect or contain the discharge from the pressure washing area, detail the method for the removal of the visible solids, describe the method of disposal of the collected solids, and identify where the discharge will be released (i.e., the receiving waterbody, storm sewer system, sanitary sewer system).

(ii) Blasting and Painting Areas—The facility must consider containing all blasting and painting activities to prevent abrasives, paint chips, and overspray from reaching the receiving water or the storm sewer system. The plan must describe measures taken at the facility to prevent or minimize the discharge of spent abrasive, paint chips, and paint into the receiving waterbody and storm sewer system. The facility may consider hanging plastic barriers or tarpaulins during blasting or painting operations to contain debris. Where required, a schedule for cleaning storm water conveyances to remove deposits of abrasive blasting debris and paint chips should be addressed within the plan. The plan should include any standard operating practices with regard to blasting and painting activities. Such included items may be the prohibition of performing uncontained blasting and painting over open water or blasting and painting during windy conditions which can render containment ineffective.

(iii) Material Storage Areas—All stored and containerized materials (fuels, paints, solvents, waste oil, antifreeze, batteries) must be stored in a protected, secure location away from drains and plainly labeled. The plan must describe measures that prevent or minimize contamination of the storm water runoff from such storage areas. The facility must specify which materials are stored indoors and consider containment or enclosure for materials that are stored outdoors. Above ground storage tanks, drums, and barrels permanently stored outside must be delineated on the site map with a description of the containment measures in place to prevent leaks and spills. The facility must consider implementing an inventory control plan to prevent excessive purchasing, storage, and handling of potentially hazardous materials. Those facilities where abrasive blasting is performed must specifically include a discussion on the storage and disposal of spent abrasive materials generated at the facility.

(iv) Engine Maintenance and Repair Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from all areas used for engine maintenance and repair. The facility may consider performing all maintenance activities indoors,

maintaining an organized inventory of materials used in the shop, draining all parts of fluids prior to disposal, prohibiting the practice of hosing down the shop floor, using dry cleanup methods, and/or collecting the storm water runoff from the maintenance area and providing treatment or recycling.

(v) Material Handling Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from material handling operations and areas (i.e., fueling, paint and solvent mixing, disposal of process wastewater streams from vessels). The facility may consider covering fueling areas; using spill and overflow protection; mixing paints and solvents in a designated area, preferably indoors or under a shed; and minimizing runon of storm water to material handling areas or other equivalent measures. Where applicable, the plan must address the replacement or repair of leaking connections, valves, pipes, hoses, and soil chutes carrying wastewater from vessels.

(vi) Drydock Activities—The plan must address the routine maintenance and cleaning of the drydock to minimize the potential for pollutants in the storm water runoff. The plan must describe the procedures for cleaning the accessible areas of the drydock prior to flooding and final cleanup after the vessel is removed and the dock is raised. Cleanup procedures for oil, grease, or fuel spills occurring on the drydock must also be included within the plan. The facility should consider items such as sweeping rather than hosing off debris and spent blasting material from the accessible areas of the drydock prior to flooding and having absorbent materials and oil containment booms readily available to contain and cleanup any spills or other equivalent measures.

(vii) General Yard Area—The plan must include a schedule for routine yard maintenance and cleanup. Scrap metal, wood, plastic, miscellaneous trash, paper, glass, industrial scrap, insulation, welding rods, packaging, etc., must be routinely removed from the general yard area. The facility may consider such measures as providing covered trash receptacles in each yard, on each pier, and on board each vessel being repaired.

(b) Preventive Maintenance—A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, sediment traps to ensure that spent abrasives, paint chips, and solids will be intercepted and retained prior to entering the storm drainage system) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

(c) Spill Prevention and Response Procedures—Areas where potential spills which can contribute pollutants to storm water discharges can occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

(d) Inspections—Qualified facility personnel shall be identified to inspect designated equipment and areas of the facility on a monthly basis. The following areas shall be included in all inspections: pressure washing area; blasting, sanding, and painting areas; material storage areas; engine maintenance and repair areas; material handling areas; drydock area; and general yard area. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained.

(e) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The pollution prevention plan shall identify how often training will take place, but in all cases training must be held at least annually (once per calendar year). Employee training must, at a minimum, address the following areas when applicable to a facility: used oil management; spent solvent management; proper disposal of spent abrasives; proper disposal of vessel wastewaters, spill prevention and control; fueling procedures; general good housekeeping practices; proper painting and blasting procedures; and used battery management. Employees, independent contractors, and customers must be informed about BMPs and be required to perform in accordance with these practices. The facility must consider posting instructions, easy to read descriptions or graphic depictions of BMPs, spill control/clean-up equipment and emergency phone numbers in the work areas.

(f) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

(g) Non-storm Water Discharges.

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with paragraph XI.Q.3.a.(3)(g)(iii) (below).

(ii) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2 (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) Failure to Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the

Director by [Insert date 270 days after permit issuance] or, for facilities which begin to discharge storm water associated with industrial activity after [Insert date 270 days after permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States which are not authorized by an NPDES permit are unlawful, and must be terminated.

(h) Sediment and Erosion Control—The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

(i) Management of Runoff—The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity [see paragraph XI.Q.3.a.(2) of this section (Description of Potential Pollutant Sources)] shall be considered when determining reasonable and appropriate measures. Appropriate measures or equivalent measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices.

(4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity (pressure washing area, blasting and sanding areas, painting areas, material storage areas, engine maintenance and repair areas, material handling areas, and drydock area) shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with paragraph XI.Q.3.a.(2) of this section (Description of Potential Pollutant Sources) and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.Q.3.a.(3) of this section (Measures and Controls) shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.Q.3.a.(4)(b) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years from the date of the inspection. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under 3.a.(3)(d), the compliance evaluation may be conducted in place of one such inspection.

4. Numeric Effluent Limitations

There are no additional numeric effluent limitations beyond those described in Part V.B of this permit.

5. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. During the period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] and the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance], permittees with water transportation facilities must monitor their storm water discharges associated with industrial activity at least quarterly (4 times per year) during years 2 and 4 except as provided in paragraphs 5.a.(3) (Sampling Waiver), 5.a.(4) (Representative Discharge), and 5.a.(5) (Alternative Certification). Water transportation facilities are required to monitor their storm water discharges for the pollutants of concern listed in Table Q–1 below. Facilities must report in accordance with 5.b. (Reporting). In addition to the parameters listed in Table Q–1 below, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

TABLE Q–1.—MONITORING REQUIREMENTS

Pollutants of concern	Monitoring cut-off concentration
Total Recoverable Aluminum	0.75 mg/L
Total Recoverable Iron	1.0 mg/L
Total Recoverable Lead	0.0816 mg/L
Total Recoverable Zinc	0.065 mg/L

(1) Monitoring Periods. Water transportation facilities shall monitor samples collected during the sampling periods of: January to March, April to June, July to September, and October to December for the years specified in paragraph a. (above).

(2) Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm

event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or non-process water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

(3) Sampling Waiver.

(a) Adverse Conditions—When a discharger is unable to collect samples within a specified sampling period due to adverse climatic conditions, the discharger shall collect a substitute sample from a separate qualifying event in the next period and submit the data along with data for the routine sample in that period. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(b) Low Concentration Waiver—When the average concentration for a pollutant calculated from all monitoring data collected from an outfall during the monitoring period [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] is less than the corresponding value for that pollutant listed in Table Q–1 under the column Monitoring Cut-off Concentration, a facility may waive monitoring and reporting requirements in the monitoring period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance]. The facility must submit to the Director, in lieu of the monitoring data, a certification that there has not been a significant change in industrial activity or the pollution prevention measures in area of the facility which drains to the outfall for which sampling was waived.

(c) When a discharger is unable to conduct quarterly chemical storm water sampling at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirements as long as the facility remains inactive and unstaffed. The facility must submit to the Director, in lieu of monitoring data, a certification statement on the DMR stating that the site is inactive and unstaffed so that collecting a sample during a qualifying event is not possible.

(4) Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan. The permittee shall include the description of the location of the outfalls, explanation of why outfalls are expected to discharge substantially identical effluents, and estimate of the size of the drainage area and runoff coefficient with the Discharge Monitoring Report.

(5) Alternative Certification. A discharger is not subject to the monitoring requirements of this section provided the discharger makes a certification for a given outfall or on a pollutant-by-pollutant basis in lieu of monitoring reports required under paragraph b below, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, or significant materials from past industrial activity that are located in areas of the facility within the drainage area of the outfall are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan, and submitted to EPA in accordance with Part VI.C. of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph (*b*) below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations.

b. Reporting. Permittees with water transportation facilities shall submit monitoring results for each outfall associated with industrial activity [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the reporting period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March [insert the date 2 years after permit issuance]. Monitoring results [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance] shall be submitted on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March. For each outfall, one signed Discharge Monitoring Report form must be submitted to the Director per storm event sampled. Signed copies of Discharge Monitoring Reports, or said certifications, shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office listed in Part VI.G. of the fact sheet.

(*1*) *Additional Notification.* In addition to filing copies of discharge monitoring reports in accordance with paragraph b (above), water transportation facilities with at least one storm water discharge associated with industrial activity through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in paragraph b (above).

c. Quarterly Visual Examination of Storm Water Quality. Facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination must be made at least once in each designated period [described in paragraph (*1*) below] during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(*1*) Examinations shall be conducted in each of the following periods for the purposes of visually inspecting storm water quality associated with storm water runoff or snowmelt: January through March; April through June; July through September; and October through December.

(*2*) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.

(3) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(*4*) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(*5*) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(*6*) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

R. Storm Water Discharges Associated With Industrial Activity From Ship and Boat Building or Repairing Yards

1. Discharges Covered Under This Section

The requirements listed under this section apply to storm water discharges from facilities engaged in ship building and repairing and boat building and repairing [5] (Standard Industrial Classification (SIC) code 373).

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Special Conditions

a. Prohibition of Non-storm Water Discharges. In addition to the prohibitions listed in Part III.A of the permit, this section specifically prohibits non-storm water discharges of wastewaters, such as bilge and ballast water, pressure wash water, sanitary wastes, and cooling water originating from vessels, are not authorized by this permit. The operators of such discharges must obtain coverage under a separate NPDES permit if discharged to waters of the United States or through a municipal separate storm sewer system.

3. Storm Water Pollution Prevention Plan Requirements

a. Contents of Plan. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials which may potentially be significant pollutant sources. Each plan shall include, at a minimum:

(a) Drainage.

(i) A site map indicating the location of the outfalls and the types of discharges contained in the drainage areas of the outfalls, an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface

[5] According to the U.S. Coast Guard, a vessel 65 feet or greater in length is referred to as a ship, and a vessel smaller than 65 feet is a boat.

water bodies, locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under Part XI.R.3.a.(2)(c) (Spills and Leaks) of this section have occurred, and the locations of the following activities where such activities are exposed to precipitation: fueling, engine maintenance and repair, vessel maintenance and repair, pressure washing, painting, sanding, blasting, welding, metal fabrication, loading/unloading areas, locations used for the treatment, storage or disposal of wastes; liquid storage tanks, liquid storage areas (i.e., paint, solvents, resins), and material storage areas (i.e., blasting media, aluminum, steel, scrap iron).

(ii) For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants which are likely to be present in storm water discharges associated with industrial activity. Factors to consider include the toxicity of a chemical; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

(b) Inventory of Exposed Materials—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

(c) Spills and Leaks—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Such list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(e) Risk Identification and Summary of Potential Pollutant Sources—A narrative description of the potential pollutant sources from the following activities if applicable: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities (i.e., welding, metal fabricating); significant dust or particulate generating processes (i.e., abrasive blasting, sanding, painting); loading/unloading areas; and onsite waste disposal practices. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., biochemical oxygen demand, etc.) of concern shall be identified.

(3) Measures and Controls. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

(a) Good Housekeeping—Good housekeeping requires the maintenance of areas which may contribute pollutants to storm water discharges in a clean, orderly manner. The following areas must be specifically addressed, when applicable at a facility:

(i) Pressure Washing Area—When pressure washing is used to remove marine growth from vessels, the discharge water must be permitted as a process wastewater by an NPDES permit.

(ii) Blasting and Painting Areas—The facility must consider containing all blasting and painting activities to prevent abrasives, paint chips, and overspray from reaching the receiving water or the storm sewer system. The plan must describe measures taken at the facility to prevent or minimize the discharge of spent abrasive, paint chips, and paint into the receiving waterbody and storm sewer system. The facility may consider hanging plastic barriers or tarpaulins during blasting or painting operations to contain debris. Where required, a schedule for cleaning storm systems to remove deposits of abrasive blasting debris and paint chips should be addressed within the plan. The plan should include any standard operating practices with regard to blasting and painting activities. Practices may include the prohibition of performing uncontained blasting and painting over open water or blasting and painting during windy conditions which can render containment ineffective.

(iii) Material Storage Areas—All stored and containerized materials (fuels, paints, solvents, waste oil, antifreeze, batteries) must be stored in a protected, secure location away from drains and plainly labeled. The plan must describe measures that prevent or minimize contamination of the storm water runoff from such storage areas. The facility must specify which materials are stored indoors and consider containment or enclosure for materials that are stored outdoors. Above ground storage tanks, drums, and barrels permanently stored outside must be delineated on the site map with a description of the containment measures in place to prevent leaks and spills. The facility must consider implementing an inventory control plan to prevent excessive purchasing, storage, and handling of potentially hazardous materials. Those facilities where abrasive blasting is performed must specifically include a discussion on the storage and disposal of spent abrasive materials generated at the facility.

(iv) Engine Maintenance and Repair Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from all areas used for engine maintenance and repair. The facility must consider performing all maintenance activities indoors, maintaining an organized inventory of materials used in the shop, draining all parts of fluids prior to disposal, prohibiting wet clean up practice where the practice would result in the exposure of pollutants to storm water, using dry cleanup methods, and/or collecting the storm water runoff from the maintenance area and providing treatment or recycling.

(v) Material Handling Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from material handling operations and areas (i.e., fueling, paint & solvent mixing, disposal of process wastewater streams from vessels). The facility must consider covering fueling areas; using spill and overflow protection; mixing paints and

solvents in a designated area, preferably indoors or under a shed; and minimizing runon of storm water to material handling areas. Where applicable, the plan must address the replacement or repair of leaking connections, valves, pipes, hoses, and soil chutes carrying wastewater from vessels.

(vi) Drydock Activities—The plan must address the routine maintenance and cleaning of the drydock to minimize the potential for pollutants in the storm water runoff. The plan must describe the procedures for cleaning the accessible areas of the drydock prior to flooding and final cleanup after the vessel is removed and the dock is raised. Cleanup procedures for oil, grease, or fuel spills occurring on the drydock must also be included within the plan. The facility must consider items such as sweeping rather than hosing off debris and spent blasting material from the accessible areas of the drydock prior to flooding and having absorbent materials and oil containment booms readily available to contain and cleanup any spills.

(vii) General Yard Area—The plan must include a schedule for routine yard maintenance and cleanup. Scrap metal, wood, plastic, miscellaneous trash, paper, glass, industrial scrap, insulation, welding rods, packaging, etc., must be routinely removed from the general yard area. The facility must consider such measures as providing covered trash receptacles in each yard, on each pier, and on board each vessel being repaired.

(b) Preventive Maintenance—A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, sediment traps to ensure that spent abrasives, paint chips, and solids will be intercepted and retained prior to entering the storm drainage system) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

(*c*) *Spill Prevention and Response Procedures*—Areas where potential spills which can contribute pollutants to storm water discharges can occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

(*d*) *Inspections*—Qualified facility personnel shall be identified to inspect designated equipment and areas of the facility on a monthly basis. The following areas shall be included in all inspections: pressure washing area; blasting, sanding, and painting areas; material storage areas; engine maintenance and repair areas; material handling areas; drydock area; and general yard area. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained.

(*e*) *Employee Training*—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. The pollution prevention plan shall identify how often training will take place, but in all cases training must be held at least annually (once per calendar year). Employee training must, at a minimum, address the following areas when applicable to a facility: used oil management; spent solvent management; proper disposal of spent abrasives; proper disposal of vessel wastewaters, spill prevention and control; fueling procedures; general good housekeeping practices; proper painting and blasting procedures; and used battery management. Employees, independent contractors, and customers must be informed about BMPs and be required to perform in accordance with these practices. The facility should consider posting easy to read descriptions or graphic depictions of BMPs and emergency phone numbers in the work areas.

(*f*) *Recordkeeping and Internal Reporting Procedures*—A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

(*g*) *Non-storm Water Discharges.*

(*i*) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with paragraph XI.R.3.a.(3)(g)(iii) (below).

(*ii*) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2 (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(*iii*) *Failure to Certify*—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 270 days after permit issuance] or, for facilities which begin to discharge storm water associated with industrial activity after [Insert date 270 days after permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States which are not authorized by an NPDES permit are unlawful, and must be terminated.

(*h*) *Sediment and Erosion Control*—The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

(*i*) *Management of Runoff*—The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity [see paragraph XI.R.3.a.(2) of this section (Description of Potential Pollutant Sources)] shall be considered when determining reasonable and appropriate measures. Appropriate measures or other equivalent measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices.

(4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity including, but not limited to, pressure washing area, blasting and sanding areas, painting areas, material storage areas, engine maintenance and repair areas, material handling areas, and drydock area, shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with paragraph XI.R.3.a.(2) of this section (Description of Potential Pollutant Sources) and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.R.3.a.(3) of this section (Measures and Controls) shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.R.3.a.(4)(b) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years from the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under 3.a.(3)(d), the compliance evaluation may be conducted in place of one such inspection.

4. Numeric Effluent Limitations

There are no additional numeric effluent limitations beyond those described in Part V.B. of this permit.

5. Monitoring and Reporting Requirements

(a) Quarterly Visual Examination of Storm Water Quality. Facilities shall perform and document a visual examination of a representative storm water discharge associated with industrial activity from each outfall except discharges exempted below. The examination must be made at least once in each designated period [described in (*1*) below] during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(1) Examinations shall be conducted in each of the following periods for the purposes of visually inspecting storm water quality associated with storm water runoff or snow melt: January through March; April through June; July through September; October through December.

(2) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snow melt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inch in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for the entire permit term.

(3) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(*4*) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(*5*) When a discharger is unable to collect samples over the course of the monitoring period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(*6*) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

S. Storm Water Discharges Associated With Industrial Activity From Vehicle Maintenance Areas, Equipment Cleaning Areas, or Deicing Areas Located at Air Transportation Facilities

1. Discharges Covered Under This Section

The requirements listed under this section shall apply to storm water discharges from establishments and/or facilities including airports, air terminals, air carriers, flying fields, and establishments engaged in servicing or maintaining airports and/or aircraft (generally classified under Standard Industrial Classification (SIC) code 45) which have vehicle maintenance shops, material handling facilities, equipment cleaning operations or airport and/or aircraft deicing/anti-icing operations. For the purpose of this permit, the term ''deicing'' is defined as the process to remove frost, snow, or ice and ''anti-icing'' is the process which prevents the accumulation of frost, snow, or ice.

(*a*) *Coverage.* Only those portions of the facility or establishment that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, or deicing/anti-icing operations are addressed under this section.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Special Conditions

(*a*) *Prohibition of Non-storm Water Discharges.* In addition to those discharges prohibited under Part III.A.2, non-storm water discharges including aircraft, ground vehicle, runway and equipment washwaters, and dry weather discharges of deicing/anti-icing chemicals are not authorized by this permit. Dry weather discharges are those discharges generated by processes other than those included in the definition of storm water. The definition of storm water includes storm water runoff, snow melt runoff, and surface runoff and drainage. All other discharges constitute non-storm water discharges. Operators of non-storm water discharges must obtain coverage under a separate National Pollutant Discharge Elimination System (NPDES) permit if discharged to waters of the United States or through a municipal separate storm sewer system.

(*b*) *Releases of Reportable Quantities of Hazardous Substances and Oil.* Each individual permittee is required to report spills equal to or exceeding the reportable quantity levels specified at 40 CFR 110, 117, and 302 as described at Part VI.B.2. If an airport authority is the sole permittee, then the sum total of all spills at the airport must be assessed against the RQ. If the airport authority is a co-permittee with other deicing/anti-icing operators at the airport, such as numerous different airlines, the assessed amount must be the summation of spills by each co-permittee. If separate, distinct individual permittees exist at the airport, then the amount spilled by each separate permittee must be the assessed amount for the RQ determination.

3. Storm Water Pollution Prevention Plan Requirements

Storm water pollution prevention plans developed for areas of the facility occupied by tenants of the airport shall be integrated with the plan for the entire airport. For the purposes of today's permit, tenants of the airport facility include airline companies, fixed based operators and other parties which have contracts with the airport authority to conduct business operations on airport property which result in storm water discharges associated with industrial activity as described in paragraph 1 of this section. Plans should be developed in accordance with Part IV. Storm Water Pollution Prevention Plans).

(a) Contents of Plan. Each plan shall include, at a minimum, the following items:

(*1*) *Pollution Prevention Team.* Each plan shall identify a specific individual or individuals as member(s) of a storm water Pollution Prevention Team who are responsible for developing the storm water pollution prevention plan and assisting the facility management in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(*2*) *Description of Potential Pollutant Sources.* Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials which may potentially be significant pollutant sources. Each plan shall include, at a minimum:

(*a*) *Drainage.*

(*i*) A site map indicating an outline of the drainage area of each storm water outfall within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies, locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under paragraph XI.S.3.a.(2)(c) (Spills and Leaks) of this section have occurred, and the locations of the following activities where such activities are exposed to precipitation: aircraft and runway deicing/anti-icing operations; fueling stations; aircraft, ground vehicle and equipment maintenance and/or cleaning areas; storage areas for aircraft, ground vehicles and equipment awaiting maintenance; loading/unloading areas; locations used for the treatment, storage or disposal of wastes, liquid storage tanks, processing areas and storage areas. The map must indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls.

(*ii*) For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants which are likely to be present in storm water discharges associated with industrial activity. Factors to consider include the toxicity of chemical; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

(*iii*) The site map developed for the entire airport shall indicate the location of each tenant of the facility that conducts industrial activities as described in Part XI.S.1.a., and incorporate information from the tenants site map (including a description of industrial activities, significant materials exposed, and existing management practices).

(*b*) *Inventory of Exposed Materials*—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment of storm water runoff.

(*c*) *Spills and Leaks*—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Such list shall be updated as appropriate during the term of the permit.

(*d*) *Sampling Data*—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(*e*) *Risk Identification and Summary of Potential Pollutant Sources*—A narrative description of the potential pollutant sources from the following activities: aircraft, runway, ground vehicle and equipment maintenance and cleaning; aircraft and runway deicing/anti-icing operations (including apron and centralized aircraft deicing/anti-icing stations, runways, taxiways and ramps); outdoor storage activities; loading and unloading operations; and onsite waste disposal. The description shall specifically list any significant potential source of pollutants at the facility and for each potential source, any pollutant or pollutant parameter [e.g., biochemical oxygen demand (BOD_5), oil and grease, etc.] of concern shall be identified.

Facilities which conduct deicing/anti-icing operations shall maintain a record of the types [including the Material Safety Data Sheets (MSDS)] and monthly quantities of deicing/anti-icing chemicals used. Tenants and fixed-base operators who conduct deicing/anti-icing operations shall provide the above information to the airport authority for inclusion in the storm water pollution prevention plan for the entire facility.

(3) Measures and Controls. Operators covered by this permit shall develop a description of storm water management controls appropriate for their areas of operation, and implement such controls. The priority in selecting controls shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

(a) Good Housekeeping—Good housekeeping requires the maintenance of areas which may contribute pollutants to storm water discharges in a clean, orderly manner.

(i) Aircraft, Ground Vehicle and Equipment Maintenance Areas—Permittees should ensure the maintenance of equipment is conducted in designated areas only and clearly identify these areas on the ground and delineate them on the site map. The plan must describe measures that prevent or minimize the contamination of the storm water runoff from all areas used for aircraft, ground vehicle and equipment maintenance (including the maintenance conducted on the terminal apron and in dedicated hangars). Management practices or equivalent measures such as performing maintenance activities indoors, maintaining an organized inventory of materials used in the maintenance areas, draining all parts of fluids prior to disposal, preventing the practice of hosing down the apron or hangar floor, using dry cleanup methods, and/or collecting the storm water runoff from the maintenance area and providing treatment or recycling should be considered.

(ii) Aircraft, Ground Vehicle and Equipment Cleaning Areas—Permittees should ensure that cleaning of equipment is conducted in designated areas only and clearly identify these areas on the ground and delineate them on the site map. The plan must describe measures that prevent or minimize the contamination of the storm water runoff from all areas used for aircraft, ground vehicle and equipment cleaning. Management practices such as performing cleaning operations indoors, and/or collecting the storm water runoff from the cleaning area and providing treatment or recycling should be considered.

(iii) Aircraft, Ground Vehicle and Equipment Storage Areas—The storage of aircraft, ground vehicles and equipment awaiting maintenance must be confined to designated areas (delineated on the site map). The plan must describe measures that prevent or minimize the contamination of the storm water runoff from these areas. Management practices such as indoor storage of aircraft and ground vehicles, the use of drip pans for the collection of fluid leaks, and perimeter drains, dikes or berms surrounding storage areas should be considered.

(iv) Material Storage Areas—Storage units of all materials (e.g., used oils, hydraulic fluids, spent solvents, and waste aircraft fuel) must be maintained in good condition, so as to prevent or minimize contamination of storm water, and plainly labeled (e.g., ''used oil,'' ''Contaminated Jet A,'' etc.). The plan must describe measures that prevent or minimize contamination of the storm water runoff from storage areas. Management practices or equivalent measures such as indoor storage of materials, centralized storage areas for waste materials, and/or installation of berming and diking around storage areas should be considered for implementation.

(v) Airport Fuel System and Fueling Areas—The plan must describe measures that prevent or minimize the discharge of fuels to the storm sewer resulting from fuel servicing activities or other operations conducted in support of the airport fuel system. Where the discharge of fuels into the storm sewer cannot be prevented, the plan shall indicate measures that will be employed to prevent or minimize the discharge of the contaminated runoff into receiving

surface waters. Management practices or equivalent measures such as implementing spill and overflow practices (e.g., placing sorptive materials beneath aircraft during fueling operations), using dry cleanup methods, and/or collecting the storm water runoff should be considered.

(b) Preventive Maintenance—A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, removing debris from catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

(c) Spill Prevention and Response Procedures—Areas where potential spills which can contribute pollutants to storm water discharges can occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. The plan shall describe material handling procedures, storage requirements, and consider the use of equipment such as diversion valves. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

(d) Source Reduction—Operators who conduct aircraft and/or runway (including taxiways and ramps) deicing/anti-icing operations shall evaluate present operating procedures to consider alternative practices to reduce the overall amount of deicing/anti-icing chemicals used and/or lessen the environmental impact of the pollutant source.

(i) With regard to runway deicing operations, operators, at a minimum, shall evaluate: present application rates to ensure against excessive over application; metered application of deicing chemical; pre-wetting dry chemical constituents prior to application; installation of runway ice detection systems; implementing anti-icing operations as a preventive measure against ice buildup; the use of substitute deicing compounds such as potassium acetate in lieu of ethylene glycol, propylene glycol and/or urea.

(ii) In considering source reduction management practices for aircraft deicing operations, operators, at a minimum, should evaluate current application rates and practices to ensure against excessive over application, and consider pretreating aircraft with hot water prior to the application of a deicing chemical, thus reducing the overall amount of chemical used per operation.

Source reduction measures that the operator determines to be reasonable and appropriate shall be implemented and maintained. The plan shall provide a narrative explanation of the options considered and the reasoning for whether or not to implement them.

(e) Management of Runoff—The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which prevent or reduce source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity [see paragraph XI.S.3.a.(2) (Description of Potential Pollutant Sources)] shall be considered. Appropriate measures or equivalent measures may include: vegetative swales, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices. Measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained.

(i) Operators that conduct aircraft and/or runway deicing/anti-icing operations shall also provide a narrative consideration of management practices to control or manage contaminated runoff from areas where deicing/anti-icing operations occur to reduce the amount of pollutants being discharged from the site. Structural controls such as establishing a centralized aircraft deicing facility, and/or collection of contaminated runoff for treatment or recycling should be considered. Collection and treatment alternatives include, but are not limited to, retention basins, detention basins with metered controlled release, Underground Storage Tanks (USTs) and/or disposal to Publicly Owned Treatment Works (POTW) by way of sanitary sewer or hauling tankers. Runoff management controls that the operator determines to be reasonable and appropriate shall be implemented and maintained. The plan should consider the recovery of deicing/anti-icing materials when these materials are applied during non-precipitation events to prevent these materials from later becoming a source of storm water contamination. The plan shall provide a narrative explanation of the controls selected and the reasons for their selection.

(f) Inspections—In addition to or as part of the comprehensive site evaluation required under paragraph XI.S.3.a.(4) of this section, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility specified in the plan. The inspection frequency shall be specified in the plan, but at a minimum be conducted once per week during deicing/anti-icing application periods for areas where deicing/anti-icing operations are being conducted. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained. The use of a checklist developed by the pollution prevention team is encouraged.

(g) Pollution Prevention Training—Pollution prevention training programs shall be developed to inform management and personnel responsible for implementing activities identified in the storm water pollution prevention plan of the components and goals of the plan. Training should address topics such as spill response, good housekeeping, aircraft and runway deicing/anti-icing procedures, and material management practices. The pollution prevention plan shall identify periodic dates for such training.

(h) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan. Inspections and maintenance activities shall be documented and records shall be incorporated into the plan.

(i) Non-storm Water Discharges.

(i) The plan shall include a certification that the discharge points have been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of

access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with paragraph XI.S.3.a.(3)(iii) (below).

(ii) Except for flows from fire fighting activities, other sources of non-storm water listed in Part III.A.2 (Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) Failure to Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 270 days after permit issuance] or, for facilities which begin to discharge storm water associated with industrial activity after [Insert date 270 days after permit issuance], 180 days after submitting a notice of intent to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States which are not authorized by an NPDES permit are unlawful, and must be terminated.

(j) Sediment and Erosion Control—The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

(4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations during periods of deicing/anti-icing operations at appropriate intervals specified in the plan, but in no case less than once a year. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with paragraph XI.S.3.a.(2) of this section (Description of Potential Pollutant Sources) and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.S.3.a.(3) of this section (Measures and Controls) shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.S.3.a.(4)(b) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years from the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under 3.a.(3)(f), the compliance evaluation may be conducted in place of one such inspection.

4. Numeric Effluent Limitations

There are no additional numeric effluent limitations beyond those in Part V.B of this permit.

5. Monitoring and Reporting Requirements

a. During the period beginning on the effective date and lasting through the expiration date of this permit, (airports that use more than 100,000 gallons of glycol-based deicing/anti-icing) chemicals and/or 100 tons or more of urea on an average annual basis):

(1) Shall prepare estimates for annual pollutant loadings resulting from discharges of spent deicing/anti-icing chemicals from the entire airport. The loading estimates shall reflect the amounts of deicing/anti-icing chemicals discharged to separate storm sewer systems or surface waters, prior to and after implementation of the facility's storm water pollution prevention plan. Such estimates shall be reviewed by an environmental professional, and certified by such professional. By means of the certification, the environmental professional, having examined the facility's deicing/anti-icing procedures, and proposed control measures described in the storm water pollution prevention plan, shall attest that the loading estimates have been accurately prepared. Certified loading estimates are to be retained at the airport facility and attached to the storm water pollution prevention plan.

b. Analytical Monitoring Requirements. During the period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] and the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance], airports that use more than 100,000 gallons of glycol-based deicing/anti-icing chemicals and/or 100 tons or more of urea on an average annual basis shall monitor outfalls from the airport facility that collect runoff from areas where deicing/anti icing activities occur, except as provided in paragraph 5.a.(3) (Sampling Waiver). Airports which are subject to these monitoring requirements must sample their storm water discharges for the parameters listed in Table S–1 below. Such facilities must report in accordance with 5.b. (Reporting). In addition to the parameters listed in Table S–1 below, the permittee shall provide the date and duration (in hours) of the precipitation event(s) sampled; measurements or estimates (in inches) of the precipitation event that generated the sampled runoff; the duration between the event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) event; and an estimate of the total volume (in gallons) of the discharge sampled.

TABLE S–1.—MONITORING REQUIREMENTS

Pollutants of concern	Monitoring cut-off concentration
Biochemical Oxygen Demand (BOD_5).	30 mg/L
Chemical Oxygen Demand (COD).	120 mg/L
Ammonia	19 mg/L
pH	6.0 to 9 s.u.

For the purposes of today's final permit, the ''average annual'' usage rate of deicing/anti-icing chemicals is determined by averaging the cumulative amount of deicing/anti-icing chemicals used by all operators at the airport facility in the 3 previous calendar years.

(1) Monitoring Periods. Airports where more than 100,000 gallons of glycol-based deicing/anti-icing chemicals and/or 100 tons or more of urea are used on an average annual basis shall monitor outfalls from the facility that collect runoff from areas where deicing/anti-icing activities occur four times per year during the months of December, January, and February when deicing/anti-icing activities are occurring, in the years specified in paragraph b. (above).

(2) Sample Type. A minimum of one grab sample and one flow-weighted composite sample shall be taken from each outfall that collects runoff from areas where deicing/anti-icing activities occur. All such samples shall be collected from a discharge resulting from a precipitation event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) precipitation event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample should be taken when pollutant concentrations in the storm water/melt water discharges from deicing/anti-icing operations are expected to be at a maximum. The recommended methodology for performing grab and flow-weighted composite sampling is described at 40 CFR 122.21(g)(7). The permittee has the option to submit site-specific deicing/anti-icing discharge monitoring protocol and methodology, better suited to the particular facility, to the Director for approval.

(3) Sampling Waiver.

(a) Adverse Conditions—Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as high winds, blizzard conditions, ice storms, etc.) or otherwise make the collection of a sample impracticable (extended frozen conditions, etc.).

(b) Low Concentration Waiver—When the average concentration for a parameter calculated from all grab samples collected during the monitoring period [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] is less than the corresponding value for that parameter listed in Table S–1 under the column Monitoring Cut-off Concentration, a facility may waive monitoring and reporting requirements in the monitoring period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance]. The facility must submit to the Director, in lieu of the monitoring data, a certification that there has not been a significant change in industrial activity or the pollution prevention measures in area of the facility which drains to the outfall for which sampling was waived.

(c) When a discharger is unable to conduct quarterly chemical storm water sampling at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirements as long as the facility remains inactive and unstaffed. The facility must submit to the Director, in lieu of monitoring data, a certification statement on the DMR stating that the site is inactive and unstaffed so that collecting a sample during a qualifying event is not possible.

(4) Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan. The permittee shall include the description of the location of the outfalls, explanation of why outfalls are expected to discharge substantially identical effluents, and estimate of the size of the drainage area and runoff coefficient with the Discharge Monitoring Report.

(5) Alternative Certification. The Alternative Certification provision discussed in other sections of Part XI is not applicable to discharges included under Part XI.S. (Storm Water Discharges Associated with Industrial Activity from Vehicle Maintenance Areas, Equipment Cleaning Areas, or Deicing/Anti-icing Areas Located at Air Transportation Facilities).

(c) Reporting. Airports identified in Part XI.S.5.6 shall submit monitoring results obtained during the reporting period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of March [insert the date 2 years after permit issuance]. Monitoring results obtained during the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance] shall be submitted on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of March [insert date 4 years after permit issuance]. A separate Discharge Monitoring Report Form is required for each sampling period. For each outfall, one signed Discharge Monitoring Report form must be submitted to the Director per storm event sampled. Signed copies of Discharge Monitoring Reports, or waiver, shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office listed in Part VI.G. of the fact sheet.

(1) Additional Notification. In addition to filing copies of discharge monitoring reports in accordance with paragraph cb (above), facilities identified in Part XI.S.5.6 that discharge storm water to a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in paragraph bc (above).

T. Storm Water Discharges Associated With Industrial Activity From Treatment Works

1. Discharges Covered Under This Section

a. This permit covers all existing point source discharges of storm water from treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including lands dedicated to the disposal of sewage sludge that are located within the confines of the facility with a design flow of 1.0 MGD or more, or required to have an approved pretreatment program under 40 CFR Part 403. When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Special Conditions

a. Prohibition of Non-storm Water Discharges. Prohibited non-storm water discharges including sanitary and industrial wastewater, and equipment and vehicle washwaters are not authorized by this permit. The operators of such discharges must obtain coverage under a separate NPDES permit if discharged to waters of the United States or through a municipal separate storm sewer system.

3. Storm Water Pollution Prevention Plan Requirements

a. Contents of the Plan. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team who are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials which may potentially be significant pollutant sources. Each plan shall include, at a minimum:

(a) Drainage—A site map indicating the location of each point of discharge of storm water associated with industrial activity, types of discharges contained in the drainage areas of the outfalls, an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries (with a prediction of the direction of flow), each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies, locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under Part III.B. (Spills and Leaks) of this permit have occurred. In addition, the locations of the following activities shall be indicated: fueling areas; vehicle and equipment maintenance and/or cleaning areas; locations used for treatment, storage and disposal areas for wastes, liquid storage tanks, processing areas and storage areas for process chemicals, petroleum products, solvents, fertilizers, herbicides and pesticides; and loading/unloading areas.

(b) Inventory of Exposed Materials—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

(c) Spills and Leaks—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Such list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(e) Summary of Potential Pollutant Sources—A narrative description of the potential pollutant sources from the following activities associated with treatment works: access roads/rail lines; loading and unloading operations; outdoor storage activities; material handling sites; outdoor manufacturing or processing activities; significant dust or particulate generating processes; and onsite waste disposal practices. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., acid, bases, and solvents, etc.) of concern shall be identified.

(3) Measures and Controls. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

(a) Good Housekeeping—All areas that may contribute pollutants to storm waters discharges shall be maintained in a clean, orderly manner.

(b) Preventive Maintenance—A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

(c) Spill Prevention and Response Procedures—Areas where potential spills which can contribute pollutants to storm water discharges can occur, and their accompanying drainage points, shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures and equipment for cleaning up spills shall be identified in the plan and made available to the appropriate personnel.

(d) Inspections—In addition to the comprehensive site evaluation required under Part XI.T.3.a.(4) of this permit, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility on a periodic basis. The following areas shall be included in all inspections: access roads/rail lines, equipment storage and maintenance areas (both indoor and outdoor areas); fueling; material handling areas, residual treatment, storage, and disposal areas; and wastewater treatment areas. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained. The use of a checklist developed by the facility is encouraged.

(e) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The pollution prevention plan shall identify how often training will take place, but training should be held at least annually (once per calendar year). Employee training must, at a minimum, address the following areas when applicable to a facility: petroleum product management; process chemical management; spill prevention and control; fueling procedures; general good housekeeping practices; proper procedures for using fertilizers, herbicides and pesticides.

(f) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

(g) Non-storm Water Discharges.

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be practical if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not practical, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with Part XI.T.3.a.(3)(g)(iv) (Failure to Certify) of this permit.

(ii) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2. (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) A copy of all the current NPDES permit issued for wastewater, industrial, vehicle and equipment washwater discharges or, if an NPDES permit has not yet been issued, a copy of the pending application must be attached to the plan. For facilities that discharge vehicle and equipment washwaters to the sanitary sewer system, the operator of the sanitary system and associated treatment plant must be notified. In such cases, a copy of the notification letter must be attached to the plan. If an industrial user permit is issued under a pretreatment program, a copy of that permit must be attached in the plan. In all cases, any permit conditions must be considered in the plan. If the washwaters are handled in another manner (e.g., hauled offsite), the disposal method must be described and all pertinent documentation (e.g., frequency, volume, destination, etc.) must be attached to the plan.

(iv) Failure to Certify. Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [insert date 270 days after permit issuance] or, for facilities that begin to discharge storm water associated with industrial activity after [insert date 270 days after permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notifications shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States that are not authorized by an NPDES permit are unlawful and must be terminated.

(h) Sediment and Erosion Control—The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

(i) Management of Runoff—The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity [see Part XI.T.3.a.(2) (Description of Potential Pollutant Sources) of this permit] shall be considered when determining reasonable and appropriate measures. Appropriate measures or other equivalent measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices.

(4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with Part XI.T.3.a.(2) (Description of Potential Pollutant Sources) of this permit and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.T.3.a.(3) (Measures and Controls) of this permit shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.T.3.a.(4)(b) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under 3.a.(3)(d), the compliance evaluation may be conducted in place of one such inspection.

4. Numeric Effluent Limitations

There are no numeric effluent limitations beyond those in Part V.B.

5. Monitoring and Reporting Requirements

a. Quarterly Visual Examination of Storm Water Quality. Facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination must be made at least once in each of the following designated periods during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event: January through March; April through June; July through September; and October through December.

(1) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.

(2) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(3) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the observation data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(4) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the results of the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(5) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

U. Storm Water Discharges Associated With Industrial Activity From Food and Kindred Products Facilities

1. Discharges Covered Under This Section

This section covers all storm water discharges from food and kindred products processing facilities (commonly identified by Standard Industrial Classification (SIC) code 20), including: meat products; dairy products; canned, frozen and preserved fruits, vegetables, and food specialties; grain mill products; bakery products; sugar and confectionery products; fats and oils; beverages; and miscellaneous food preparations and kindred products and tobacco products manufacturing (SIC Code 21), except for storm water discharges identified under paragraph I.B.3. where industrial plant yards; material handling sites; refuse sites; sites used for application or disposal of process wastewaters; sites used for storage and maintenance of material handling equipment; sites used for residential treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; and storage areas for raw material and intermediate and finished products are exposed to storm water and areas where industrial activity has taken place in the past and significant materials remain. For the purposes of this paragraph, material handling activities include the storage, loading, and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product, or waste product.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Special Conditions

a. Prohibition of Non-storm Water Discharges.

(1) Discharges of non-storm water, including boiler blowdown, cooling tower overflow and blowdown, ammonia refrigeration purging, and vehicle washing/clean-out operations, to waters of the United States, or through municipal separate storm sewer systems, are not authorized by this permit (except those discharges identified in part III.A.2 in the permit). The operators of such discharges must obtain coverage under a separate NPDES wastewater discharge permit.

3. Storm Water Pollution Prevention Plan Requirements

a. Contents of Plan. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials which may potentially be significant pollutant sources. Each plan shall include, at a minimum:

(a) Drainage—A site map indicating the pattern of storm water drainage, existing structural control measures to reduce pollutants in storm water runoff, surface water bodies, locations where significant materials are exposed to precipitation, and locations where major spills or leaks identified under Part XI.U.3.a.(2)(c) (Spills and Leaks) of this permit have occurred since 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. The map must also indicate the locations of all industrial activities that are exposed to precipitation, including, but not limited to: loading/unloading areas; vehicle fueling; vehicle and equipment maintenance and/or cleaning areas; waste treatment, storage and disposal locations; liquid storage tanks; vents and stacks from cooking, drying, and similar operations, dry product vacuum transfer lines; animal holding pens; spoiled product and broken product container storage areas; significant dust or particulate generating areas; and any other processing and storage areas exposed to storm water. Flows with a significant potential for causing erosion shall also be identified. In addition, the site map must identify monitoring locations. In addition, the map must indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls.

(b) Inventory of Exposed Materials—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

(c) Spills and Leaks—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Such list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(e) Summary of Potential Pollutant Sources—The description of potential pollutant sources culminates in a narrative assessment of the risk potential that the industrial activities, materials, and physical features of the site, as identified in XI.U.3.a.(2)(a) (drainage), pose to storm water quality. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., biochemical oxygen demand, oil and grease, etc.) of concern shall be identified.

In addition to food and kindred products processing-related industrial activities, the plan must also describe application/storage of pest control chemicals (e.g., rodenticides, insecticides, fungicides, and others) used on plant grounds, including a description of pest control application and chemical storage practices.

(3) Measures and Controls. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following

minimum components, including a schedule for implementing such controls:

(a) Good Housekeeping—Good housekeeping requires the maintenance of areas which may contribute pollutants to storm waters discharges in a clean, orderly manner.

(b) Preventive Maintenance—A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

(c) Spill Prevention and Response Procedures—Areas where potential spills which can contribute pollutants to storm water discharges can occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Areas that must be identified should include loading/unloading stations, outdoor storage areas, and waste management areas exposed to storm water. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

(d) Inspections—In addition to the comprehensive site evaluation required under Part XI.U.3.a.(4) of this section, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility. At a minimum, the following areas, where the potential for exposure to storm water exists, must be inspected on a regularly scheduled basis: loading and unloading areas for all significant materials; storage areas, including associated containment areas; waste management units; vents and stacks emanating from industrial activities; spoiled product and broken product container holding areas; animal holding pens; staging areas; and air pollution control equipment. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained. Based on the results of the inspection, the description of potential pollutant sources and pollution prevention measures and controls identified in the plan shall be revised as appropriate within 2 weeks of such inspection and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the inspection.

(e) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping, material management practices, unloading/loading practices, outdoor storage areas, waste management practices, pest control, and improper connections to the storm sewer. At a minimum, this training must be provided annually. The pollution prevention plan shall identify frequencies and approximate dates for such training.

(f) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan. Ineffective BMPs must be recorded and the date of their corrective actions noted in the plan.

(g) Non-storm Water Discharges

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with Part XI.U.3.a.(3)(g)(iv) (Failure to Certify) of this permit.

(ii) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2 (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) If the facility discharges wastewater, other than storm water via an existing NPDES permit, a copy of the NPDES permit authorizing the discharge must be attached to the plan. Similarly, if the facility submitted an application for an NPDES permit for non-storm water discharges, but has not yet received that permit, a copy of the permit application must be attached. Upon issuance or reissuance of an NPDES permit, the facility must modify its plan to include a copy of that permit.

(iv) Failure To Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 270 days after permit issuance] or, for facilities which begin to discharge storm water associated with industrial activity after [Insert date 270 days after permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States which are not authorized by an NPDES permit are unlawful and must be terminated.

(h) Sediment and Erosion Control—The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

(i) Management of Runoff—The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which

control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity [see Part XI.U.3.a.(2) (Description of Potential Pollutant Sources) of this permit] shall be considered when determining reasonable and appropriate measures. Appropriate measures or equivalent measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices.

(4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year. Where compliance evaluation schedules overlap with inspections required under XI.U.3.a.(3)(d) of this section, the compliance evaluation may be conducted in place of one such inspection. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with Part XI.U.3.a.(2) (Description of Potential Pollutant Sources) of this permit and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.U.3.a.(3) (Measures and Controls) of this permit shall be revised as appropriate within 2 weeks of such inspection and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the inspection.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.U.3.a.(4)(d) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years from the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) The storm water pollution prevention plan must describe the scope and content of the comprehensive site evaluations that qualified personnel will conduct to (1) confirm the accuracy of the description of potential sources contained in the plan, (2) determine the effectiveness of the plan, and (3) assess compliance with the terms and conditions of the permit. The individual or individuals who will conduct the evaluations must be identified in the plan and should be members of the pollution prevention team, as identified in Part XI.U.3.a.(1) (Pollution Prevention Team).

4. Numeric Effluent Limitations

There are no additional numeric effluent limitations beyond those described in Part V.B of this permit.

5. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. During the period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] and the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance], permittees with grain mill and fats and oils products facilities must monitor their storm water discharges associated with industrial activity at least quarterly (4 times per year) during years 2 and 4 except as provided in paragraphs 5.a.(3) (Sampling Waiver), 5.a.(4) (Representative Discharge), and 5.a.(5) (Alternative Certification). Grain mill and fats and oils products facilities are required to monitor their storm water discharges for the pollutants of concern listed in Table U–1 or U–2 below. Facilities must report in accordance with 5.b. (Reporting). In addition to the parameters listed in Table U–1 or U–2 below, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

TABLE U–1.—GRAIN MILL PRODUCTS

Pollutant of concern	Cut-off concentration (mg/L)
Total Suspended Solids	100

TABLE U–2.—FATS AND OILS PRODUCTS MONITORING REQUIREMENTS

Pollutant of concern	Cut-off concentration (mg/L)
Biochemical Oxygen Demand (BOD_5)	30
Chemical Oxygen Demand (COD)	120
Nitrate Plus Nitrite Nitrogen	0.68
Total Suspended Solids	100

(1) Monitoring Periods. Grain mill and fats and oils products facilities shall monitor samples collected during the sampling periods of: January to March, April to June, July to September, and October to December for the years specified in paragraph a. (above).

(2) Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first

hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or non-process water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

(3) Sampling Waiver.

(a) Adverse Conditions—When a discharger is unable to collect samples within a specified sampling period due to adverse climatic conditions, the discharger shall collect a substitute sample from a separate qualifying event in the next period and submit the data along with data for the routine sample in that period. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(b) Low Concentration Waiver—When the average concentration for a pollutant calculated from all monitoring data collected from an outfall during the monitoring period [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] is less than the corresponding value for that pollutant listed in Table U–1 under the column Monitoring Cut-off Concentration, a facility may waive monitoring and reporting requirements in the monitoring period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance]. The facility must submit to the Director, in lieu of the monitoring data, a certification that there has not been a significant change in industrial activity or the pollution prevention measures in area of the facility which drains to the outfall for which sampling was waived.

(c) When a discharger is unable to conduct quarterly chemical storm water sampling at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirements as long as the facility remains inactive and unstaffed. The facility must submit to the Director, in lieu of monitoring data, a certification statement on the DMR stating that the site is inactive and unstaffed so that collecting a sample during a qualifying event is not possible.

(4) Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan. The permittee shall include the description of the location of the outfalls, explanation of why outfalls are expected to discharge substantially identical effluents, and estimate of the size of the drainage area and runoff coefficient with the Discharge Monitoring Report.

(5) Alternative Certification. A discharger is not subject to the monitoring requirements of this section provided the discharger makes a certification for a given outfall, or on a pollutant-by-pollutant basis in lieu of monitoring reports required under paragraph *b* below, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, or significant materials from past industrial activity, that are located in areas of the facility within the drainage area of the outfall are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan, and submitted to EPA in accordance with Part VI.C. of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph *(b)* below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations.

b. Reporting. Permittees with grain mill and fats and oils products facilities shall submit monitoring results for each outfall associated with industrial activity [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the reporting period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March [insert the date 2 years after permit issuance]. Monitoring results (or a certification in accordance with Sections (3), (4), or (5) above] obtained during the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance] shall be submitted on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March. For each outfall, one signed Discharge Monitoring Report form must be submitted to the Director per storm event sampled. Signed copies of Discharge Monitoring Reports, or said certifications, shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office listed in Part VI.G. of the fact sheet to this permit.

(1) Additional Notification. In addition to filing copies of discharge monitoring reports in accordance with paragraph b (above) food and kindred products, facilities with at least one storm water discharge associated with industrial activity through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in paragraph b (above).

a. Quarterly Visual Examination of Storm Water Quality. Facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination(s) must be made at least once in each of the following 3-month periods: January through March, April through June, July through September, and October through December. The examination shall be made during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(1) Examinations shall be made of a grab sample collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of

when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.

(2) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(3) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area (e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)) shall be provided in the plan.

(4) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(5) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

V. Storm Water Discharges Associated With Industrial Activity From Textile Mills, Apparel, and Other Fabric Product Manufacturing Facilities

1. Discharges Covered Under This Section

The requirements listed under this section shall apply to storm water discharges from the following activities: Textile Mill Products, of and regarding facilities and establishments engaged in the preparation of fiber and subsequent manufacturing of yarn, thread, braids, twine, and cordage, the manufacturing of broadwoven fabrics, narrow woven fabrics, knit fabrics, and carpets and rugs from yarn; processes involved in the dyeing and finishing of fibers, yarn fabrics, and knit apparel; the integrated manufacturing of knit apparel and other finished articles of yarn; the manufacturing of felt goods (wool), lace goods, nonwoven fabrics, miscellaneous textiles, and other apparel products (generally described by SIC codes 22 and 23).

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Special Conditions

a. Prohibition of Non-storm Water Discharges.

(1) In addition to the general prohibition of non-storm waster discharges at Part III A.2 of this permit to discharges of wastewater, such as wastewater as a result of wet processing, wastewaters resulting from any processes relating to the production process, reused or recycled water, and waters used in cooling towers are prohibited under this permit. Operators of such discharges to waters of the United States, must obtain coverage under a separate NPDES permit.

3. Storm Water Pollution Prevention Plan Requirements

a. Contents of Plan. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team who are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials which may potentially be significant pollutant sources. Each plan shall include, at a minimum:

(a) Drainage.

(i) A site map indicating an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies, locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under Part XI.V.3.a.(2)(c) (Spills and Leaks) of this permit have occurred, and the locations of the following activities where such activities are exposed to precipitation:

loading/unloading areas, locations used for the treatment, storage or disposal of wastes, liquid storage tanks or silos, bulk storage areas that may exist, processing areas and storage areas, fueling stations, vehicle and equipment maintenance and/or cleaning areas. The map must indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls.

(ii) For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants which are likely to be present in storm water discharges associated with industrial activity. Factors to consider include the toxicity of chemical; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

(b) Inventory of Exposed Materials—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

(c) Spills and Leaks—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Such list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(e) Risk Identification and Summary of Potential Pollutant Sources—A narrative description of the potential pollutant sources from the following activities: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; significant dust or particulate generating processes; onsite waste disposal practices; industry-specific significant materials and industrial activities (e.g., backwinding, beaming, bleaching, backing, bonding carbonizing, carding, cut and sew operations, desizing, drawing, dyeing flocking, fulling, knitting, mercerizing, opening, packing, plying, scouring, slashing, spinning, synthetic-felt processing, textile waste processing, tufting, turning, weaving, web forming, winging, yarn spinning, and yarn texturing). The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., biochemical oxygen demand, etc.) of concern shall be identified.

(3) Measures and Controls. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

(a) Good Housekeeping—Good housekeeping requires the maintenance of areas which may contribute pollutants to storm water discharges in a clean, orderly manner. The following areas must be specifically addressed, when applicable at the facility:

(i) Material Storage Areas—All stored and containerized materials (fuels, petroleum products, solvents, dyes, etc.) must be stored in a protected area, away from drains and clearly labeled. The plan must describe measures that prevent or minimize contamination of storm water runoff from such storage areas. The facility should specify which materials are stored indoors and must provide a description of the containment area or enclosure for those materials which are stored outdoors. Above ground storage tanks, drums, and barrels permanently stored outside must be delineated on the site map with a description of the appropriated containment measures in place to prevent leaks and spills. The facility may consider an inventory control plan to prevent excessive purchasing, storage, and handling of potentially hazardous substances. In the case of storage of empty chemical drums and containers, facilities should employ practices which ensure that barrels are clean and residuals are not subject to contact with storm water, such practices may include triple-rinsing containers. The discharge waters from such washings must be collected and disposed of properly.

(ii) Material Handling Area—The plan must describe measures that prevent or minimize contamination of the storm water runoff from materials handling operations and areas. The facility may consider the use of spill and overflow protection; covering fueling areas; covering and enclosing areas where the transfer of materials may occur. Where applicable, the plan must address the replacement or repair of leaking connections, valves, transfer lines and pipes that may carry chemicals, dyes, or wastewater.

(iii) Fueling Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from fueling areas. The facility may consider covering the fueling area, using spill and overflow protection, minimizing runon of storm water to the fueling area, using dry cleanup methods, and/or collecting the storm water runoff and providing treatment or recycling.

(iv) Above Ground Storage Tank Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from above ground storage tank areas. The facility must consider storage tanks and their associated piping and valves. The facility may consider regular cleanup of these areas, preparation of a spill prevention control and countermeasure program, provide spill and overflow protection, minimizing runon of storm water from adjacent areas, restrict access to the area, insertion of filters in adjacent catch basins, provide absorbent booms in unbermed fueling areas, use of dry cleanup methods, and permanently sealing drains within critical areas that may discharge to a storm drain.

(b) Preventive Maintenance—A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, sediment traps, catch basins, infiltration devices, ponds) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns

or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

(c) Spill Prevention and Response Procedures—Areas where potential spills which can contribute pollutants to storm water discharges can occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

(d) Inspections—Qualified facility personnel shall be identified to inspect designated equipment and areas of the facility at appropriate intervals specified in the plan. Inspection intervals are to occur on a monthly basis. Inspections of this nature shall include, but not be limited to, the following areas: all containment and storage areas, transfer and transmission lines, spill prevention, good housekeeping practices, management of process waste products, all structural and nonstructural management practices. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained.

(e) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The pollution prevention plan shall identify dates for such training to take place at least annually (once per calendar year). Employee training must, at a minimum address the following areas when applicable to a facility: use of reused/recycled waters; solvents management; proper disposal of dyes; proper disposal of petroleum products and spent lubricants; spill prevention and control; fueling procedures; and general good housekeeping practices. Employees, independent contractors, and customers must be informed about BMPs and be required to perform in accordance with these practices. Copies of BMPs and any specific management plans, including emergency phone numbers, shall be posted in the work areas.

(f) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

(g) Non-storm Water Discharges.

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with paragraph XI.V.3.a.(3)(g)(iii) (below).

(ii) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2. of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) Failure to Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 270 days after permit issuance] or, for facilities which begin to discharge storm water associated with industrial activity after [Insert date 270 days after permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States which are not authorized by an NPDES permit are unlawful, and must be terminated.

(h) Sediment and Erosion Control—The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

(i) Management of Runoff—The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity [see paragraph XI.V.3.a.(2) of this section (Description of Potential Pollutant Sources)] shall be considered when determining reasonable and appropriate measures. Appropriate measures or other equivalent measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices.

(4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity (storage tank areas, waste disposal and storage areas, dumpsters and open containers stored outside, materials storage areas, engine maintenance and repair areas, material handling areas, and loading dock areas) shall be visually inspected for evidence of, or the potential for, pollutants

entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with paragraph XI.V.3.a.(2) of this section (Description of Potential Pollutant Sources) and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.V.3.a.(3) of this section (Measures and Controls) shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.V.3.a.(4)(b) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years from the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under 3.a.(3)(d), the compliance evaluation may be conducted in place of one such inspection.

4. Numeric Effluent Limitations

There are no additional numeric effluent limitations beyond those described in Part V.B of this permit.

5. Monitoring and Reporting Requirements

a. Quarterly Visual Examination of Storm Water Quality. Facilities shall perform and document a visual examination of a representative storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination must be made at least once in each designated period [described in *(1),* below] during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(1) Examinations shall be conducted in each of the following periods for the purposes of visually inspecting storm water quality associated with storm water runoff or snow melt: January through March; April through June; July through September; and October through December.

(2) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed one hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Whenever practicable the same individual will carry out the collection and examination of discharges for the life of the permit.

When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(3) Visual examination reports must be maintained in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(4) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfalls provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and an explanation in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(5) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

W. Storm Water Discharges Associated With Industrial Activity From Wood and Metal Furniture and Fixture Manufacturing Facilities

1. Discharges Covered Under This Section.

The requirements listed under this section shall apply to storm water discharges associated with industrial activities from facilities involved in the manufacturing of: wood kitchen cabinets (generally described by SIC code 2434); household furniture (generally described by SIC code 251); office furniture (generally described by SIC code 252); public buildings and related furniture (generally described by SIC code 253); partitions, shelving, lockers, and office and store fixtures (generally described by SIC code 254); and miscellaneous furniture and fixtures (generally described by SIC code 259).

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Special Conditions

a. Prohibition of Non-storm Water Discharges. This section does not cover any discharge subject to process wastewater effluent limitation guidelines, including storm water that combines with process wastewater.

3. Storm Water Pollution Prevention Plan Requirements

a. Contents of Plan. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials which may potentially be significant pollutant sources. Each plan shall include, at a minimum:

(a) Drainage.

(i) A site map indicating an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies, locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under Part XI.W.3.a.(2)(c) (Spills and Leaks) of this permit have occurred, and the locations of the following activities where such activities are exposed to precipitation: fueling stations; vehicle and equipment maintenance and/or cleaning areas; loading and unloading areas; material storage (including tanks or other vessels used for liquid or waste storage) areas; outdoor material processing areas; areas where wastes are treated, stored, or disposed; access roads; and rail spurs. The map must indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls.

(ii) For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants which are likely to be present in storm water discharges associated with industrial activity. Factors to consider include the toxicity of the chemical; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

(b) Inventory of Exposed Materials—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

(c) Spills and Leaks—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Such list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(e) Risk Identification and Summary of Potential Pollutant Sources—A narrative description of the potential pollutant sources from the following activities: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; significant dust or particulate generating processes; and onsite waste treatment, storage, or disposal practices. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., biochemical oxygen demand, etc.) of concern shall be identified.

(3) Measures and Controls. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

(a) Good Housekeeping—Good housekeeping requires the maintenance of areas which may contribute pollutants to storm water discharges in a clean, orderly manner.

(b) Preventive Maintenance—A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

(c) Spill Prevention and Response Procedures—Areas where potential spills which can contribute pollutants to storm water discharges can occur, and their accompanying drainage points shall be identified clearly in the storm

water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

(d) Inspections—In addition to the comprehensive site compliance evaluation required under Part XI.W.3.a.(4), of this permit, qualified facility personnel shall be identified to inspect the following on a quarterly basis: the integrity of storm water discharge diversions, conveyance systems, sediment control and collection systems, and containment structures; vegetative BMPs to determine if soil erosion has occurred; and material handling and storage areas and other potential sources of pollution for evidence of actual or potential pollutant discharges of contaminated storm water. Information must be maintained onsite and include the inspection date and time and the name of personnel conducting the visual inspection. The pollution prevention plan must be updated based on the results of each inspection. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained. The use of a checklist developed by the facility is encouraged.

(e) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The pollution prevention plan shall identify periodic dates for such training.

(f) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as spills, or other discharges), BMP inspection and maintenance activities, along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan. Ineffective BMPs must be reported and the date of their corrective action noted.

(g) Non-storm Water Discharges.

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with paragraph XI.W.3.a.(3)(g)(iii) (below).

(ii) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2. (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) Failure to Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 270 days after permit issuance] or, for facilities which begin to discharge storm water associated with industrial activity after [Insert date 270 days after permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States which are not authorized by an NPDES permit are unlawful, and must be terminated.

(h) Sediment and Erosion Control—The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

(i) Management of Runoff—The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity [see paragraph XI.W.3.a.(2) of this section (Description of Potential Pollutant Sources)] shall be considered when determining reasonable and appropriate measures. Appropriate measures or other equivalent measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices.

(4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but, in no case less than once a year. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity including, but not limited to, coal piles, ash disposal areas, loading/unloading operations, and waste treatment, storage, or disposal locations shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual

inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with paragraph XI.W.3.a.(2) of this section (Description of Potential Pollutant Sources) and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.W.3.a.(3) of this section (Measures and Controls) shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.W.a.(4)(b) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years from the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under XI.W.3.a.(3)(d), the compliance evaluation may be conducted in place of one such inspection.

4. Numeric Effluent Limitations

There are no additional numeric effluent limitations beyond those described in Part V.B of this permit.

5. Monitoring and Reporting Requirements

a. Monitoring Requirements.

(1) Quarterly Visual Examination of Storm Water Quality. Facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination must be made at least once in each designated period (described in (a), below) during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(a) Examinations shall be conducted in each of the following periods for the purposes of visually inspecting storm water quality associated with storm water runoff or snow melt: January through March; April through June; July through September; and October through December.

(b) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed one hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Whenever practicable the same individual will carry out the collection and examination of discharges for the life of the permit.

(c) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricanes, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(d) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

(e) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(f) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the observation data also applies to the substantially identical outfalls provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explaining in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area (e.g., low (under 40 percent), medium (40 to 65 percent) or high (above 65 percent)) shall be provided in the plan.

(g) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

X. Storm Water Discharges Associated With Industrial Activity From Printing and Publishing Facilities

1. Discharges Covered Under This Section

The requirements listed under this section shall apply to storm water discharges associated with industrial activity from the following types of facilities: book printing (SIC Code 2732); commercial printing, lithographic (SIC Code 2752); commercial printing, gravure (SIC Code 2754); commercial printing, not elsewhere classified (SIC Code 2759); and platemaking and related services (SIC Code 2796).

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Special Conditions

There are no additional special conditions beyond those found in Part III. of today's permit.

3. Storm Water Pollution Prevention Plan Requirements

a. Contents of Plan. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials which may potentially be significant pollutant sources. Each plan shall include, at a minimum:

(a) Drainage.

(i) A site map indicating an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies, locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under Part XI.X.3.a.(2)(c) (Spills and Leaks) of this section have occurred, and the locations of the following activities where such activities are exposed to precipitation: fueling stations, vehicle and equipment maintenance and/or cleaning areas, loading/unloading areas, locations used for the treatment, storage or disposal of wastes, liquid storage tanks, processing areas and storage areas. Above ground storage tanks, drums, and barrels permanently stored outside must be delineated on the site map. The map must indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls.

(ii) For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants which are likely to be present in storm water discharges associated with industrial activity. Factors to consider include the toxicity of the chemical; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

(b) Inventory of Exposed Materials—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

(c) Spills and Leaks—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Such list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(e) Risk Identification and Summary of Potential Pollutant Sources—A narrative description of the potential pollutant sources from the following activities associated with printing, publishing and allied facilities: loading and unloading operations; outdoor storage activities; significant dust or particulate generating processes; and onsite waste disposal practices (i.e., blanket wash). The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., oil and grease, scrap metal, etc.) of concern shall be identified.

(3) Measures and Controls. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

(a) Good Housekeeping—Good housekeeping requires the maintenance of areas which may contribute pollutants to storm water discharges in a clean, orderly manner. Areas where good housekeeping should be implemented include:

(i) Material Storage Areas—All stored and containerized materials (skids, pallets, solvents, bulk inks, and hazardous waste, empty drums, portable/mobile containers of plant debris, wood crates, steel racks, fuel oil, etc.) should be stored in a protected area, away from drains and properly labeled. The plan should describe measures that prevent or minimize contamination of the storm water runoff from such storage areas. The facility should specify which materials are stored indoors and must provide a description of the containment area or enclosure for those materials which are stored outdoors. The facility may consider an inventory control plan to prevent excessive purchasing, storage, and handling of potentially hazardous substances. The facility may consider indoor storage of the materials and/or

installation of berming and diking of the area.

(ii) Material Handling Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from materials handling operations and areas (i.e., blanket wash, mixing solvents, loading/unloading materials). The facility may consider the use of spill and overflow protection; covering fuel areas; covering and enclosing areas where the transfer of materials may occur. Where applicable, the plan must address the replacement or repair of leaking connections, valves, transfer lines and pipes that may carry chemicals, or wastewater.

(iii) Fueling Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from fueling areas. The facility may consider covering the fueling area, using spill and overflow protection, minimizing runon of storm water to the fueling area, using dry cleanup methods, and/or collecting the storm water runoff and providing treatment or recycling.

(iv) Above Ground Storage Tank Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from above ground storage tanks and their associated piping and valves. The facility may consider regular cleanup of these areas, preparation of a spill prevention control and countermeasure program, provide spill and overflow protection, minimizing runon of storm water from adjacent facilities and properties, restrict access to the area, insertion of filters in adjacent catch basins, provide absorbent booms in unbermed fueling areas, use of dry cleanup methods, and permanently sealing drains within critical areas that may discharge to a storm drain.

(b) Preventive Maintenance—A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, vegetative swales, secondary containment, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

(c) Spill Prevention and Response Procedures—Areas where potential spills which can contribute pollutants to storm water discharges can occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

(d) Inspections—Qualified facility personnel shall be identified to inspect designated equipment and areas of the facility on an annual basis. The following areas shall be included in, but not limited to, all inspections: all containment and material storage areas, fueling areas, loading and unloading areas, equipment cleaning areas. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained.

(e) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. The pollution prevention plan shall identify how often training will take place, but training should be provided annually. Employee training must, at a minimum, address the following areas when applicable to a facility: spent solvent management; spill prevention and control; used oil management; fueling procedures; and general good housekeeping practices. The pollution prevention plan shall identify periodic dates for such training.

(f) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

(g) Non-storm Water Discharges.

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with paragraph XI.X.3.a.(3)(g)(iii) (below).

(ii) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2 (Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) Failure to Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 270 days after permit issuance] or, for facilities which begin to discharge storm water associated with industrial activity after [Insert date 270 days after permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States which are not authorized by an NPDES permit are unlawful, and must be terminated.

(h) Sediment and Erosion Control—The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

(i) Management of Runoff—The plan shall contain a narrative consideration of the appropriateness of traditional

storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity [see paragraph XI.X.3.a.(2) of this section (Description of Potential Pollutant Sources)] shall be considered when determining reasonable and appropriate measures. Appropriate measures or other equivalent measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices.

(4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity (including, but not limited to, material handling areas, material storage areas, waste disposal and storage areas, loading/unloading areas) shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with paragraph XI.X.3.a.(2) of this section (Description of Potential Pollutant Sources) and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.X.3.a.(3) of this section (Measures and Controls) shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.X.3.a.(4)(b) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years from the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under 3.a.(3)(d), the compliance evaluation may be conducted in place of one such inspection.

4. Numeric Effluent Limitations

There are no additional numeric effluent limitations beyond those described in Part V.B. of this permit.

5. Monitoring and Reporting Requirements

a. Monitoring Requirements.

(1) Quarterly Visual Examination of Storm Water Quality. Facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity for each outfall except discharges exempted below. The examination must be made at least once in each designated period [described in (*a*), below] during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(a) Examinations shall be conducted in each of the following periods for the purposes of visually inspecting storm water quality associated with storm water runoff or snow melt: January through March; April through June; July through September; and October through December.

(b) Examinations shall be made of a grab sample collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed one hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Whenever practicable the same individual will carry out the collection and examination of discharges for the life of the permit.

When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(c) Visual examination reports must be maintained in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(d) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfalls provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explaining in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the

drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(e) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

Y. Storm Water Discharges Associated With Industrial Activity From Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries

1. Discharges Covered Under This Section

The requirements listed under this section shall apply to all storm water discharges associated with industrial activity from rubber and miscellaneous plastic products manufacturing facilities (SIC major group 30) and miscellaneous manufacturing industries, except jewelry, silverware, and plated ware (SIC major group 39, except 391).

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Special Conditions

Prohibition of Non-storm Water Discharges. Other than as provided in Part III.A. of this permit, non-storm water discharges are not authorized by this section.

3. Storm Water Pollution Prevention Plan Requirements

a. Contents of Plan. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials which may potentially be significant pollutant sources. All rubber manufacturers shall in particular review the use of zinc at their facilities and the possible pathways through which zinc may be discharged in storm water runoff. Each plan shall include, at a minimum:

Drainage.

(i) A site map indicating an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies, locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under Part XI.Y.3.a.(2)(c) (Spills and Leaks) of this permit have occurred, and the locations of the following activities where such activities are exposed to precipitation: fueling stations, vehicle and equipment maintenance and/or cleaning areas, loading/unloading areas, locations used for the treatment, storage or disposal of wastes, liquid storage tanks, processing areas and storage areas. The map must indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls.

(ii) For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants which are likely to be present in storm water discharges associated with industrial activity. Factors to consider include the toxicity of a chemical; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

(b) Inventory of Exposed Materials—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

(c) Spills and Leaks—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Such list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(e) Risk Identification and Summary of Potential Pollutant Sources—A narrative description of the potential pollutant sources from the following activities: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; significant dust or particulate generating processes; and onsite waste disposal practices. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., biochemical oxygen demand, etc.) of concern shall be identified.

Measures and Controls. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. Facilities subject to EPCRA Section 313 should note that the special requirements of Part IV.E. of this permit also apply to their facilities. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

(a) Good Housekeeping—Good housekeeping requires the maintenance of areas which may contribute pollutants to storm water discharges in a clean, orderly manner.

(b) Preventive Maintenance—A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

(c) Spill Prevention and Response Procedures—Areas where potential spills which can contribute pollutants to storm water discharges can occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a cleanup should be available to personnel.

(d) Inspections—In addition to or as part of the comprehensive site evaluation required under paragraph XI.Y.3.a.(4) of this section, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility at appropriate intervals specified in the plan. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained.

(e) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The pollution prevention plan shall identify periodic dates for such training.

(f) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

Non-storm Water Discharges.

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with paragraph XI.Y.3.a.(3)(g)(iii) (below).

(ii) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2 (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) Failure to Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 270 days after permit issuance] or, for facilities which begin to discharge storm water associated with industrial activity after [Insert date 270 days after permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States which are not authorized by an NPDES permit are unlawful, and must be terminated.

(h) Sediment and Erosion Control—The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

(i) Management of Runoff—The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity [see paragraph XI.Y.3.a.(2) of this section (Description of Potential Pollutant Sources)] shall be considered when determining reasonable and appropriate measures. Appropriate measures or other equivalent measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices.

(j) Special Requirements for All Rubber Products Manufacturers—All rubber products manufacturing facilities shall include specific measures and controls to minimize the discharge of zinc in their storm water discharges. The following possible sources of zinc shall be reviewed and the accompanying BMPs shall be included as appropriate in the storm water pollution prevention plan:

(i) Inadequate Housekeeping—All permittees shall review the handling

and storage of zinc bags at their facilities and consider the following BMPs for the pollution prevention plan: employee training regarding the handling and storage of zinc bags, indoor storage of zinc bags, thorough cleanup of zinc spills without washing the zinc into the storm drain, and the use of 2,500-pound sacks of zinc rather than 50- to 100-pound sacks.

(ii) Zinc in Dumpsters—The following BMPs or equivalent measures shall be considered to reduce discharges of zinc from dumpsters: providing a cover for the dumpster; move the dumpster to an indoors location; or provide a lining for the dumpster.

(iii) Malfunctioning Dust Collectors or Baghouses—Permittees shall review dust collectors and baghouses as possible sources in zinc in storm water runoff. Improperly operating dust collectors or baghouses shall be replaced or repaired as appropriate. The pollution prevention plan shall also provide for regular maintenance of these facilities.

(iv) Grinding Operations—Permittees shall review dust generation from rubber grinding operations at their facility and, as appropriate, install a dust collection system.

(v) Zinc Stearate Coating Operations—Permittees shall include in the pollution prevention plan appropriate measures to prevent and/or clean up drips or spills of zinc stearate slurry which may be released to the storm drain. Alternate compounds to zinc stearate shall also be considered.

(4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations once a year. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with paragraph XI.Y.3.a.(2) of this section (Description of Potential Pollutant Sources) and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.Y.3.a.(3) of this section (Measures and Controls) shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.Y.3.a.(4)(b) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years from the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under 3.a.(3)(d), the compliance evaluation may be conducted in place of one such inspection.

4. Numeric Effluent Limitations

There are no additional numeric effluent limitations beyond those described in Part V.B of this permit.

5. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements.

During the period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] and the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance], permittees with rubber product manufacturing facilities must monitor their storm water discharges associated with industrial activity at least quarterly (4 times per year) during years 2 and 4 except as provided in paragraphs 6.a.(3) (Sampling Waiver), 6.a.(4) (Representative Discharge), and 6.a.(5) (Alternative Certification). Rubber product manufacturing facilities are required to monitor their storm water discharges for the pollutants of concern listed in Table Y–1 below. Facilities must report in accordance with 6.b. (Reporting). In addition to the parameters listed in Table Y–1 below, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

TABLE Y–1—MONITORING REQUIREMENTS

Pollutants of concern	Cut-off concentration
Total Recoverable Zinc ...	0.065 mg/L

(1) Monitoring Periods. Rubber product manufacturing facilities shall monitor samples collected during the sampling periods of: January through March, April through June, July through September, and October through December for the years specified in paragraph a. (above).

(2) Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

(3) Sampling Water.

(a) Adverse Conditions—When a discharger is unable to collect samples within a specified sampling period due to adverse climatic conditions, the discharger shall collect a substitute sample from a separate qualifying event in the next period and submit the data along with data for the routine sample in that period. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricanes, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(b) Low Concentration Waiver—When the average concentration for a pollutant calculated from all monitoring data collected from an outfall during the monitoring period [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] is less than the corresponding value for that pollutant listed in Table Y–1 under the column Monitoring Cut-Off Concentration, a facility may waive monitoring and reporting requirements in the monitoring period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance]. The facility must submit to the Director, in lieu of the monitoring data, a certification that there has not been a significant change in industrial activity or the pollution prevention measures in area of the facility that drains to the outfall for which sampling was waived.

(c) When a discharger is unable to conduct quarterly chemical storm water sampling at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirements as long as the facility remains inactive and unstaffed. The facility must submit to the Director, in lieu of monitoring data, a certification statement on the DMR stating that the site is inactive and unstaffed so that collecting a sample during a qualifying event is not possible.

(4) Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent, or high (above 65 percent)] shall be provided in the plan. The permittee shall include the description of the location of the outfalls, explanation of why outfalls are expected to discharge substantially identical effluents, and estimate of the size of the drainage area and runoff coefficient with the Discharge Monitoring Report.

(5) Alternative Certification. A discharger is not subject to the monitoring requirements of this section provided the discharger makes a certification for a given outfall or on a pollutant-by-pollutant basis, in lieu of monitoring reports required under paragraph b below, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, or significant materials, by-products, industrial machinery or operations, or significant materials from past industrial activity that are located in areas of the facility within the drainage area of the outfall are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan, and submitted to EPA in accordance with Part VI.C. of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph b below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance monitoring requirements associated with effluent limitations.

(b) Reporting. Permittees with rubber product manufacturing facilities shall submit monitoring results for each outfall associated with industrial activity [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the reporting period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March [insert the date 2 years after permit issuance]. Monitoring results [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance] shall be submitted on Discharge Monitoring Form(s) postmarked no later than the 31st day of the following March. For each outfall, one signed Discharge Monitoring Report form must be submitted to the Director per storm event sampled. Signed copies of Discharge Monitoring Reports, or said certifications,shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office listed in Part VI.G. of the fact sheet.

(1) Additional Notification. In addition to filing copies of discharge monitoring reports in accordance with paragraph (b) (above), rubber product manufacturing facilities with at least one storm water discharge associated with industrial activity through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in paragraph (b) (above).

(c) Quarterly Visual Examination of Storm Water Quality. Facilities shall perform and document a visual examination of a representative storm water discharge associated with industrial from each outfall, except discharges exempted below. The examination must be made at least once in each designated period [described in *(1)*, below] during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(1) Examinations shall be conducted in each of the following periods for the purposes of visually inspecting storm water quality associated with storm water runoff or snow melt: January through March; April through June; July through September; and October through December.

(2) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed one hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No

analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Whenever practicable the same individual will carry out the collection and examination of discharges for the life of the permit.

(3) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(4) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the observation data also applies to the substantially identical outfalls provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explaining in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(5) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(6) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

Z. Storm Water Discharges Associated With Industrial Activity From Leather Tanning and Finishing Facilities

1. Discharges Covered Under This Section.

The requirements listed under this section shall apply to storm water discharges from the following activities: leather tanning, currying and finishing (commonly identified by Standard Industrial Classification (SIC) code 3111). Discharges from facilities that make fertilizer solely from leather scraps and leather dust are also covered under this section. When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Special Conditions

There are no special conditions for this section beyond those in Part III. of this permit.

3. Storm Water Pollution Prevention Plan Requirements

a. Contents of Plan. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials which may potentially be significant pollutant sources or, during periods of dry weather, result in dry weather flows. Each plan shall include, at a minimum:

(a) Drainage.

(i) A site map indicating an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies (including wetlands), locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under Part XI.Z.3.a.(2)(c) (Spills and Leaks) of this permit have occurred, and the locations of the following activities where such activities are exposed to precipitation: fueling stations, vehicle and equipment maintenance and/or cleaning areas, loading/unloading areas, locations used for the treatment, storage or disposal of wastes, material storage (including tanks or other vessels used for liquid or waste storage), processing and storage areas for activities associated with beamhouse, tanyard, retan-wet finishing and dry finishing operations, and haul roads, access roads and rail spurs. The site map must also identify the location of all outfalls covered by this permit and include an inventory of the types of discharges contained in each outfall.

(ii) For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants which are likely to be present in storm water discharges associated with industrial activity. Factors to consider include the toxicity of a chemical; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history

of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

(b) Inventory of Exposed Materials—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives. The description must be updated whenever there is a significant change in the types or amounts of materials, or material management practices, that may affect the exposure of materials to storm water.

(c) Spills and Leaks—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Significant spills include but are not limited to, releases of oil or hazardous substances in excess of quantities that are reportable under Section 311 of the Clean Water Act (CWA) (see 40 CFR 110.10 and 40 CFR 117.21) or Section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (see 40 CFR 302.4). Significant spills may also include releases of oil or hazardous substances that are not in excess of reporting requirements and releases of materials that are not classified as oil or a hazardous substance. Such list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(e) Risk Identification and Summary of Potential Pollutant Sources—A narrative description of potential pollutant sources including but not limited to the following activities: loading and unloading operations; outdoor storage activities, including but not limited to: temporary or permanent storage of fresh and brine cured hides, chemical drums, bags, containers and above ground tanks, leather dust, scraps, trimmings and shavings, spent solvents, extraneous hide substances and hair, and empty chemical containers and bags; floor sweepings and washings; refuse and waste piles and sludge; outdoor manufacturing or processing activities; significant dust or particulate generating processes including buffing; vehicle maintenance, washing and fueling and onsite waste disposal practices. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., biochemical oxygen demand, total suspended solids, chromium, etc.) of concern shall be identified.

(3) Measures and Controls. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

(a) Good Housekeeping—Good housekeeping requires the maintenance of areas which may contribute pollutants to storm water discharges in a clean, orderly manner. The following areas must be specifically addressed:

(i) Storage Areas for Raw, Semiprocessed, or Finished Tannery By-products—Pallets and/or bales of raw, semiprocessed or finished tannery by-products (e.g., splits, trimmings, shavings, etc.) should be stored indoors or protected by polyethylene wrapping, tarpaulins, roofed storage area or other suitable means. Materials should be placed on an impermeable surface, the area should be enclosed or bermed or other equivalent measures should be employed to prevent runon and runoff of storm water.

(ii) Material Storage Areas—Label storage units of all materials (e.g., specific chemicals, hazardous materials, spent solvents, waste materials). Maintain such containers and units in good condition. Describe measures that prevent or minimize contact with storm water. The facility must consider indoor storage, installation of berming and diking around the area, and/or other equivalent measures to prevent runon and runoff of storm water.

(iii) Buffing/Shaving Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff with leather dust from buffing/shaving areas. The facility may consider dust collection enclosures, preventive inspection/maintenance programs or other appropriate preventive measures.

(iv) Receiving, Unloading, and Storage Areas—The plan must describe measures that prevent or minimize contamination of the storm water runoff from receiving, unloading, and storage areas. Exposed receiving, unloading and storage areas for hides and chemical supplies should be protected by a suitable cover, diversion of drainage to the process sewer, grade berming or curbing area to prevent runon of storm water or other appropriate preventive measures. Materials must be plainly labelled and maintained in good condition.

(v) Outdoor Storage of Contaminated Equipment—The plan must describe measures that minimize contact of storm water with contaminated equipment. Equipment should be protected by suitable cover, diversion of drainage to the process sewer, thorough cleaning prior to storage or other appropriate preventive measures.

(vi) Waste Management—The plan must describe measures that prevent contamination of the storm water runoff from waste storage areas. The facility may consider inspection/maintenance programs or other equivalent measures for leaking containers or spills, covering dumpsters, moving waste management activities indoors, covering waste piles with temporary covering material such as tarpaulins or polyethylene, and minimizing storm water runon by enclosing the area or building berms around the area.

(b) Preventive Maintenance—A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

(c) Spill Prevention and Response Procedures—Areas where potential spills which can contribute pollutants to storm water discharges can occur, and their accompanying drainage points

shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

(d) Inspections—Qualified facility personnel shall be identified to inspect designated equipment and areas of the facility at least on a quarterly basis. The following areas shall be included in all inspections: leather processing areas, storage areas for chemicals, including but not limited to above ground tanks, fueling areas, vehicle and equipment maintenance areas, material storage areas, loading and unloading areas, waste management areas and other potential sources of pollution for evidence of actual or potential discharges of contaminated storm water. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections and that the pollution prevention plan is appropriately modified. Records of inspections shall be maintained as part of the pollution prevention plan.

Qualified personnel are required to conduct quarterly inspections of all Best Management Practices (BMPs). The inspections shall include an assessment of the effectiveness and need for maintenance of storm water roofing and covers, dikes and curbs, discharge diversions, sediment control and collection systems and all other BMPs.

Quarterly inspections must be made at least once in each of the following designated periods during daylight hours: January through March (storm water runoff or snow melt), April through June (storm water runoff), July through September (storm water runoff), and October through December (snow melt runoff). Records shall be maintained as part of the pollution prevention plan.

(e) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. The pollution prevention plan shall identify how often training will take place, but in all cases, training must be held at least annually. Employee training must, at a minimum, address the following areas when applicable to a facility: general good housekeeping practices, spill prevention and control, waste management, inspections, preventive maintenance, detection of non-storm water discharges and other areas.

(f) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as leaks, spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan. The plan must address spills, monitoring, and BMP inspection and maintenance activities. BMPs which were ineffective must be reported and the date of their corrective action recorded. Employees must report incidents of leaking fluids to facility management and these reports must be incorporated into the plan.

(g) Non-storm Water Discharges.

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with paragraph XI.Z.3.a.(3)(g)(iii) (below).

(ii) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2 (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) Failure to Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 270 days after permit issuance] or, for facilities which begin to discharge storm water associated with industrial activity after [Insert date 270 days after permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States which are not authorized by an NPDES permit are unlawful, and must be terminated.

(h) Sediment and Erosion Control—The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

(i) Management of Runoff—The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity [see paragraph XI.Z.3.a.(2) of this section (Description of Potential Pollutant Sources)] shall be considered when determining reasonable and appropriate measures. Appropriate measures or equivalent measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices. In addition, the permittee must describe the storm water pollutant source area or activity (e.g., storage areas, loading and unloading areas,

above ground storage of chemicals) to be controlled by each storm water management practice.

The plan must consider management practices, such as berms for uncovered storage areas, uncovered loading and unloading areas, above ground liquid storage and waste management areas. The installation of detention ponds must also be considered.

(4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with paragraph XI.Z.3.a.(2) of this section (Description of Potential Pollutant Sources) and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.Z.3.a.(3) of this section (Measures and Controls) shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.Z.3.a.(4)(b) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years from the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) The storm water pollution prevention plan must describe the scope and content of comprehensive site inspections that qualified personnel will conduct to (1) Confirm the accuracy of the description of potential pollution sources contained in the plan, (2) determine the effectiveness of the plan, and (3) assess compliance with the terms and conditions of the permit. Comprehensive site compliance evaluations must be conducted at least once a year. The individual or individuals who will conduct the inspections must be identified in the plan and should be members of the pollution prevention team. Evaluation reports must be retained for at least 3 years from the date of the evaluation.

(e) Where compliance evaluation schedules overlap with inspections required under XI.Z.3.a.(3)(d), the compliance evaluation may be conducted in place of one such inspection.

4. Numeric Effluent Limitations. There are no additional numeric effluent limitations beyond those described in Part V.B of this permit.

5. Monitoring and Reporting Requirements.

(a) Quarterly Visual Examination of Storm Water Quality. Facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination must be made at least once in each designated period [described in *(1)* below] during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(1) Examinations shall be conducted in each of the following periods for the purposes of visually inspecting storm water quality associated with storm water runoff or snow melt: January through March; April through June; July through September; and October through December.

(2) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.

(3) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(4) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the observation data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(5) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricanes, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(6) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

AA. Storm Water Discharges Associated With Industrial Activity From Fabricated Metal Products Industry

1. Discharges Covered Under This Section. The requirements listed under this section shall apply to storm water discharges associated with industrial activity from the fabricated metals industry listed below, except for electrical related industries: fabricated metal products, except machinery & transportation equipment, SIC 34 (3429, 3441, 3442, 3443, 3444, 3451, 3452, 3462, 3471, 3479, 3494, 3496, 3499); and jewelry, silverware, and plated ware (SIC Code 391).

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Special Conditions.

a. Prohibition of Non-storm Water Discharges.

(1) This permit does not authorize the discharge of process wastewater. Certain non-storm discharges identified in Part III.A.2. are authorized under this permit.

3. Storm Water Pollution Prevention Plan Requirements.

a. Contents of Plan. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all industrial activities and significant materials which may potentially be significant pollutant sources. Each plan shall specifically identify the physical features of the facility that may contribute to storm water runoff. Each plan shall include, at a minimum:

(a) Drainage

(i) A site map indicating the outfall locations and types of discharges contained in the drainage areas of the outfalls, an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies, locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under Part IX.AA.3.a.(2)(c) (Spills and Leaks) of this permit have occurred, and the locations of the following activities where such activities are exposed to precipitation: raw metal storage areas, finished metal storage areas, scrap disposal collection sites, equipment storage areas, retention and detention basins, temporary diversion dikes or berms, permanent diversion dikes or berms, right-of-way or perimeter diversion devices, any sediment traps or barriers, vehicle and equipment maintenance and/or cleaning areas,loading/unloading areas, locations used for the treatment, storage or disposal of wastes, liquid storage tanks, processing areas including outside painting areas, wood preparation, recycling and raw material storage.

(ii) For each area of the facilities that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants which are likely to be present in storm water discharges associated with industrial activity. Factors to consider include the toxicity of chemical; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. In addition, flows with a significant potential for causing erosion shall be identified such as heavy equipment use areas, drainage from roofs, parking lots, etc.

(b) Inventory of Exposed Materials—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

(c) Spills and Leaks—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Significant spills that should be considered for the fabricated metals industry include, but are not limited to, chromium, toluene, pickle liquor, sulfuric acid, zinc and other water priority chemicals and hazardous chemicals and wastes. Such list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(e) Risk Identification and Summary of Potential Pollutant Sources—A narrative description of the potential pollutant sources from the following activities: loading and unloading operations for paints, chemicals and raw materials; outdoor storage activities for raw materials, paints, empty containers, corn cob, chemicals, scrap metals; outdoor manufacturing or processing

activities such as grinding, cutting, degreasing, buffing, brazing, etc; significant dust or particulate generating processes; and onsite waste disposal practices for spent solvents, sludge, pickling baths, shavings, ingots pieces, refuse and waste piles. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., biochemical or chemical oxygen demand, chromium, total suspended solids, oil and grease, etc.) of concern shall be identified.

(3) Measures and Controls. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

(a) Good Housekeeping—Good housekeeping requires the maintenance of areas which may contribute pollutants to storm water discharges in a clean, orderly manner. Permittees should address the following areas in the manner described.

(i) Raw Steel Handling Storage-Include measures controlling or recovering scrap metals, fines, and iron dust, including measures for containing materials within storage handling areas.

(ii) Paints and Painting Equipment-Consider control measures to prevent or minimize exposure of paint and painting equipment from exposure to storm water.

(b) Preventive Maintenance—Preventive maintenance measures shall include timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

(c) Spill Prevention and Response Procedures—Areas where potential spills which could contribute pollutants to storm water discharges may occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel. The following areas should be addressed:

(i) Metal Fabricating Areas-Include measures for maintaining clean, dry, orderly conditions in these areas. Use of dry clean-up techniques should be considered in the plan.

(ii) Storage Areas for Raw Metal-Include measures to keep these areas free of conditions that could cause spills or leakage of materials. Storage areas should be maintained for easy access in case spill clean up is necessary. Stored materials should be able to be identified correctly and quickly.

(iii) Receiving, Unloading, and Storage Areas-Include measures to prevent spills and leaks; plan for quick remedial clean up and instruct employees on clean-up techniques and procedures.

(iv) Storage of Equipment-Include measures for preparing equipment for storage and the proper method to store equipment including protecting with covers, storing indoors. The plan should include clean-up measures for equipment that will be stored outdoors to remove potential pollutants.

(v) Metal Working Fluid Storage Areas-The plan should include measures that identify controls particularly for storage of metal working fluids.

(vi) Cleaners and Rinse Water-The plan should include measures to control and cleanup spills of solvents and other liquid cleaners; control sand buildup and disbursement from sand-blasting operations, prevent exposure of recyclable wastes; and employ substitute cleaners when possible.

(vii) Lubricating Oil and Hydraulic Fluid Operations-Consider using devices or monitoring equipment to detect and control leaks and overflows, including the installation of perimeter controls such as dikes, curbs, grass filter strips, or other equivalent measures.

(viii) Chemical Storage Areas-Identify proper storage that prevents storm water contamination and prevents accidental spillage. The plan should include a program to inspect containers, and identify proper disposal and spill controls.

(d) Inspections—Qualified facility personnel shall be identified to inspect designated equipment and areas of the facility at appropriate intervals specified in the plan. Metal fabricators shall at a minimum include the following areas for inspection: raw metal storage areas, finished product storage areas, material and chemical storage areas, recycling areas, loading and unloading areas, equipment storage areas, paint areas, fueling and maintenance areas, and waste management areas. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained.

(e) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping, and material management practices. The pollution prevention plan shall identify periodic dates for such training.

(f) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

(g) Non-storm Water Discharges

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in

accordance with paragraph XI.AA.3.a.(3)(g)(iii) (below).

(ii) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2. (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) Failure to Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 270 days after permit issuance] or, for facilities which begin to discharge storm water associated with industrial activity after [Insert date 270 days after permit issuance], 180 days after submitting a notice of intent to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States which are not authorized by an NPDES permit are unlawful, and must be terminated.

(h) Sediment and Erosion Control—The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion. The plan shall identify structural, vegetative, and/or stabilization measures to be used to limit erosion. These shall include but not be limited to grass swales, filter strips, treatment works, or other equivalent measures. Metal fabricators must include in their plan measures to minimize erosion related to the high volume of traffic from heavy equipment for delivery to and from the facility and for equipment operating at the facility on a daily basis such as forklifts, cranes, etc.

(i) Management of Runoff—The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutant(s) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activities under the SIC codes identified under paragraph XI.AA.1. of this section shall be considered when determining reasonable and appropriate measures. Appropriate measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices.

(4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at least once a year. Such evaluations shall include:

(a) Visual inspection of areas contributing to a storm water discharge for evidence of, or the potential for, pollutants entering the drainage system. Inspection shall address areas associated with the storage of raw metals, storage of spent solvents and chemicals, outdoor paint areas, drainage from roof, unloading and loading areas, equipment storage areas, recycling areas, and retention ponds (sludge). Potential pollutants include chromium, zinc, lubricating oil, solvents, aluminum, oil and grease, methyl ethyl ketone, steel, and other related materials. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, such as detention basins and channels, gutters or drains to direct discharge flow, oil/water separators in storm drains, containment structures, concrete pads, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment and containment drums, shall be made to determine if the equipment is functioning properly and that drums are not in a corrosive or deteriorating state.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with paragraph XI.AA.3.a.(2) of this section (Description of Potential Pollutant Sources) and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.AA.3.a.(3) of this section (Measures and Controls) shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.AA.3.a.(4)(b) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years from the date of the inspection. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under 3.a.(3)(d), the compliance evaluation may be conducted in place of one such inspection.

4. Numeric Effluent Limitations. There are no additional numeric effluent limitations beyond those described in Part V.B. of this permit.

5. Monitoring and Reporting Requirements

a. Analytical Monitoring Requirements. During the period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] and the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance], permittees with metal fabricating facilities must monitor their storm water discharges associated with industrial activity at least quarterly (4 times per year) during years 2 and 4 except as provided in paragraphs 5.a.(3) (Sampling Waiver), 5.a.(4) (Representative Discharge), and 5.a.(5) (Alternative Certification). Metal fabricating facilities are required to monitor their storm water discharges for the pollutants of concern listed in Tables AA–1 and AA–2 below. The monitoring requirements are subdivided into two classifications to determine pollutants of concern: (1) fabricated metal products except coating and (2) fabricated metal coating and engraving. Facilities must report in accordance with 5.b. (Reporting). In addition to the parameters listed in Tables AA–1 and AA–2 below, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

TABLE AA–1.—MONITORING REQUIREMENTS FOR FABRICATED METAL PRODUCTS EXCEPT COATING

Pollutants of concern	Monitoring cut-off concentration
Total Recoverable Aluminum.	0.75 mg/L
Total Recoverable Iron	1.0 mg/L
Total Recoverable Zinc	0.065 mg/L
Nitrate plus Nitrite Nitrogen	0.68 mg/L

TABLE AA–2.—MONITORING REQUIREMENTS FOR FABRICATED METAL COATING AND ENGRAVING

Pollutants of concern	Monitoring cut-off concentration
Total Recoverable Zinc	0.065 mg/L
Nitrate plus Nitrite Nitrogen	0.068 mg/L

(1) Monitoring Periods. Metal fabricating facilities shall monitor samples collected during the sampling periods of: January through March, April through June, July through September, and October through December for the years specified in paragraph a. (above).

(2) Sample Type. A minimum of one grab sample shall be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the facility. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If storm water discharges associated with industrial activity commingle with process or nonprocess water, then where practicable permittees must attempt to sample the storm water discharge before it mixes with the non-storm water discharge.

(3) Sampling Waiver

(a) Adverse Conditions—When a discharger is unable to collect samples within a specified sampling period due to adverse climatic conditions, the discharger shall collect a substitute sample from a separate qualifying event in the next period and submit the data along with data for the routine sample in that period. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(b) Low Concentration Waiver—When the average concentration for a pollutant calculated from all monitoring data collected from an outfall during the monitoring period [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] is less than the corresponding value for that pollutants listed in Tables AA–1 and AA–2 under the column Monitoring Cut-off Concentration, a facility may waive monitoring and reporting requirements in the monitoring period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance]. The facility must submit to the Director, in lieu of the monitoring data, a certification that there has not been a significant change in industrial activity or the pollution prevention measures in areas of the facility which drain to the outfall for which sampling was waived.

(c) When a discharger is unable to conduct quarterly chemical storm water sampling at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirements as long as the facility remains inactive and unstaffed. The facility must submit to the Director, in lieu of monitoring data, a certification statement on the DMR stating that the site is inactive and unstaffed so that collecting a sample during a qualifying event is not possible.

(4) Representative Discharge. When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan. The permittee shall include the description of the location of the outfalls, explanation of why outfalls are expected to discharge substantially identical effluents, and estimate of the size of the drainage area and runoff coefficient with the Discharge Monitoring Report.

(5) Alternative Certification. A discharger is not subject to the monitoring requirements of this section provided the discharger makes a certification for a given outfall or on a pollutant-by-pollutant basis in lieu of monitoring reports required under paragraph *b* below, under penalty of law, signed in accordance with Part VII.G. (Signatory Requirements), that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, or significant materials from past industrial activity that are located in areas of the facility within the drainage area of the outfall are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period. Such certification must be retained in the storm water pollution prevention plan, and submitted to EPA in accordance with Part VI.C. of this permit. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required under paragraph *(b)* below. If the permittee cannot certify for an entire period, they must submit the date exposure was eliminated and any monitoring required up until that date. This certification option is not applicable to compliance

monitoring requirements associated with effluent limitations.

b. Reporting. Permittees with metal fabricating and engraving facilities shall submit monitoring results for each outfall associated with industrial activity [or a certification in accordance with Sections (3), (4), or (5) above] obtained during the reporting period beginning [insert date 1 year after permit issuance] lasting through [insert date 2 years after permit issuance] on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March [insert the date 2 years after permit issuance]. Monitoring results (or a certification in accordance with Sections (3), (4), or (5) above] obtained during the period beginning [insert date 3 years after permit issuance] lasting through [insert date 4 years after permit issuance] shall be submitted on Discharge Monitoring Report Form(s) postmarked no later than the 31st day of the following March. For each outfall, one signed Discharge Monitoring Report form must be submitted to the Director per storm event sampled. Signed copies of Discharge Monitoring Reports, or said certifications, shall be submitted to the Director of the NPDES program at the address of the appropriate Regional Office listed in Part VI.G. of the fact sheet.

(1) Additional Notification. In addition to filing copies of discharge monitoring reports in accordance with paragraph b (above), metal fabricating facilities with at least one storm water discharge associated with industrial activity through a large or medium municipal separate storm sewer system (systems serving a population of 100,000 or more) must submit signed copies of discharge monitoring reports to the operator of the municipal separate storm sewer system in accordance with the dates provided in paragraph b (above).

c. Quarterly Visual Examination of Storm Water Quality. Facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination must be made at least once in each designated period [described in paragraph (*1*) below] during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(1) Examinations shall be conducted in each of the following periods for the purposes of visually inspecting storm water quality associated with storm water runoff or snowmelt: January through March; April through June; July through September; and October through December.

(2) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for the entire permit term.

(3) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(4) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(5) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(6) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

AB. Storm Water Discharges Associated With Industrial Activity From Facilities That Manufacture Transportation Equipment, Industrial, or Commercial Machinery

1. Discharges Covered Under This Section

a. The requirements listed under this section shall apply to storm water discharges associated with transportation equipment, industrial or commercial machinery manufacturing facilities (commonly described by SIC Major Group 35 except SIC 357, and SIC Major Group 37, except SIC 373). Common activities include: industrial plant yards; material handling sites; refuse sites; sites used for application or disposal of process wastewaters; sites used for storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas for raw material and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Prohibition of Non-storm Water Discharges. There are no additional requirements other than those in Part III. of the permit.

3. Storm Water Pollution Prevention Plan Requirements

a. Contents of Plan. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify the specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials which may potentially be significant pollutant sources. Each plan shall include, at a minimum:

(a) Drainage

(i) A site map indicating the pattern of storm water drainage, existing structural control measures to reduce pollutants in storm water runoff, surface water bodies, locations where significant materials are exposed to precipitation, and locations where major spills or leaks identified under Part XI.AB.3.a.(2)(c) (Spills and Leaks) of this permit have occurred since 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. The map must also indicate the locations of all industrial activities that are exposed to precipitation, including, but not limited to: loading/unloading areas; waste treatment; storage and disposal locations; liquid storage tanks; vents and stacks from metal processing and similar operations; significant dust or particulate generating areas; and any other processing and storage areas exposed to storm water. The map must indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls.

(ii) For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for contacting significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants that are likely to present in storm water discharges associated with industrial activity must be identified. Factors to consider include the toxicity of a chemical; quantity of chemicals used, produced, or discharged; the likelihood of contract with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

(b) Inventory of Exposed Materials—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

(c) Spills and Leaks—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Significant spills include, but are not limited to, releases of oil or hazardous substances in excess of quantities that are reportable under Section 311 of CWA (see 40 CFR 110.10 and 117.21) or Section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (see 40 CFR 302.4). Significant spills may also include releases of oil or hazardous substances that are not excess of reporting requirements and releases of materials that are not classified as oil or hazardous substance. Such list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(e) Risk Identification and Summary of Potential Pollutant Sources—A narrative description of the potential pollutant sources from the following activities: loading and unloading operations; outdoor storage activities; significant dust or particulate generating processing activities; and onsite waste disposal. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., oil and grease, etc.) of concern shall be identified.

(3) Measures and Controls. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

(a) Good Housekeeping—Good housekeeping requires the maintenance of areas which may contribute pollutants to storm waters discharges in a clean, orderly manner. Areas where good housekeeping practices should be implemented are storage areas for raw materials, waste materials and finished products; loading/unloading areas; and waste disposal areas for hazardous and nonhazardous wastes. Examples of good housekeeping measures include sweeping; labelling drums containing hazardous materials; and preventive monitoring practices (e.g., routine observation of manufacturing processes) or equivalent measures.

(b) Preventive Maintenance—A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and

ensuring appropriate maintenance of such equipment and systems.

(c) Spill Prevention and Response Procedures—Areas where potential spills which can contribute pollutants to storm water discharges can occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Areas to be identified should include loading/unloading areas, outdoor storage areas, and waste management areas exposed to storm water. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

(d) Inspections—Qualified facility personnel shall be identified to inspect designated equipment and areas of the facility on a periodic basis. At a minimum, the following areas, where the potential for exposure to storm water exists, must be inspected on a regularly scheduled basis: loading and unloading areas for all significant materials; storage areas, including associated containment areas; waste management units; and vents and stacks from industrial activities. For any problems identified during inspections, the plan shall be revised to include measures to address these problems. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained.

(e) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping, material management practices, unloading/loading practices, outdoor storage areas, waste management practices, proper handling procedures of hazardous waste, and improper connections to the storm sewer. At a minimum, this training should be provided annually. The pollution prevention plan shall identify frequencies and approximate dates for such training.

(f) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan. Ineffective BMPs should be reported and the date of their corrective actions noted.

(g) Non-storm Water Discharges

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges as identified in Part III.A.2. of this permit. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with Part XI.AB.3.a.(3)(g)(iv) (Failure to Certify) of this permit.

(ii) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A. (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) If the facility discharges wastewater, other than storm water via an existing NPDES permit, a copy of the NPDES permit authorizing the discharge must be attached to the plan. Similarly, if the facility submitted an application for an NPDES permit for non-storm water discharges, but has not yet received that permit, a copy of the permit application must be attached. Upon issuance or reissuance of an NPDES permit, the facility must modify its plan to include a copy of that permit. For facilities that discharge wastewater, other than solely domestic wastewater, to a Publicly Owned Treatment Works (POTW), the facility must notify the POTW of its discharge. Proof of this notification should be attached to the plan in the form of either (1) a copy of the permit issued by the treatment plant to the facility or (2) a copy of a notification letter to the POTW. Notification should identify, in general, the types of wastewater discharged to the POTW, including any storm water discharges. In any of these cases, specific permit conditions must be considered in the plan.

(iv) Failure to Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 270 days after permit issuance] or, for facilities which begin to discharge storm water associated with industrial activity after [Insert date 270 days after permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States which are not authorized by an NPDES permit are unlawful, and must be terminated.

(h) Sediment and Erosion Control—The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

(i) Management of Runoff—The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity (see paragraph XI.AB.3.a.(2) (Description of

Potential Pollutant Sources) of this permit) shall be considered when determining reasonable and appropriate measures. Appropriate measures or other equivalent measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices. In addition, the permittee must describe the storm water pollutant source area or activity (storage areas, loading/unloading) to be controlled by each storm water management practice.

(4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with Part XI.AB.3.a.(2) (Description of Potential Pollutant Sources) of this permit and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.AB.3.a.(3) (Measures and Controls) of this permit shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.AB.3.a.(4)(b) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under 3.a.(3)(d), the compliance evaluation may be conducted in place of one such inspection.

4. Numeric Effluent Limitations. There are no additional numeric limitations beyond those described in Part V.B of this permit.

5. Monitoring and Reporting Requirements.

a. Monitoring Requirements.

(1) Quarterly Visual Examination of Storm Water Quality. Facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination must be made at least once in each designated period [described in (*a*), below] during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(a) Examinations shall be conducted in each of the following periods for the purposes of visually inspecting storm water quality associated with storm water runoff or snow melt: January through March; April through June; July through September; and October through December.

(b) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed one hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable the same individual will carry out the collection and examination of discharges for the life of the permit.

(c) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(d) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

(e) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(f) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfalls provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explaining in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

AC. Storm Water Discharges Associated With Industrial Activity From Facilities That Manufacture Electronic and Electrical Equipment and Components, Photographic and Optical Goods

1. Discharges Covered Under This Section. The requirements listed under this section shall apply to all storm water discharges associated with industrial activity from facilities that manufacture: electronic and other electrical equipment and components, except computer equipment (SIC major group 36); measuring, analyzing, and controlling instruments; photographic, medical and optical goods; watches and clocks (SIC major group 38) and computer and office equipment (SIC code 357).

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Special Conditions.

a. Prohibition of Non-storm Water Discharges. Other than as provided in use this Section III.A. of this permit, non-storm water discharges are not authorized by this permit.

3. Storm Water Pollution Prevention Plan Requirements.

a. Contents of Plan. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

(2) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials which may potentially be significant pollutant sources. Each plan shall include, at a minimum:

(a) Drainage

(i) A site map indicating an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies, locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under Part XI.AC.3.a.(2)(c) (Spills and Leaks) of this permit have occurred, and the locations of the following activities where such activities are exposed to precipitation: fueling stations, vehicle and equipment maintenance and/or cleaning areas, loading/unloading areas, locations used for the treatment, storage or disposal of wastes, liquid storage tanks, processing areas and storage areas. The map must indicate the outfall locations and the types of discharges contained in the drainage areas of the outfalls.

(ii) For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants which are likely to be present in storm water discharges associated with industrial activity. Factors to consider include the toxicity of chemical; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

(b) Inventory of Exposed Materials—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

(c) Spills and Leaks—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Such list shall be updated as appropriate during the term of the permit.

(d) Sampling Data—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(e) Risk Identification and Summary of Potential Pollutant Sources—A narrative description of the potential pollutant sources from the following activities: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; significant dust or particulate generating processes; and onsite waste disposal practices. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., biochemical oxygen demand, etc.) of concern shall be identified.

(3) Measures and Controls. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

(a) Good Housekeeping—Good housekeeping requires the maintenance of areas which may contribute pollutants to storm water discharges in a clean, orderly manner.

(b) Preventive Maintenance—A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/

water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

(c) Spill Prevention and Response Procedures—Areas where potential spills which can contribute pollutants to storm water discharges can occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

(d) Inspections—In addition to or as part of the comprehensive site evaluation required under paragraph XI.AC.3.a.(4) of this section, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility at appropriate intervals specified in the plan. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained.

(e) Employee Training—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The pollution prevention plan shall identify periodic dates for such training.

(f) Recordkeeping and Internal Reporting Procedures—A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

(g) Non-storm Water Discharges

(i) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with paragraph XI.AC.3.a.(3)(g)(iii) (below).

(ii) Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2 (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(iii) Failure to Certify—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 270 days after permit issuance] or, for facilities which begin to discharge storm water associated with industrial activity after [Insert date 270 days after permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States which are not authorized by an NPDES permit are unlawful, and must be terminated.

(h) Sediment and Erosion Control—The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

(i) Management of Runoff—The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity [see paragraph XI.AC.3.a.(2) of this section (Description of Potential Pollutant Sources)] shall be considered when determining reasonable and appropriate measures. Appropriate measures or equivalent measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices.

(4) Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations once a year. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with paragraph XI.AC.3.a.(2) of this section (Description of Potential Pollutant Sources) and pollution prevention measures and controls identified in the plan in

accordance with paragraph XI.AC.3.a.(3) of this section (Measures and Controls) shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the inspection, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.AC.3.a.(4)(b) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years from the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) Where compliance evaluation schedules overlap with inspections required under 3.a.(3)(d), the compliance evaluation may be conducted in place of one such inspection.

4. Numeric Effluent Limitations. There are no additional numeric effluent limitations beyond those described in Part V.B of this permit.

5. Monitoring and Reporting Requirements

a. Monitoring Requirements

(1) Quarterly Visual Examination of Storm Water Quality. Facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination must be made at least once in each designated period [described in (*a*), below] during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(a) Examinations shall be conducted in each of the following periods for the purposes of visually inspecting storm water quality associated with storm water runoff or snow melt: January through March; April through June; July through September; and October through December.

(b) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed one hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Whenever practicable the same individual will carry out the collection and examination of discharges for the life of the permit.

(c) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(d) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the observation data also applies to the substantially identical outfalls provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explaining in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(e) When a discharger is unable to collect samples over the course of the monitoring period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(f) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

XII. Coverage Under This Permit

Region III

A. Federal Facilities in the District of Columbia (DCR05##F)*

District of Columbia 401 certification special permit conditions revise the permit as follows:

1. Part IV section B is amended by the addition of the following:

Part IV. Storm Water Pollution Prevention Plans

*   *   *   *   *

B. Signature and Plan Review

*   *   *   *   *

4. Review and Approval by Department of Consumer and Regulatory Affairs

A copy of all storm water pollution prevention plans required under the permit shall be submitted to the District of Columbia's Department of Consumer and Regulatory Affairs, Environmental Regulation Administration, for review and approval.

2. Part IV section E is amended by the addition of the following:

Part IV. Storm Water Pollution Prevention Plans

*   *   *   *   *

E. Special Pollution Prevention Plan Requirements

*   *   *   *   *

5. Nitrogen, Phosphorus, Fertilizer, Pesticides and Urea Loadings and Usages

Permittees shall include in the storm water pollution prevention plan current nitrogen and phosphorus loads, current fertilizer usage, current exterior pesticide usage, and current urea for deicing usage.

6. Storm Water and Ground Water Diversions to Sanitary Sewers

Permittees shall include in the storm water pollution prevention plan the volume of any storm water diverted to the sanitary sewer from roof leaders or other connections and the volume any ground water diverted to the sanitary sewer.

7. Proposed Reductions in Nutrient and Pesticide Loads

Permittees shall include in the storm water pollution prevention plan the proposed reductions in nutrient and pesticides loads in accordance with the Chesapeake Bay Restoration goals.

8. Animal Waste Management Plans

Any permittee that manages significant quantities of animals or animal wastes, shall provide in the storm water pollution prevention plan an accounting of these animal wastes, and nutrient control measures for avoiding, reducing, or eliminating runoff of these animal wastes.

B. District of Columbia (DCR05###)*

District of Columbia 401 certification special permit conditions revise the permit as follows:

1. Part IV section B is amended by the addition of the following:

Part IV. Storm Water Pollution Prevention Plans

* * * * *

B. Signature and Plan Review

* * * * *

4. Review and Approval by Department of Consumer and Regulatory Affairs

A copy of all storm water management plans required under the permit shall be submitted to the District of Columbia's Department of Consumer and Regulatory Affairs, Environmental Regulation Administration, for review and approval.

Region VI

C. Louisiana (LAR05###)*

Louisiana 401 certification and Coastal Zone special permit conditions revise the permit as follows:

1. Part I section B. is amended by the addition of the following:

Part I. Coverage Under This Permit

B. Eligibility

* * * * *

8. Discharges Subject to Louisiana Coastal Zone Management Program

Facilities whose activities occur in, or have an effect on, the designated coastal zone of Louisiana, shall have obtained an individual coastal zone consistency concurrence, permit, or waiver from the Coastal Management Division of the Louisiana Department of Natural Resources (in accordance with the Louisiana Coastal Zone Management Program LRS 49:214). Facilities wishing to obtain a description of the areas designated by the State of Louisiana as the ''coastal zone'' should request that information by writing to: State of Louisiana, Department of Natural Resources, Coastal Zone Management Division, P.O. Box 44487, Baton Rouge, Louisiana 70804-4487.

2. The following section is added to Part V of the Permit:

Part V. Numeric Effluent Limitations

* * * * *

c. *Limitations for all discharges of storm water associated with industrial activity.*

(1) General Limitations: Effective [insert effective date of permit].

Parameter	Daily maximum
Total Organic Carbon (TOC)	50 mg/l
Oil & Grease	15 mg/l

(2) Oil & Gas Exploration and Production Facilities: Effective on effective date of permit.

Parameter	Daily maximum
Chemical Oxygen Demand (COD)	100 mg/l
Total Organic Carbon (TOC)	50 mg/l
Oil & Grease	15 mg/l

Chlorides:

(a) Maximum chloride concentration of the discharge shall not exceed two times the ambient concentration of the receiving water in brackish marsh areas.

(b) Maximum chloride concentration of the discharge shall not exceed 500 mg/l in freshwater or intermediate marsh areas and upland areas.

Facilities without monitoring requirements must insure the pollution prevention plan developed in accordance with Part IV will insure compliance with these effluent limitations.

* * * * *

3. The following definitions are added to Part X of the permit:

Part X. Definitions

''Brackish Marshes''—those areas that are inundated or saturated by surface water or groundwater of moderate salinity at a frequency and duration sufficient to support, and that under normal circumstances do support, emergent vegetation characterized by a prevalence of species typically adapted for life in these soil and contiguous surface water conditions. Typical vegetation includes wiregrass (*Spartina patens*), three-cornered grass (*Scirpus olneyi*), coco (*Scirpus robustus*), and widgeongrass (*Ruppia maritima*). Interstitial water salinity normally ranges between 7 and 15 parts per thousand. (LAC 33:IX.708)

''Freshwater Swamps and Marshes''—those areas that are inundated or saturated by surface water or groundwater of negligible to very low salinity at a frequency and duration sufficient to support, and that under normal circumstances do support, emergent vegetation characterized by a prevalence of species typically adapted for life in these soil and contiguous surface water conditions. Typical vegetation includes maiden cane (*Panicum hemitomon*), *Hydrocotyl sp.*, water hyacinth (*Eichhornia crassipes*), pickerelweed (*Pontederia cordata*), alligatorweed (*Alternanthera philoxeroides*), and bulltongue (*Sagittaria sp.*). Interstitial water salinity is normally less than 2 parts per thousand. (LAC 33:IX.708)

''Intermediate Marshes''—those areas that are inundated or saturated by surface water or groundwater of salinity at a frequency and duration sufficient to support, and that under normal circumstances do support, emergent vegetation characterized by a prevalence of species typically adapted for life in these soil and contiguous surface water conditions. Typical vegetation includes wiregrass (*Spartina patens*), deer pea (*Vigna repens*), bulltongue (*Sagittaria sp.*), wild millet (*Echinochloa walteri*), bullwhip (*Scirpus californicus*), and sawgrass (*Cladium jamaicense*). Interstitial water salinity normally ranges between 3 and 6 parts per thousand. (LAC 33:IX.708)

''Saline Marshes''—those wetland areas that are inundated or saturated by surface water or groundwater of salinity characteristic of near Gulf of Mexico ambient water at a frequency and duration sufficient to support, and that under normal circumstances do support, emergent vegetation characterized by a prevalence of species typically adapted for life in these soil and contiguous surface water conditions. Typical vegetation includes oystergrass (*Spartina alterniflora*), glasswort (*Salicornia sp.*), black rush (*Juncus roemericanus*), *Batis maritima*, black mangrove (*Avicennia nitida*), and saltgrass (*Distichlis spicata*). Interstitial water salinity normally exceeds 16 parts per thousand. (LAC 33:IX.708)

''Upland''—any land area that is not normally inundated with water and that would not, under normal circumstances, be characterized as swamp or fresh, intermediate, brackish, or saline marsh. The term shall have both a regional and site-specific connotation; for example, naturally occurring and man-made topographic highs that are partially or totally surrounded by swamp, marsh, or open water will be considered upland on a local basis, but will not necessitate characterization of the surrounding area as upland. The land and water bottoms of all parishes north of the nine parishes contiguous with the Gulf of Mexico shall be determined on a case-by-case basis with reference to the presences of a regional expanse of emergent aquatic vegetation or open water. (LAC 33:IX.708)

D. New Mexico (NMR05###)*

New Mexico 401 certification special permit conditions revise the permit as follows:

1. Part VI.B of the permit is revised to read:

Part VI. Monitoring and Reporting Requirements

* * * * *

B. *Reporting: Where to Submit.*

* * * * *

3. *Location.* Signed copies of discharge monitoring reports required under Parts XI. and VI.C., individual permit applications, and all other reports required herein, shall be submitted to the appropriate state office address:

New Mexico

Program Manager, Point Source Regulation Section, Surface Water Quality Bureau, New Mexico Environment Department, 1190 St. Francis Drive, Santa Fe, New Mexico 87504-0968

2. Part XI of the permit is revised to include the following additional monitoring for the industrial sectors indicated:

Part XI.

A. Storm Water Discharges Associated With Industrial Activity From Timber Products Facilities

* * * * *

5. Monitoring and Reporting Requirements

(a) * * * In addition to the parameters listed in Tables A–1,2,3,4 the following facilities shall conduct monitoring of the additional parameters indicated and the data reported to the New Mexico State Program Manager at the address above (Part VI.B). A copy of the data shall be kept with the Pollution Prevention Plan. Monitoring for the additional parameters indicated shall be conducted at least quarterly (4 times per year) in the second and fourth year of the permit. The first period of monitoring to begin on the date one year following the date of issuance of this permit. Each year of monitoring (four quarters) shall be reported no later than the following March. The report to NMED shall be postmarked no later that the 31st day of the following March.

(1) Sawmill & planing facilities: shall monitor Biochemical Oxygen Demand (BOD), Nitrate + Nitrite (NO_3+NO_2), Ammonia (NH_3) and Total Kjeldahl Nitrogen (TKN);
(2) Wood preserving facilities: shall monitor Total Suspended Solids (TSS), NO_3+NO_2, NH_3 and TKN;
(3) Log storage & handling facilities: shall monitor Chemical Oxygen Demand (COD), NO_3+NO_2, NH_3 and TKN;
(4) Other wood products: shall monitor BOD, NO_3+NO_2, TKN, NH_3 and oil & grease.

* * * * *

B. Storm Water Discharges Associated With Industrial Activity From Paper And Allied Products Manufacturing Facilities

* * * * *

5. Monitoring and Reporting Requirements

(a) * * * In addition to the parameters listed in Table B–1 the following facilities shall conduct monitoring of the additional parameters indicated and the data reported to the New Mexico State Program Manager at the address above (Part VI.B). A copy of the data shall be kept with the Pollution Prevention Plan. Monitoring for the additional parameters indicated shall be conducted at least quarterly (4 times per year) in the second and fourth year of the permit. The first period of monitoring to begin on the date one year following the date of issuance of this permit. Each year of monitoring (four quarters) shall be reported no later than the following March. The report to NMED shall be postmarked no later that the 31st day of the following March.

(1) Paperboard mills: shall monitor TSS, BOD, NO_3+NO_2, and TKN;
(2) Paperboard containers & boxes: shall monitor COD, NO_3+NO_2, NH_3, and TKN;
(3) Converted paper & paperboard products: shall monitor COD, NO_3+NO_2, NH_3, and TKN.

* * * * *

C. Storm Water Discharges Associated With Industrial Activity From Chemical and Allied Products Manufacturing Facilities

* * * * *

6. Monitoring and Reporting Requirements

(a) * * * In addition to the parameters listed in Tables C–2,3,4,5 the following facilities shall conduct monitoring of the additional parameters indicated and the data reported to the New Mexico State Program Manager at the address above (Part VI.B). A copy of the data shall be kept with the Pollution Prevention Plan. Monitoring for the additional parameters indicated shall be conducted at least quarterly (4 times per year) in the second and fourth year of the permit. The first period of monitoring to begin on the date one year following the date of issuance of this permit. Each year of monitoring (four quarters) shall be reported no later than the following March. The report to NMED shall be postmarked no later that the 31st day of the following March.

(1) Agricultural chemical: shall monitor total mercury (Hg), TSS, NH_3, and TKN;
(2) Inorganic chemical: shall monitor total Hg, NH_3, and TKN;
(3) Detergents, cosmetics & perfumes: shall monitor COD, TKN, NH_3, and TSS;
(4) Paints, varnishes, enamels & allied products: shall monitor TSS, NH_3, NO_3+NO_2, and TKN.
(5) Plastics, synthetics, and resins: shall monitor total Hg, NO_3+NO_2, NH_3, and TKN.

* * * * *

D. Storm Water Discharges Associated With Industrial Activity From Asphalt Paving and Roofing Materials and Lubricant Manufacturers

* * * * *

5. Monitoring and Reporting Requirements.

(a) * * * In addition to the parameters listed in Table D–1 the following facilities shall conduct monitoring of the additional parameters indicated and the data reported to the New Mexico State Program Manager at the address above (Part VI.B). A copy of the data shall be kept with the Pollution Prevention Plan. Monitoring for the additional parameters indicated shall be conducted at least quarterly (4 times per year) in the second and fourth year of the permit. The first period of monitoring to begin on the date one year following the date of issuance of this permit. Each year of monitoring (four quarters) shall be reported no later than the following March. The report to NMED shall be postmarked no later that the 31st day of the following March.

Asphalt paving & roofing materials: shall monitor COD, NO_3+NO_2, NH_3, and TKN.

E. Storm Water Discharges Associated With Industrial Activity From Glass, Clay, Cement, Concrete, Gypsum Product Manufacturing Facilities

* * * * *

5. Monitoring and Reporting Requirements

(a) * * * In addition to the parameters listed in Tables E–1,2 the following facilities shall conduct monitoring of the additional parameters indicated and the data reported to the New Mexico State Program Manager at the address above (Part VI.B). A copy of the data shall be kept with the Pollution Prevention Plan. Monitoring for the additional parameters indicated shall be conducted at least quarterly (4 times per year) in the second and fourth year of the permit. The first period of monitoring to begin on the date one year following the date of issuance of this permit. Each year of monitoring (four quarters) shall be reported no later than the following March. The report to NMED shall be postmarked no later that the 31st day of the following March.

(1) Clay product manufactures: shall monitor TSS;
(2) Concrete & gypsum product manufactures: shall monitor TKN, NH_3, and NO_3+NO_2;
(3) Flat glass, glass & glassware, pressed or blown glass products: shall monitor TKN, NH_3, and NO_3+NO_2.

* * * * *

F. Storm Water Discharges Associated With Industrial Activity From Primary Metals Facilities.

* * * * *

5. Monitoring and Reporting Requirements

(a) * * * In addition to the parameters listed in Tables F–1, 2, 3, 4 the following facilities shall conduct monitoring of the additional parameters indicated and the data reported to the New Mexico State Program Manager at the address above (Part VI.B). A copy of the data shall be kept with the Pollution Prevention Plan. Monitoring for the additional parameters indicated shall be conducted at least quarterly (4 times per year) in the second and fourth year of the permit. The first period of monitoring to begin on the date one year following the date of issuance of this permit. Each year of monitoring (four quarters) shall be reported no later than the following March. The report to NMED shall be postmarked no later that the 31st day of the following March.

(1) Steel works: shall monitor total Hg, TKN, NO_3+NO_2, NH_3, and TSS;
(2) Iron & steel foundries: shall monitor total Hg, COD, NO_3+NO_2, NH_3, and TKN;
(3) Rolling, drawing & extruding—non-ferrous: shall monitor total Hg, NO_3+NO_2, NH_3, and TKN;
(4) Non-ferrous foundries: shall monitor total Hg, TSS, NO_3+NO_2, NH_3, and TKN.

* * * * *

G. Storm Water Discharges Associated With Industrial Activity From Metal Mining (Ore Mining and Dressing) Facilities

* * * * *

5. Monitoring and Reporting Requirements

(a) * * * In addition to the parameters listed in Table G–1 the following facilities shall conduct monitoring of the additional parameters indicated and the data reported to the New Mexico State Program Manager at the address above (Part VI.B). A copy of the data shall be kept with the Pollution Prevention Plan. Monitoring for the additional parameters indicated shall be conducted at least quarterly (4 times per year) in the second and fourth year of the permit. The first period of monitoring to begin on the date one year following the date of issuance of this permit. Each year of monitoring (four quarters) shall be reported no later than the following March. The report to NMED shall be postmarked no later that the 31st day of the following March.

All metal mining facilities shall monitor for COD, TSS, NO_3+NO_2, TKN, NH_3, total Hg; in addition, all permittees in the SIC code for metals mining shall monitor for any heavy metal which the permittee has reason to believe may be present in storm water runoff from the mining facility.

* * * * *

I. Storm Water Discharges Associated With Industrial Activity From Oil and Gas Extraction Facilities

* * * * *

5. Monitoring and Reporting Requirements

(a) All facilities in this sector shall conduct analytical monitoring for oil and grease; total phosphorus; and total suspended solids (TSS). The data shall be reported to the New Mexico State Program Manager at the address above (Part VI.B). A copy of the data shall be kept with the Pollution Prevention Plan. Monitoring for the additional parameters indicated shall be conducted at least quarterly (4 times per year) in the second and fourth year of the permit. The first period of monitoring to begin on the date one year following the date of issuance of this permit. Each year of monitoring (four quarters) shall be reported no later than the following March. The report to NMED shall be postmarked no later that the 31st day of the following March.

* * * * *

J. Storm Water Discharges Associated With Industrial Activity From Mineral Mining and Processing Facilities

* * * * *

5. Monitoring and Reporting Requirements

(a) * * * In addition to the parameters listed in Table J–1 the following facilities shall conduct monitoring of the additional parameters indicated and the data reported to the New Mexico State Program Manager at the address above (Part VI.B). A copy of the data shall be kept with the Pollution Prevention Plan. Monitoring for the additional parameters indicated shall be conducted at least quarterly (4 times per year) in the second and fourth year of the permit. The first period of monitoring to begin on the date one year following the date of issuance of this permit. Each year of monitoring (four quarters) shall be reported no later than the following March. The report to NMED shall be postmarked no later that the 31st day of the following March.

Sand & gravel mining facilities: shall monitor TKN and NH_3.

* * * * *

K. Storm Water Discharges Associated With Industrial Activity From Hazardous Waste Treatment, Storage, or Disposal Facilities

* * * * *

5. Monitoring and Reporting Requirements

(a) * * * In addition to the parameters listed in Table K–1 all facilities shall monitor TKN, NO_3+NO_2, and TSS and the data reported to the New Mexico State Program Manager at the address above (Part VI.B). A copy of the data shall be kept with the Pollution Prevention Plan. Monitoring for the additional parameters indicated shall be conducted at least quarterly (4 times per year) in the second and fourth year of the permit. The first period of monitoring to begin on the date one year following the date of issuance of this permit. Each year of monitoring (four quarters) shall be reported no later than the following March. The report to NMED shall be postmarked no later that the 31st day of the following March.

* * * * *

L. Storm Water Discharges Associated With Industrial Activity From LandFills and Land Application Sites

5. Monitoring and Reporting Requirements.

(a) * * * In addition to the parameters listed in Table L–1 all facilities shall monitor TKN, NH_3, and NO_3+NO_2 and the data reported to the New Mexico State Program Manager at the address above (Part VI.B). A copy of the data shall be kept with the Pollution Prevention Plan. Monitoring for the additional parameters indicated shall be conducted at least quarterly (4 times per year) in the second and fourth year of the permit. The first period of monitoring to begin on the date one year following the date of issuance of this permit. Each year of monitoring (four quarters) shall be reported no later than the following March. The report to NMED shall be postmarked no later that the 31st day of the following March.

* * * * *

M. Storm Water Discharges Associated With Industrial Activity From Automobile Salvage Yards

* * * * *

4. Monitoring and Reporting Requirements.

(a) * * * In addition to the parameters listed in Table M–1 all facilities shall monitor oil & grease, NO_3+NO_2, NH_3, and TKN and the data reported to the New Mexico State Program Manager at the address above (Part VI.B). A copy of the data shall be kept with the Pollution Prevention Plan. Monitoring for the additional parameters indicated shall be conducted at least quarterly (4 times per year) in the second and fourth year of the permit. The first period of monitoring to begin on the date one year following the date of issuance of this permit. Each year of monitoring (four quarters) shall be reported no later than the following March. The report to NMED shall be postmarked no later that the 31st day of the following March.

* * * * *

N. Storm Water Discharges Associated With Industrial Activity From Scrap Recycling and Waste Recycling Facilities

* * * * *

5. Monitoring and Reporting Requirements

(a) * * * In addition to the parameters listed in Table N–1 all facilities shall monitor oil & grease, NO_3+NO_2, NH_3, and TKN and the data reported to the New Mexico State Program Manager at the address above (Part VI.B). A copy of the data shall be kept with the Pollution Prevention Plan. Monitoring for the additional parameters indicated shall be conducted at least quarterly (4 times per year) in the second and fourth year of the permit. The first period of monitoring to begin on the date one year following the date of issuance of this permit. Each year of monitoring (four quarters) shall be reported no later than the following March. The report to NMED shall be postmarked no later that the 31st day of the following March.

* * * * *

O. Storm Water Discharges Associated With Industrial Activity From Steam Electric Power Generating Facilities, Including Coal Handling Areas

* * * * *

5. Monitoring and Reporting Requirements

(a) * * * In addition to the parameters listed in Table O–1 all facilities shall monitor TSS, NO_3+NO_2, TKN, NH_3, and total Zinc (Zn) and the data reported to the New Mexico State Program Manager at the address above (Part VI.B). A copy of the data shall be kept with the Pollution Prevention Plan. Monitoring for the additional parameters indicated shall be conducted at least quarterly (4 times per year) in the second and fourth year of the permit. The first period of monitoring to begin on the date one year following the date of issuance of this permit. Each year of monitoring (four quarters) shall be reported no later than the following March. The report to NMED shall be postmarked no later that the 31st day of the following March.

* * * * *

P. Storm Water Discharges Associated With Industrial Activity From Motor Freight Transportation Facilities, Petroleum Bulk Oil Stations and Terminals, Rail Transportation Facilities, and United States Postal Service Transportation Facilities

* * * * *

4. Monitoring and Reporting Requirements

(a) The following facilities shall conduct analytical monitoring of the parameters indicated and the data reported to the New Mexico State Program Manager at the address above (Part VI.B). A copy of the data shall be kept with the Pollution Prevention Plan. Monitoring for the additional parameters indicated shall be conducted at least quarterly (4 times per year) in the second and fourth year of the permit. The first period of monitoring to begin on the date one year following the date of issuance of this permit. Each year of monitoring (four quarters) shall be reported no later than the following March. The report to NMED shall be postmarked no later that the 31st day of the following March.

(1) Railroad transportation: shall monitor COD, NO_3+NO_2, TKN, NH_3, TSS, total Zn, and oil & grease;

(2) Local & highway passenger transportation: shall monitor NO_3+NO_2, NH_3, oil & grease, TSS, and TKN;
(3) Motor freight transportation & warehousing: shall monitor NO_3+NO_2, NH_3, TSS, total Zn, TKN, and oil & grease;
(4) U.S. Postal Service: shall monitor total Zn;
(5) Petroleum bulk stations: shall monitor TKN, NO_3+NO_2, NH_3, and TSS.

* * * * *

Q. Storm Water Discharges Associated With Industrial Activity From Water Transportation Facilities That Have Vehicle Maintenance Shops and/or Equipment Cleaning Operations

* * * * *

5. Monitoring and Reporting Requirements

(a) * * * In addition to the parameters listed in Table Q–1 all facilities shall monitor TSS, NO_3+NO_2, NH_3, and TKN and the data reported to the New Mexico State Program Manager at the address above (Part VI.B.). A copy of the data shall be kept with the Pollution Prevention Plan. Monitoring for the additional parameters indicated shall be conducted at least quarterly (4 times per year) in the second and fourth year of the permit. The first period of monitoring to begin on the date one year following the date of issuance of this permit. Each year of monitoring (four quarters) shall be reported no later than the following March. The report to NMED shall be postmarked no later that the 31st day of the following March.

* * * * *

S. Storm Water Discharges Associated With Industrial Activity From Vehicle Maintenance Areas, Equipment Cleaning Areas, or Deicing Areas Located at Air Transportation Facilities

* * * * *

5. Monitoring and Reporting Requirements

(a) * * * In addition to the parameters listed in Table S–1 the following facilities shall conduct monitoring of the additional parameters indicated and the data reported to the New Mexico State Program Manager at the address above (Part VI.B.). A copy of the data shall be kept with the Pollution Prevention Plan. Monitoring for the additional parameters indicated shall be conducted at least quarterly (4 times per year) in the second and fourth year of the permit. The first period of monitoring to begin on the date one year following the date of issuance of this permit. Each year of monitoring (four quarters) shall be reported no later than the following March. The report to NMED shall be postmarked no later that the 31st day of the following March.

(1) Vehicle maintenance and/or cleaning areas: shall monitor oil & grease, COD, TSS;

* * * * *

(b) Quarterly Visual Examination of Storm Water Quality. Storm water discharge from vehicle maintenance, cleaning or deicing areas shall be visually examined once each quarter as specified below. These facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination(s) must be made at least once in each of the following 3-month periods: January through March, April through June, July through September, and October through December. The examination shall be made during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(1) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snow melt begins discharging. The examination shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for the entire permit term.

(2) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(3) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the examination data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(4) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(5) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

* * * * *

T. Storm Water Discharges Associated With Industrial Activity From Treatment Works.

* * * * *

5. Monitoring and Reporting Requirements

(a) * * * In addition to the visual monitoring, all facilities shall conduct analytical monitoring of BOD, NO_3+NO_2, TKN, NH_3, TSS, and fecal coliform, and the data reported to the New Mexico State Program Manager at the address above (Part VI.B). A copy of the data shall be kept with the Pollution Prevention Plan. Monitoring for the additional parameters indicated shall be conducted at least quarterly (4 times per year) in the second and fourth year of the permit. The first period of monitoring to begin on the date one year following the date of issuance of this permit. Each year of monitoring (four quarters) shall be reported no later than the following March. The report to NMED shall be postmarked no later that the 31st day of the following March.

* * * * *

U. Storm Water Discharges Associated With Industrial Activity From Food and Kindred Products Facilities

* * * * *

5. Monitoring and Reporting Requirements

(a) * * * In addition to the parameters listed in Table U–1,2 the following facilities shall conduct monitoring of the additional parameters indicated and the data reported to the New Mexico State Program Manager at the address above (Part VI.B). A copy of the data shall be kept with the Pollution Prevention Plan. Monitoring for the additional parameters indicated shall be conducted at least quarterly (4 times per year) in the second and fourth year of the permit. The first period of monitoring to begin on the date one year following the date of issuance of this permit. Each year of monitoring (four quarters) shall be reported no later than the following March. The report to NMED shall be postmarked no later that the 31st day of the following March.

(1) Grain mill products: shall monitor COD, total Zn, TKN, NO_3+NO_2, NH_3, and total phosphorus;
(2) Fats and oils products: shall monitor TKN and NH_3;
(3) Dairy products: shall monitor BOD, COD, NO_3+NO_2, TKN, NH_3, and TSS;
(4) Meat products: shall monitor NO_3+NO_2, TKN, and TSS;

(5) Canned, frozen & preserved fruits: shall monitor NO_3+NO_2, NH_3, COD, and TKN;
(6) Bakery products: shall monitor TKN, NO_3+NO_2, NH_3, and TSS;
(7) Beverage facilities: shall monitor total Zn;
(8) Miscellaneous: shall monitor TKN, NO_3+NO_2, NH_3, and TSS.

* * * * *

W. Storm Water Discharges Associated With Industrial Activity From Wood and Metal Furniture and Fixture Manufacturing Facilities

* * * * *

5. Monitoring and Reporting Requirements

(a) All facilities shall conduct analytical monitoring of NO_3+NO_2, TKN, NH_3, TSS and total Zn, and the data reported to the New Mexico State Program Manager at the address above (Part VI.B). A copy of the data shall be kept with the Pollution Prevention Plan. Monitoring for the additional parameters indicated shall be conducted at least quarterly (4 times per year) in the second and fourth year of the permit. The first period of monitoring to begin on the date one year following the date of issuance of this permit. Each year of monitoring (four quarters) shall be reported no later than the following March. The report to NMED shall be postmarked no later that the 31st day of the following March.

* * * * *

Y. Storm Water Discharges Associated With Industrial Activity From Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries

* * * * *

5. Monitoring and Reporting Requirements

(a) * * * In addition to the parameters listed in Table Y–1 the following facilities shall conduct monitoring of the additional parameters indicated and the data reported to the New Mexico State Program Manager at the address above (Part VI.B). A copy of the data shall be kept with the Pollution Prevention Plan. Monitoring for the additional parameters indicated shall be conducted at least quarterly (4 times per year) in the second and fourth year of the permit. The first period of monitoring to begin on the date one year following the date of issuance of this permit. Each year of monitoring (four quarters) shall be reported no later than the following March. The report to NMED shall be postmarked no later that the 31st day of the following March.

(1) Rubber products manufacturing: shall monitor TSS, TKN, NO_3+NO_2, NH_3, and total Hg;
(2) Miscellaneous plastics products: shall monitor NO_3+NO_2, NH_3, TKN, TSS, and total Hg.

* * * * *

Z. Storm Water Discharges Associated With Industrial Activity From Leather Tanning and Finishing Facilities

* * * * *

5. Monitoring and Reporting Requirements

(a) * * * In addition to the visual monitoring, all facilities shall conduct analytical monitoring of COD, NO_3+NO_2, TKN, NH_3, and TSS, and the data reported to the New Mexico State Program Manager at the address above (Part VI.B). A copy of the data shall be kept with the Pollution Prevention Plan. Monitoring for the additional parameters indicated shall be conducted at least quarterly (4 times per year) in the second and fourth year of the permit. The first period of monitoring to begin on the date one year following the date of issuance of this permit. Each year of monitoring (four quarters) shall be reported no later than the following March. The report to NMED shall be postmarked no later that the 31st day of the following March.

* * * * *

AA. Storm Water Discharges Associated With Industrial Activity From Fabricated Metal Products Industry

* * * * *

5. Monitoring and Reporting Requirements

(a) * * * In addition to the parameters listed in Table AA–1,2 the following facilities shall conduct monitoring of the additional parameters indicated and the data reported to the New Mexico State Program Manager at the address above (Part VI.B). A copy of the data shall be kept with the Pollution Prevention Plan. Monitoring for the additional parameters indicated shall be conducted at least quarterly (4 times per year) in the second and fourth year of the permit. The first period of monitoring to begin on the date one year following the date of issuance of this permit. Each year of monitoring (four quarters) shall be reported no later than the following March. The report to NMED shall be postmarked no later that the 31st day of the following March.

(1) Metal products except coating: shall monitor TKN, NH3, and TSS;
(2) Metal coating & engraving: shall monitor TKN, and NH3.

* * * * *

AC. Storm Water Discharges Associated With Industrial Activity From Facilities That Manufacture Electronic and Electrical Equipment and Components, Photographic and Optical Goods

* * * * *

5. Monitoring and Reporting Requirements

(a) All facilities shall conduct analytical monitoring of total Aluminum (Al), total Zn and total Hg, and the data reported to the New Mexico State Program Manager at the address above (Part VI.B). A copy of the data shall be kept with the Pollution Prevention Plan. Monitoring for the additional parameters indicated shall be conducted at least quarterly (4 times per year) in the second and fourth year of the permit. The first period of monitoring to begin on the date one year following the date of issuance of this permit. Each year of monitoring (four quarters) shall be reported no later than the following March. The report to NMED shall be postmarked no later that the 31st day of the following March.

In addition to the above-referenced conditions, per 40 CFR 122.44(d)(6) to ensure consistency with work element 6 of the State-adopted Water Quality Management Plan (WQMP) approved by EPA under Section 208(b) of the CWA, NMED is requiring that all permittees covered under this general permit, who are required to do sampling, be additionally required to monitor and report pH.

* * * * *

E. Oklahoma (OKR05###)*

Oklahoma 401 certification special permit conditions revise the permit as follows:

Part I.B.3. Limitations on Coverage. Insert the following paragraph:

f. Discharges to Oklahoma Outstanding Resource Waters and Scenic Rivers. ''New'' point source discharges of storm water associated with industrial activity (those commencing after the June 25, 1992, effective date of the Oklahoma Water Quality Standards—Oklahoma Annotated Code Title 785, Chapter 45) to the following waters:

(1) waterbodies designated as ''Outstanding Resource Waters'' and/or ''Scenic Rivers'' in Appendix A of the Oklahoma Water Quality Standards;

(2) Oklahoma waterbodies located within the watersheds of waterbodies designated as ''Scenic Rivers'' in Appendix A of the Oklahoma Water Quality Standards; and

(3) waterbodies located within the boundaries of Oklahoma Water Quality Standards Appendix B areas which are specifically designated as ''Outstanding Resource Waters'' in Appendix A of the Oklahoma Water Quality Standards.

D. Texas (TXR05###)*

Texas 401 certification special permit conditions revise the permit as follows:

The following sections are added to Part V of the permit:

Part V. Numeric Effluent Limitations

* * * * *

C. All Discharges to Inland Waters

The maximum allowable concentrations of each of the hazardous metals, stated in terms of milligrams per liter (mg/l), for discharges to inland waters are as follows:

Total metal	Monthly average	Daily composite	Single grab
Arsenic	0.1	0.2	0.3
Barium	1.0	2.0	4.0
Cadmium	0.05	0.1	0.2
Chromium	0.5	1.0	5.0

Total metal	Monthly average	Daily composite	Single grab
Copper	0.5	1.0	2.0
Lead	0.5	1.0	1.5
Manganese	1.0	2.0	3.0
Mercury	0.005	0.005	0.01
Nickel	1.0	2.0	3.0
Selenium	0.05	0.1	0.2
Silver	0.05	0.1	0.2
Zinc	1.0	2.0	6.0

C. All Discharges to Tidal Waters

The maximum allowable concentrations of each of the hazardous metals, stated in terms of milligrams per liter (mg/l), for discharges to tidal waters are as follows:

Total metal	Monthly average	Daily composite	Single grab
Arsenic	0.1	0.2	0.3
Barium	1.0	2.0	4.0
Cadmium	0.1	0.2	0.3
Chromium	0.5	1.0	5.0
Copper	0.5	1.0	2.0
Lead	0.5	1.0	1.5
Manganese	1.0	2.0	3.0
Mercury	0.005	0.005	0.01
Nickel	1.0	2.0	3.0
Selenium	0.10	0.2	0.3
Silver	0.05	0.1	0.2
Zinc	1.0	2.0	6.0

2. The following section is added to Part VI. of the permit:

* * * * *

D. *Toxicity Testing.* All facilities that have demonstrated significant lethality, which has not been controlled, shall continue to perform WET testing in accordance with the requirements below. Permittees that are required to monitor for acute whole effluent toxicity shall initiate the series of tests described below within 180 days after the issuance of this permit or within 90 days after the commencement of a new discharge.

The permittee shall test the effluent for lethality in accordance with the provisions of this section. Such testing will determine if an effluent sample meets the Texas Surface Water Quality Standard listed at 31 TAC § 307.6(e)(2)(B) of greater than 50% survival of the appropriate test organisms in 100% effluent for a 24-hour period.

1. Test Procedures

a. The permittee shall conduct acute 24 hour static toxicity tests on both an appropriate invertebrate and an appropriate fish (vertebrate) test species (EPA/600/4–90–027 Rev. 9/91, Section 6.1.). Freshwater species must be used for discharges to freshwater water bodies. Due to the non-saline nature of rainwater, freshwater test species should also be used for discharges to estuarine, marine or other naturally saline waterbodies.

The following tests shall be used:

1. Acute static 24-hour definitive toxicity test using *Daphnia pulex.* A minimum of four (4) replicates with a minimum of five (5) organisms per replicate shall be used for this test.

2. Acute static 24-hour definitive toxicity test using fathead minnow (*Pimephales promelas*). A minimum of four (4) replicates with a minimum of ten (10) organisms per replicate shall be used for this test.

b. Five dilutions in addition to an appropriate control (0% effluent), shall be used in the toxicity tests. These effluent concentrations shall be 6%, 13%, 25%, 50% and 100%. The control and/or dilution water shall consist of a standard, synthetic, moderately hard, reconstituted water. If more than 10% of the test organisms in any control die, that test, including the control and all effluent dilution(s), shall be repeated, with all results from *both* tests reported.

c. All test organisms, procedures and quality assurance criteria used shall be in accordance with *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms,* EPA/600/4–90–027 (Rev. September 1991). EPA has proposed to establish regulations regarding these test methods (December 4, 1989, 53 *FR* 50216).

d. Tests shall be conducted semiannually (twice per year) on a grab sample of the discharge at 100% strength (no dilution), the dilutions specified in paragraph b. above, and a control consisting of either receiving water or synthetic dilution water. Results of all tests conducted with any species shall be reported according to EPA/600/4–90–027 (Rev. September 1991), Section 12, Report Preparation, and the report retained onsite. The test results shall be summarized in the format used on Table VI–A and submitted to EPA with the Discharge Monitoring Reports (DMR's). On the DMR, the permittee shall report test results in accordance with the instructions on Table VI–A.

* * * * *

2. The following sections are added to Part V of the permit:

Part V. Numeric Effluent Limitations

* * * * *

B. All Discharges to Inland Waters

The maximum allowable concentrations of each of the hazardous metals, stated in terms of milligrams per liter (mg/l), for discharges to inland waters are as follows:

Total metal	Monthly average	Daily composite	Single grab
Arsenic	0.1	0.2	0.3
Barium	1.0	2.0	4.0
Cadmium	0.05	0.1	0.2
Chromium	0.5	1.0	5.0
Copper	0.5	1.0	2.0

Total metal	Monthly average	Daily composite	Single grab
Lead	0.5	1.0	1.5
Manganese	1.0	2.0	3.0
Mercury	0.005	0.005	0.01
Nickel	1.0	2.0	3.0
Selenium	0.05	0.1	0.2
Silver	0.05	0.1	0.2
Zinc	1.0	2.0	6.0

C. All Discharges to Tidal Waters

The maximum allowable concentrations of each of the hazardous metals, stated in terms of milligrams per liter (mg/l), for discharges to tidal waters are as follows:

Total metal	Monthly average	Daily composite	Single grab
Arsenic	0.1	0.2	0.3
Barium	1.0	2.0	4.0
Cadmium	0.1	0.2	0.3
Chromium	0.5	1.0	5.0
Copper	0.5	1.0	2.0
Lead	0.5	1.0	1.5
Manganese	1.0	2.0	3.0
Mercury	0.005	0.005	0.01
Nickel	1.0	2.0	3.0
Selenium	0.10	0.2	0.3
Silver	0.05	0.1	0.2
Zinc	1.0	2.0	6.0

3. The following definitions are added to Part X of the permit:

Part X. Definitions

''Inland Waters''—all surface waters in the State other than ''tidal waters'' as defined below.

''Tidal Waters''—those waters of the Gulf of Mexico within the jurisdiction of the State of Texas, bays and estuaries thereto, and those portions of the river systems which are subject to the ebb and flow of the tides, and to the intrusion of marine waters.

Region IX

Arizona (AZR05###) and Federal Facilities in Arizona (AZR05*##F)*

Arizona 401 certification special permit conditions revise the permit as follows:

1. Part I section B is amended by the addition of the following:

Part I. Coverage Under This Permit

*   *   *   *   *

B. Eligibility

*   *   *   *   *

8. Compliance with Water Quality Standards of the State of Arizona

Discharges authorized by this permit shall not cause or contribute to a violation of any applicable water quality standard of the State of Arizona (Arizona Administrative Code, Title 18, Chapter 11).

2. The following language is added to Part II section D:

Part II. Notification Requirements

*   *   *   *   *

D. Where to Submit

Notices of Intent shall also be submitted to the State of Arizona Department of Environmental Quality at the following address: Storm Water Coordinator, Arizona Department of Environmental Quality, 3033 N. Central Avenue, Phoenix, Arizona 85012.

NOIs submitted to the State of Arizona shall include the well registration number if storm water associated with industrial activity is discharged to a dry well or an injection well.

3. The following language is added to Part IV section E.2:

Part IV. Storm Water Pollution Prevention Plans

*   *   *   *   *

E. Special Pollution Prevention Plan Requirements

*   *   *   *   *

2. *Additional Requirements for Storm Water Discharges Associated With Industrial Activity From Facilities Subject to EPCRA Section 313 Requirements*

*   *   *   *   *

e. SARA Section 313 (Community Right to Know) Facilities shall have the following requirement:

Liquid storage areas for Section 313 water priority chemicals shall be operated to minimize discharges of Section 313 chemicals. Appropriate measures to minimize discharges of Section 313 chemicals shall include secondary containment provided for at least the entire contents of the largest tank plus sufficient freeboard to allow for the *25-year, 24-hour precipitation event,* a strong spill contingency and integrity testing plan, and/or other equivalent measures.

4. Part IV. Section E is amended by the addition of the following:

Part IV. Storm Water Pollution Prevention Plans

*   *   *   *   *

E. Special Pollution Prevention Plan Requirements

*   *   *   *   *

5. Delineation of Facility Areas Below Base Elevation

All facilities with any portion of the facility that is located at or below the Base Elevation shall delineate on the site map those portions of the facility that are located at or below the Base Elevation.

5. The following language is added to Part VI section B.2:

Part VI. Monitoring and Reporting Requirements

*   *   *   *   *

B. Reporting: Where to Submit

*   *   *   *   *

2. *Additional Notification.* Facilities subject to monitoring and reporting requirements shall also submit Discharge Monitoring Report Form(s) and other required monitoring information to the State of Arizona Department of Environmental Quality at the following address: Storm

Water Coordinator/DMR, Arizona Department of Environmental Quality, 3033 N. Central Avenue, Phoenix, Arizona 85012.

6. The following is added to Part IX section B:

Part IX. Termination of Coverage

* * * * *

B. Addresses

Notices of Termination shall also be submitted to the State of Arizona Department of Environmental Quality at the following address: Storm Water Coordinator, Arizona Department of Environmental Quality, 3033 N. Central Avenue, Phoenix, Arizona 85012.

7. The following definitions are added to Part X of the permit:

Part X. Definitions

''*Significant Sources of Non-Storm Water*''—includes, but is not limited to discharges which could cause or contribute to violations of water quality standards of the State of Arizona, and discharges which could include releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (see 40 CFR 110.10 and CFR 117.21) or Section 102 of CERCLA (see CFR 302.4).

''*Base Elevation*''—elevation of a surface waterbody having a one percent chance of being equaled or exceeded during any given year.

Region X

F. Washington (WAR05###)*

Washington 401 certification special permit conditions revise the permit as follows:

1. Part I section B is amended by the addition of the following:

Part I. Coverage Under This Permit

* * * * *

B. Eligibility

* * * * *

8. Compliance with Washington Water Quality and Sediment Standards

Discharges authorized by this permit shall not cause or contribute to a violation of any applicable water quality standard of the State of Washington, specifically Chapter 173–201A WAC Surface Water Quality Standards, Chapter 173–204 WAC Sediment Standards, and the National Toxics Rule for human health related to water quality standards.

Addendum A—Pollutants Identified in Tables II and III of Appendix D of 40 CFR Part 122

Table II.—Organic Toxic Pollutants in Each of Four Fractions in Analysis by Gas Chromatography/Mass Spectroscopy (GS/MS)

Volatiles

1V acrolein
2V acrylonitrile
3V benzene
5V bromoform
6V carbon tetrachloride
7V chlorobenzene
8V chlorodibromomethane
9V chloroethane
10V 2-chloroethylvinyl ether
11V chloroform
12V dichlorobromomethane
14V 1,1-dichloroethane
15V 1,2-dichloroethane
16V 1,1-dichloroethylene
17V 1,2-dichloropropane
18V 1,3-dichloropropylene
19V ethylbenzene
20V methyl bromide
21V methyl chloride
22V methylene chloride
23V 1,1,2,2-tetrachloroethane
24V tetrachloroethylene
25V toluene
26V 1,2-trans-dichloroethylene
27V 1,1,1-trichloroethane
28V 1,1,2-trichloroethane
29V trichloroethylene
31V vinyl chloride

Acid Compounds

1A 2-chlorophenol
2A 2,4-dichlorophenol
3A 2,4-dimethylphenol
4A 4,6-dinitro-o-cresol
5A 2,4-dinitrophenol
6A 2-nitrophenol
7A 4-nitrophenol
8A p-chloro-m-cresol
9A pentachlorophenol
10A phenol
11A 2,4,6-trichlorophenol

Base/Neutral

1B acenaphthene
2B acenaphthylene
3B anthracene
4B benzidine
5B benzo(a)anthracene
6B benzo(a)pyrene
7B 3,4-benzofluoranthene
8B benzo(ghi)perylene
9B benzo(k)fluoranthene
10B bis(2-chloroethoxy)methane
11B bis(2-chloroethyl)ether
12B bis(2-chloroisopropyl)ether
13B bis (2-ethylhexyl)phthalate
14B 4-bromophenyl phenyl ether
15B butylbenzyl phthalate
16B 2-chloronaphthalene
17B 4-chlorophenyl phenyl ether
18B chrysene
19B dibenzo(a,h)anthracene
20B 1,2-dichlorobenzene
21B 1,3-dichlorobenzene
22B 1,4-dichlorobenzene
23B 3,3'-dichlorobenzidine
24B diethyl phthalate
25B dimethyl phthalate
26B di-n-butyl phthalate
27B 2,4-dinitrotoluene
28B 2,6-dinitrotoluene
29B di-n-octyl phthalate
30B 1,2-diphenylhydrazine (as azobenzene)
31B fluroranthene
32B fluorene
33B hexachlorobenzene
34B hexachlorobutadiene
35B hexachlorocyclopentadiene
36B hexachloroethane
37B indeno(1,2,3-cd)pyrene
38B isophorone
39B napthalene
40B nitrobenzene
41B N-nitrosodimethylamine
42B N-nitrosodi-n-propylamine
43B N-nitrosodiphenylamine
44B phenanthrene
45B pyrene
46B 1,2,4-trichlorobenzene

Pesticides

1P aldrin
2P alpha-BHC
3P beta-BHC
4P gamma-BHC
5P delta-BHC
6P chlordane
7P 4,4'-DDT
8P 4,4'-DDE
9P 4,4'-DDD
10P dieldrin
11P alpha-endosulfan
12P beta-endosulfan
13P endosulfan sulfate
14P endrin
15P endrin aldehyde
16P heptachlor
17P heptachlor epoxide
18P PCB-1242
19P PCB-1254
20P PCB-1221
21P PCB-1232
22P PCB-1248
23P PCB-1260
24P PCB-1016
25P toxaphene

Table III.—Other Toxic Pollutants (Metals and Cyanide) and Total Phenols

Antimony, Total
Arsenic, Total
Beryllium, Total
Cadmium, Total
Chromium, Total
Copper, Total
Lead, Total
Mercury, Total
Nickel, Total
Selenium, Total
Silver, Total
Thallium, Total
Zinc, Total
Cyanide, Total
Phenols, Total

Table V.—Toxic Pollutants and Hazardous Substances Required To Be Identified by Existing Dischargers if Expected To Be Present

Toxic Pollutants

Asbestos

Hazardous Substances

Acetaldehyde
Allyl alcohol
Allyl chloride
Amyl acetate
Aniline
Benzonitrile
Benzyl chloride
Butyl acetate
Butylamine
Captan
Carbaryl
Carbofuran
Carbon disulfide
Chlorpyrifos

Coumaphos
Cresol
Crotonaldehyde
Cyclohexane
2,4-D (2,4-Dichlorophenoxy acetic acid)
Diazinon
Dicamba
Dichlobenil
Dichlone
2,2-Dichloropropionic acid
Dichlorvos
Diethyl amine
Dimethyl amine
Dintrobenzene
Diquat
Disulfoton
Diuron
Epichlorohydrin
Ethion
Ethylene diamine
Ethylene dibromide
Formaldehyde
Furfural
Guthion
Isoprene
Isopropanolamine Dodecylbenzenesulfonate
Kelthane
Kepone
Malathion
Mercaptodimethur
Methoxychlor
Methyl mercaptan
Methyl methacrylate
Methyl parathion
Mevinphos
Mexacarbate
Monoethyl amine
Monomethyl amine
Naled
Napthenic acid
Nitrotoluene
Parathion
Phenosulfanate
Phosgene
Propargite
Propylene oxide
Pyrethrins
Quinoline
Resorcinol
Strontium
Strychnine
Styrene
2,4,5-T (2,4,5-Trichlorophenoxy acetic acid)
TDE (Tetrachlorodiphenylethane)
2,4,5-TP [2-(2,4,5-Trichlorophenoxy) propanoic acid]
Trichlorofan
Triethanolamine dodecylbenzenesulfonate
Triethylamine
Trimethylamine
Uranium
Vanadium
Vinyl acetate
Xylene
Xylenol
Zirconium

BILLING CODE 6560–50–P

THIS FORM REPLACES PREVIOUS FORM 3510-6 (8-92)
See Reverse for Instructions

Form Approved. OMB No. 2040-0086
Approval expires: 8-31-98

NPDES FORM

EPA

United States Environmental Protection Agency
Washington, DC 20460

Notice of Intent (NOI) for Storm Water Discharges Associated with Industrial Activity Under a NPDES General Permit

Submission of this Notice of Intent constitutes notice that the party identified in Section II of this form intends to be authorized by a NPDES permit issued for storm water discharges associated with industrial activity in the State identified in Section III of this form. Becoming a permittee obligates such discharger to comply with the terms and conditions of the permit. ALL NECESSARY INFORMATION MUST BE PROVIDED ON THIS FORM.

I. Permit Selection: You must indicate the NPDES Storm Water general permit under which you are applying for coverage. Check one of these.

Baseline Industrial ☐ Baseline Construction ☐ Multi-Sector (Group Permit) ☐

II. Facility Operator Information

Name: ______ Phone: ______

Address: ______ Status of Owner/Operator: ☐

City: ______ State: ____ ZIP Code: ______

III. Facility/Site Location

Name: ______ Is the facility located on Indian Lands? (Y or N) ☐

Address: ______

City: ______ State: ____ ZIP Code: ______

Latitude: ______ Longitude: ______ Quarter: ____ Section: ____ Township: ______ Range: ______

IV. Site Activity Information

MS4 Operator Name: ______

Receiving Water Body: ______

If you are filing as a co-permittee, enter storm water general permit number: ______

SIC or Designated Activity Code: Primary: ______ 2nd: ______

Is the facility required to submit monitoring data? (1, 2, 3, or 4) ☐

If You Have Another Existing NPDES Permit, Enter Permit Number: ______

Multi-Sector Permit Applicants Only:

Based on the instructions provided in Addendum H of the Multi-Sector permit, are species identified in Addendum H in proximity to the storm water discharges to be covered under this permit, or the areas of BMP construction to control those storm water discharges? (Y or N) ☐

Will construction (land disturbing activities) be conducted for storm water controls? (Y or N) ☐

Is applicant subject to and in compliance with a written historic preservation agreement? (Y or N) ☐

V. Additional Information Required for Construction Activities Only

Project Start Date: ______ Completion Date: ______ Estimated Area to be Disturbed (in Acres): ______

Is the Storm Water Pollution Prevention Plan in compliance with State and/or Local sediment and erosion plans? (Y or N) ☐

VI. Certification: The certification statement in Box 1 applies to all applicants.
The certification statement in Box 2 applies only to facilities applying for the Multi-Sector storm water general permit.

BOX 1

ALL APPLICANTS:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

BOX 2

MULTI-SECTOR STORM WATER GENERAL PERMIT APPLICANTS ONLY:

I certify under penalty of law that I have read and understand the Part I.B. eligibility requirements for coverage under the Multi-Sector storm water general permit, including those requirements relating to the protection of species identified in Addendum H.

To the best of my knowledge, the discharges covered under this permit, and construction of BMPs to control storm water run-off, are not likely to and will not likely adversely affect any species identified in Addendum H of the Multi-Sector storm water general permit or are otherwise eligible for coverage due to previous authorization under the Endangered Species Act.

To the best of my knowledge, I further certify that such discharges, and construction of BMPs to control storm water run-off, do not have an effect on properties listed or eligible for listing on the National Register of Historic Places under the National Historic Preservation Act, or are otherwise eligible for coverage due to a previous agreement under the National Historic Preservation Act.

I understand that continued coverage under the Multi-Sector general permit is contingent upon maintaining eligibility as provided for in Part I.B.

Print Name: ______ Date: ______

Signature: ______

EPA Form 3510-6 (8-98)

Instructions - EPA Form 3510-6
Notice Of Intent (NOI) For Storm Water Discharges Associated With Industrial Activity
To Be Covered Under a NPDES General Permit

Who Must File A Notice Of Intent (NOI) Form

Federal law at 40 CFR Part 122 prohibits point source discharges of storm water associated with industrial activity to a water body(ies) of the U.S. without a National Pollutant Discharge Elimination System (NPDES) permit. The operator of an industrial activity that has such a storm water discharge must submit a NOI to obtain coverage under a NPDES Storm Water General Permit. If you have questions about whether you need a permit under the NPDES Storm Water program, or if you need information as to whether a particular program is administered by EPA or a state agency, telephone or write to the Notice of Intent Processing Center at (703) 931-3230.

Where To File NOI Form

NOIs must be sent to the following address: Storm Water Notice of Intent (4203)
401 M Street, S.W.
Washington, DC 20460

Completing The Form

You must type or print, using upper-case letters, in the appropriate areas only. Please place each character between the marks. Abbreviate if necessary to stay within the number of characters allowed for each item. Use one space for breaks between words, but not for punctuation marks unless they are needed to clarify your response. If you have any questions on this form, call the Notice of Intent Processing Center at (703) 931-3230.

Section I Permit Selection

You **must** indicate the NPDES storm water general permit under which you are applying for coverage. Check one box only. The Baseline Industrial and Baseline Construction permits were issued in September 1992. The Multi-Sector Permit became effective October 1, 1995.

Section II Facility Operator Information

Provide the legal name of the person, firm, public organization, or any other entity that operates the facility or site described in this application. The name of the operator may or may not be the same as the name of the facility. The responsible party is the legal entity that controls the facility's operation, rather than the plant or site manager. Do not use a colloquial name. Enter the complete address and telephone number of the operator.

Enter the appropriate letter to indicate the legal status of the operator of the facility: F = Federal; S = State; M = Public (other than federal or state); P = Private.

Section III Facility/Site Location Information

Enter the facility's or site's official or legal name and complete street address, including city, state, and ZIP code. If the facility or site lacks a street address, indicate the state and either the latitude and longitude of the facility to the nearest 15 seconds or the quarter, section, township, and range (to the nearest quarter section) of the approximate center of the site. Do not provide a P.O. Box number as the street address.

Indicate whether the facility is located on Indian lands.

Section IV Site Activity Information

If the storm water discharges to a municipal separate storm sewer system (MS4), enter the name of the operator of the MS4 (e.g., municipality name, county name) and the receiving water of the discharge from the MS4. (A MS4 is defined as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that is owned or operated by a state, city, town, borough, county, parish, district, association, or other public body which is designed or used for collecting or conveying storm water.)

If the facility discharges storm water directly to receiving water(s), enter the name of the receiving water(s).

If you are filing as a co-permittee and a storm water general permit number has been issued, enter that number in the space provided.

Indicate the monitoring status of the facility. Refer to the permit for information on monitoring requirements. Indicate the monitoring status by entering one of the following:

1 = Not subject to monitoring requirements under the conditions of the permit.
2 = Subject to monitoring requirements and required to submit data.
3 = Subject to monitoring requirements but not required to submit data.
4 = Subject to monitoring requirements but submitting certification for monitoring exclusion.

List, in descending order of significance, up to two 4-digit standard industrial classification (SIC) codes that best describe the principal products or services provided at the facility or site identified in Section III of this application. If you are applying for coverage under the construction general permit, enter "CO" (which represents SIC codes 1500 - 1799).

For industrial activities defined in 40 CFR 122.26(b)(14)(i)-(xi) that do not have SIC codes that accurately describe the principal products produced or services provided, use the following 2-character codes.

HZ = Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under subtitle C of RCRA [40 CFR 122.26 (b)(14)(iv)];
LF = Landfills, land application sites, and open dumps that receive or have received any industrial wastes, including those that are subject to regulation under subtitle D of RCRA [40 CFR 122.26 (b)(14)(v)];
SE = Steam electric power generating facilities, including coal handling sites [40 CFR 122.26 (b)(14)(vii)];
TW = Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage [40 CFR 122.26 (b)(14)(ix)]; or,
CO = Construction activities [40 CFR 122.26 (b)(14)(x)].

If there is another NPDES permit presently issued for the facility or site listed in Section III, enter the permit number. If an application for the facility has been submitted but no permit number has been assigned, enter the application number.

Facilities applying for coverage under the Multi-Sector storm water general permit must answer the last three questions in Section IV. Refer to Addendum H of the Multi-Sector general permit for a list of species that are either proposed or listed as threatened or endangered. "BMP" means "Best Management Practices" that are used to control storm water discharges.

Indicate whether any construction will be conducted to install or develop storm water runoff controls.

Section V Additional Information Required for Construction Activities Only

Construction activities must complete Section V in addition to Sections I through IV. Only construction activities need to complete Section V.

Enter the project start date and the estimated completion date for the entire development plan.

Provide an estimate of the total number of acres of the site on which soil will be disturbed (round to the nearest acre).

Indicate whether the storm water pollution prevention plan for the site is in compliance with approved state and/or local sediment and erosion plans, permits, or storm water management plans.

Section VI Certification

Federal statutes provide for severe penalties for submitting false information on this application form. Federal regulations require this application to be signed as follows:

For a corporation: by a responsible corporate officer, which means: (i) president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions, or (ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

For a partnership or sole proprietorship: by a general partner or the proprietor; or

For a municipality, state, Federal, or other public facility: by either a principal executive officer or ranking elected official.

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 0.5 hours per application, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate, any other aspect of the collection of information, or suggestions for improving this form, including any suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, 2136, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460, or Director, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

THIS FORM REPLACES PREVIOUS FORM 3510-7 (8-92)
Please See Instructions Before Completing This Form

Form Approved. OMB No. 2040-0086
Approval expires: 8-31-98

NPDES FORM

EPA

United States Environmental Protection Agency
Washington, DC 20460

Notice of Termination (NOT) of Coverage Under a NPDES General Permit for Storm Water Discharges Associated with Industrial Activity

Submission of this Notice of Termination constitutes notice that the party identified in Section II of this form is no longer authorized to discharge storm water associated with industrial activity under the NPDES program. ALL NECESSARY INFORMATION MUST BE PROVIDED ON THIS FORM.

I. Permit Information

NPDES Storm Water General Permit Number: ______

Check Here if You are No Longer the Operator of the Facility: ☐

Check Here if the Storm Water Discharge is Being Terminated: ☐

II. Facility Operator Information

Name: ______ Phone: ______

Address: ______

City: ______ State: ______ ZIP Code: ______

III. Facility/Site Location Information

Name: ______

Address: ______

City: ______ State: ______ ZIP Code: ______

Latitude: ______ Longitude: ______ Quarter: ______ Section: ______ Township: ______ Range: ______

IV. Certification:

I certify under penalty of law that all storm water discharges associated with industrial activity from the identified facility that are authorized by a NPDES general permit have been eliminated or that I am no longer the operator of the facility or construction site. I understand that by submitting this Notice of Termination, I am no longer authorized to discharge storm water associated with industrial activity under this general permit, and that discharging pollutants in storm water associated with industrial activity to waters of the United States is unlawful under the Clean Water Act where the discharge is not authorized by a NPDES permit. I also understand that the submittal of this Notice of Termination does not release an operator from liability for any violations of this permit or the Clean Water Act.

Print Name: ______ Date: ______

Signature: ______

Instructions for Completing Notice of Termination (NOT) Form

Who May File a Notice of Termination (NOT) Form

Permittees who are presently covered under an EPA-issued National Pollutant Discharge Elimination System (NPDES) General Permit (including the 1995 Multi-Sector Permit) for Storm Water Dicharges Associated with Industrial Activity may submit a Notice of Termination (NOT) form when their facilities no longer have any storm water discharges associated with industrial activity as defined in the storm water regulations at 40 CFR 122.26(b)(14), or when they are no longer the operator of the facilities.

For construction activities, elimination of all storm water discharges associated with industrial activity occurs when disturbed soils at the construction site have been finally stabilized and temporary erosion and sediment control measures have been removed or will be removed at an appropriate time, or that all storm water discharges associated with industrial activity from the construction site that are authorized by a NPDES general permit have otherwise been eliminated. Final stabilization means that all soil-disturbing activities at the site have been completed, and that a uniform perennial vegetative cover with a density of 70% of the cover for unpaved areas and areas not covered by permanent structures has been established, or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.

Where to File NOT Form

Send this form to the the following address:

Storm Water Notice of Termination (4203)
401 M Street, S.W.
Washington, DC 20460

Completing the Form

Type or print, using upper-case letters, in the appropriate areas only. Please place each character between the marks. Abbreviate if necessary to stay within the number of characters allowed for each item. Use only one space for breaks between words, but not for punctuation marks unless they are needed to clarify your response. If you have any questions about this form, telephone or write the Notice of Intent Processing Center at (703) 931-3230.

EPA Form 3510-7 (8-98)

Instructions - EPA Form 3510-7
Notice of Termination (NOT) of Coverage Under The NPDES General Permit for Storm Water Discharges Associated With Industrial Activity

Section I Permit Information

Enter the existing NPDES Storm Water General Permit number assigned to the facility or site identified in Section III. If you do not know the permit number, telephone or write your EPA Regional storm water contact person.

Indicate your reason for submitting this Notice of Termination by checking the appropriate box:

If there has been a change of operator and you are no longer the operator of the facility or site identified in Section III, check the corresponding box.

If all storm water discharges at the facility or site identified in Section III have been terminated, check the corresponding box.

Section II Facility Operator Information

Give the legal name of the person, firm, public organization, or any other entity that operates the facility or site described in this application. The name of the operator may or may not be the same name as the facility. The operator of the facility is the legal entity which controls the facility's operation, rather than the plant or site manager. Do not use a colloquial name. Enter the complete address and telephone number of the operator.

Section III Facility/Site Location Information

Enter the facility's or site's official or legal name and complete address, including city, state and ZIP code. If the facility lacks a street address, indicate the state, the latitude and longitude of the facility to the nearest 15 seconds, or the quarter, section, township, and range (to the nearest quarter section) of the approximate center of the site.

Section IV Certification

Federal statutes provide for severe penalties for submitting false information on this application form. Federal regulations require this application to be signed as follows:

For a corporation: by a responsible corporate officer, which means: (i) president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions, or (ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

For a partnership or sole proprietorship: by a general partner or the proprietor; or

For a municipality, State, Federal, or other public facility: by either a principal executive officer or ranking elected official.

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 0.5 hours per application, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate, any other aspect of the collection of information, or suggestions for improving this form, including any suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, 2136, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460, or Director, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

BILLING CODE 6560–50–C

ADDENDUM D.—PARTIAL LIST OF LARGE, MEDIUM, AND DESIGNATED MUNICIPALITIES

[Incorporated Places]

State	Place name
Alaska	Anchorage city.*
Alabama	Adamsville city.
	Alabaster city.
	Bessemer city.
	Birmingham city.*
	Brighton city.
	Brookside town.
	Chickasaw city.
	Creola city.
	Daphne city.
	Fairfield city.
	Fairhope city.
	Fultondale city.
	Gardendale city.
	Graysville city.
	Helena city.
	Homewood city.
	Hoover city.
	Hueytown city.
	Huntsville city.*
	Indian Springs.
	Irondale city.
	Leeds city.
	Lipscomb city.
	Madison city.
	Maytown town.
	Midfield city.
	Mobile city.*
	Montgomery city.*
	Moody town.
	Mountain Brook city.
	Mulga town.
	Pelham city.
	Pleasant Grove city.
	Prichard city.
	Saraland city.
	Satsuma city.
	Tarrant city.
	Trussville city.
	Vestavia Hills city.
Arkansas	Little Rock city.*
Arizona	Glendale city.†
	Mesa city.*
	Phoenix city.*
	Scottsdale city.†
	Tempe city.*
	Tucson city.*
California	Agoura Hills city.
	Alameda city.
	Albany city.
	Alhambra city.
	Anaheim city.*
	Arcadia city.
	Artesia city.
	Atherton town.
	Azusa city.
	Bakersfield city.*
	Baldwin Park city.
	Bell city.
	Bellflower city.
	Bell Gardens city.
	Belmont city.
	Berkeley city.*
	Beverly Hills city.
	Big Bear Lake city.
	Bradbury city.
	Brentwood city.
	Brisbane city.
	Burbank city.
	Burlingame city.
	Camarillo city.
	Campbell city.
	Carlsbad city.
	Carson city.
	Cerritos city.
	Chula Vista city.
	Claremont city.
	Clayton city.
	Colma town.
	Commerce city.
	Compton city.
	Concord city.
	Contra Costa county (15 cities).
	Coronado city.
	Covina city.
	Cudahy city.
	Culver City city.
	Cupertino city.
	Daly City city.
	Del Mar city.
	Diamond Bar city.
	Downey city.
	Duarte city.
	Dublin city.
	East Palo Alto city.
	El Cajon city.
	El Monte city.
	El Segundo city.
	Emeryville city.
	Encinitas city.
	Escondido city.
	Fairfield city.
	Fillmore city.
	Folsom city.
	Foster City city.
	Fremont city.*
	Fresno city.*
	Fullerton city.*
	Galt city.
	Gardena city.
	Garden Grove city.*
	Gilroy city.
	Glendale city.*
	Glendora city.
	Half Moon Bay city.
	Hawaiian Gardens city.
	Hawthorne city.
	Hayward city.†
	Hermosa Beach city.
	Hidden Hills city.
	Hillsborough town.
	Huntington Beach city.*
	Huntington Park city.
	Imperial Beach city.
	Industry city.
	Inglewood city.†
	Irvine city.†
	Irwindale city.
	La Canada Flintridge city.
	Laguna Beach city.
	Lake Tahoe Basin (1 city)
	Lakewood city.
	La Mesa city.
	La Mirada city.
	La Palma city.
	La Puente city.
	La Verne city.
	Lawndale city.
	Lemon Grove city.
	Livermore city.
	Lomita city.
	Long Beach city.*
	Los Alamitos city.
	Los Altos city.
	Los Altos Hills town.
	Los Angeles city.*
	Los Gatos town.
	Lynwood city.
	Manhattan Beach city.
	Maywood city.
	Menlo Park city.
	Millbrae city.
	Milpitas city.
	Modesto city.*
	Monrovia city.
	Montebello city.
	Monterey Park city.
	Monte Sereno city.
	Moorpark city.
	Moreno Valley city.†
	Mountain View city.
	National City city.
	Newark city.
	Norwalk city.
	Oakland city.*
	Oceanside city.†
	Ojai city.
	Ontario city.†
	Orange city.†
	Orange county (17 cities).
	Oxnard city.*
	Pacifica city.
	Palo Alto city.
	Palos Verdes Estates city.
	Paramount city.
	Pasadena city.*
	Pico Rivera city.
	Piedmont city.
	Pleasanton city.
	Pomona city.†
	Port Hueneme city.
	Poway city.
	Rancho Cucamonga city.†
	Rancho Palos Verdes city.
	Redondo Beach city.
	Redwood City city.
	Riverside city.*
	Riverside county (10 cities).
	Rolling Hills city.
	Rolling Hills Estates city.
	Rosemead city.
	Sacramento city.*
	Salinas city.†

ADDENDUM D.—PARTIAL LIST OF LARGE, MEDIUM, AND DESIGNATED MUNICIPALITIES—Continued

[Incorporated Places]

State	Place name
	San Bernardino city.*
	San Bernardino county (13 cities).
	San Bruno city.
	San Carlos city.
	San Diego city.*
	San Dimas city.
	San Fernando city.
	San Gabriel city.
	San Jose city.*
	San Leandro city.
	San Marcos city.
	San Marino city.
	San Mateo city.
	Santa Ana city.*
	Santa Clara.
	Santa Clarita city.†
	Santa Fe Springs city.
	Santa Monica city.
	Santa Paula city.
	Santa Rosa city.†
	Santee city.
	Saratoga city.
	Seal Beach city.
	Sierra Madre city.
	Signal Hill city.
	Simi Valley city.†
	Solana Beach city.
	South El Monte city.
	South Gate city.
	South Pasadena city.
	South San Francisco city.
	Stockton city.*
	Suisun City city.
	Sunnyvale city.*
	Temple City city.
	Thousand Oaks city†.
	Torrance city.*
	Union City city.
	Vallejo city†.
	Vernon city.
	Vista city.
	Walnut city.
	West Covina city.
	West Hollywood city.
	Westlake Village city.
	Whittier city.
	Woodside town.
Colorado	Aurora city.*
	Colorado Springs city.*
	Denver city.*
	Englewood city.
	Lakewood city.*
	Pueblo city.
Connecticut	Stamford city.*
District of Columbia	Washington city.*
Delaware	Arden village.
	Ardencroft village.
	Ardentown village.
	Bellefonte town.
	Delaware City city.
	Elsmere town.
	Middletown town.
	Newark city.
	New Castle city.
	Newport town.
	Odessa town.
	Townsend town.
	Wilmington city.
Florida	Apopka city.
	Atlantic Beach city.
	Atlantis city.
	Auburndale city.
	Bal Harbour village.
	Bartow city.
	Bay Harbor Islands town.
	Bay Lake city.
	Belleair town.
	Belleair Beach city.
	Belleair Bluffs city.
	Belle Glade city.
	Belle Isle city.
	Boca Raton city.
	Boynton Beach city.
	Briny Breezes town.
	Century town.
	Clearwater city.
	Cloud Lake town.
	Coconut Creek city.
	Cooper City city.
	Coral Gables city.
	Coral Springs city.
	Dania city.
	Davenport city.
	Davie town.
	Deerfield Beach city.
	Delray Beach city.
	Dundee town.
	Dunedin city.
	Eagle Lake city.
	Eatonville town.
	Edgewood city.
	Fort Lauderdale city.*
	Fort Meade city.
Florida	Frostproof city
	Glen Ridge town.
	Golden Beach town.
	Golf village.
	Golfview town.
	Greenacres City city.
	Gulfport city.
	Gulf Stream town.
	Haines City city.
	Hallandale city.
	Haverhill town.
	Hialeah city.*
	Hialeah Gardens city.
	Highland Beach town.
	Highland Park village.
	Hillcrest Heights town.
	Hollywood city.*
	Homestead city.
	Hypoluxo town.
	Indian Creek village.
	Indian Rocks Beach city.
	Jacksonville Beach city.
	Jacksonville city.*
	Juno Beach town.
	Jupiter town.
	Jupiter Inlet Colony town.
	Key Biscayne village.
	Kenneth City town.
	Lake Alfred city.
	Lake Buena Vista city.
	Lake Clarke Shores town.
	Lake Hamilton town.
	Lakeland city.
	Lake Park town.
	Lake Wales city.
	Lake Worth city.
	Lantana town.
	Largo city.
	Lauderdale-by-the-Sea town.
	Lauderdale Lakes city.
	Lauderhill city.
	Lighthouse Point city.
	Longboat Key town.
	Madeira Beach city.
	Maitland city.
	Manalapan town.
	Mangonia Park town.
	Margate city.
	Medley town.
	Miami city.*
	Miami Beach city.
	Miami Shores village.
	Miami Springs city.
	Miramar city.
	Mulberry city.
	Neptune Beach city.
	North Bay Village city.
	North Lauderdale city.
	North Miami city.
	North Miami Beach city.
	North Palm Beach village.
	North Port city.
	North Redington Beach town.
	Oakland Park city.
	Ocean Ridge town.
	Ocoee city.
	Oldsmar city.
	Opa-locka city.
	Orlando city.*
	Pahokee city.
	Palm Beach town.
	Palm Beach Gardens city.
	Palm Beach Shores town.
	Palm Springs village.
	Parkland city.
	Pembroke Park town.
	Pembroke Pines city.
	Pennsuee
	Pensacola city.
	Pinellas Park city.
	Plantation city.
	Plant City city.
	Polk City town.
	Pompano Beach city.
	Redington Beach town.

ADDENDUM D.—PARTIAL LIST OF LARGE, MEDIUM, AND DESIGNATED MUNICIPALITIES—Continued

[Incorporated Places]

State	Place name
	Redington Shores town.
	Riviera Beach city.
	Royal Palm Beach village.
	Safety Harbor city.
	St. Petersburg Beach city.
	St. Petersburg city.*
	Sarasota city.
	Sea Ranch Lakes village.
	Seminole city.
	South Bay city.
	South Miami city.
	South Palm Beach town.
	South Pasadena city.
	Sunrise city.
	Surfside town.
	Sweetwater city.
	Tallahassee city.†
	Tamarac city.
	Tampa city.*
	Tarpon Springs city.
	Temple Terrace city.
	Tequesta village.
	Treasure Island city.
	Venice city.
	West Miami city.
	West Palm Beach city.
	Wilton Manors city.
	Winter Garden city.
	Winter Haven city.
	Winter Park city.
Georgia	Acworth city.
	Alpharetta city.
	Atlanta city.*
	Austell city.
	Bloomingdale city.
	Buford city.
	Chamblee city.
	Clarkston city.
	College Park city.
	Columbus city.*
	Decatur city.
	Doraville city.
	Duluth city.
	East Point city.
	Fairburn city.
	Forest Park city.
	Garden City city.
	Hapeville city.
	Jonesboro city.
	Kennesaw city.
	Lawrenceville city.
	Lilburn city.
	Lithonia city.
	Macon city.*
	Marietta city.
	Morrow city.
	Norcross city.
	Palmetto city.
	Payne city.
	Pooler city.
	Powder Springs city.
	Riverdale city.
	Roswell city.
	Savannah city.*
	Smyrna city.
	Snellville city
	Stone Mountain city.
	Sugar Hill city.
	Suwanee city.
	Thunderbolt town.
	Union City city.
Iowa	Cedar Rapids city.*
	Davenport city.
	Des Moines city.*
Idaho	Boise City city.*
	Garden City city.
Illinois	Rockford city.*
	Springfield city.†
Indiana	Fort Wayne city.*
	Indianapolis city.*
Kansas	Kansas City city.*
	Overland Park city.†
	Topeka city.*
	Wichita city.*
Kentucky	Lexington-Fayette.*
	Louisville city.*
Louisiana	Baton Rouge city.*
	New Orleans city.*
	Shreveport city.*
Massachusetts	Boston city.*
	Worcester city.*
Maryland	Baltimore city.*
Michigan	Ann Arbor city.*
	Flint city.*
	Grand Rapids city.*
	Sterling Heights city.*
	Warren city.*
Minnesota	Minneapolis city.*
	St. Louis Park city.
	St. Paul city.*
Missouri	Independence city.*
	Kansas City city.*
	Springfield city.*
Mississippi	Jackson city.*
Nebraska	Lincoln city.*
	Omaha city.*
New Mexico	Albuquerque city.*
Nevada	Henderson city.
	Las Vegas city.*
	North Las Vegas city.
	Reno city.*
	Sparks city.
New York	New York city.*
	(Bronx Borough).
	(Brooklyn Borough).
	(Manhattan Borough).
	(Queens Borough).
	(Staten Island Borough).
North Carolina	Charlotte city.*
	Durham city.*
	Fayetteville city.
	Greensboro city.*
	Raleigh city.*
	Winston-Salem city.*
Ohio	Akron city.*
	Cincinnati city.*
	Cleveland city.*
	Columbus city.*
	Dayton city.*
	Toledo city.*
Oklahoma	Oklahoma City city.*
	Tulsa city.*
Oregon	Banks city.
	Barlow city.
	Beaverton city.
	Canby city.
	Cornelius city.
	Durham city.
	Estacada city.
	Eugene city.*
	Fairview city.
	Forest Grove city.
	Gaston city.
	Gladstone city.
	Gresham city.
	Happy Valley city.
	Hillsboro city.
	Johnson City city.
	King City city.
	Lake Oswego city.
	Milwaukie city.
	Molalla city.
	North Plains city.
	Oregon City city.
	Portland city.*
	Rivergrove city.
	Salem city.†
	Sandy city.
	Sherwood city.
	Tigard city
	Tualatin city.
	West Linn city.
	Wilsonville city.
Pennsylvania	Allentown city.*
	Philadelphia city.*
South Dakota	Sioux Falls City.
Tennessee	Bartlett town.
	Belle Meade city.
	Berry Hill city.
	Chattanooga city.*
	Collierville town.
	East Ridge city.
	Forest Hills city.
	Germantown city.
	Goodlettsville city.
	Knoxville city.*
	Lakewood city.
	Memphis city.*
	Nashville-Davidson.*
	Oak Hill city.
	Red Bank city.
	Ridgetop town.
Texas	Abilene city.†
	Amarillo city.*
	Arlington city.*
	Austin city.*
	Beaumont city.*
	Corpus Christi city.*
	Dallas city.*
	El Paso city.*
	Fort Worth city.*
	Garland city.*
	Houston city.*
	Irving city.*
	Laredo city.†
	Lubbock city.*
	Mesquite city.†

ADDENDUM D.—PARTIAL LIST OF LARGE, MEDIUM, AND DESIGNATED MUNICIPALITIES—Continued

[Incorporated Places]

State	Place name
	Pasadena city.*
	Plano city.†
	San Antonio city.*
	Waco city.*
Utah	Salt Lake City city.*
Virginia	Chesapeake city.*
	Hampton city.*
	Newport News city.*
	Norfolk city.*
	Portsmouth city.*
	Richmond city.*
	Roanoke city.
	Virginia Beach city.*
Washington	Seattle city.*
	Tacoma city.*
Wisconsin	Madison city.*
	Milwaukee city.*

Note: Unless indicated otherwise, municipalities have been designated.

* Identified in November 1990 rule.

† 1990 Census population increased to over 100,000.

PARTIAL LIST OF LARGE, MEDIUM, AND DESIGNATED MUNICIPALITIES

[Counties]

State	County
Alabama	Baldwin county.[1]
	Jefferson county.[6]
	Mobile county.[7]
	Shelby county.[8]
	St. Clair county.[9]
Arizona	Pima County.*
California	Alameda County.*
	Contra Costa County.*
	Kern County.*
	Lake Tahoe Basin.*
	(2 counties).
	Los Angeles County.*
	Orange County.*
	Riverside County.*
	Sacramento County.
	San Bernardino County.*
	San Diego County.*
	San Mateo County.
	Santa Clara County.
	Ventura County.
Colorado	Arapahoe County.†
Delaware	New Castle County.*
Florida	Broward County.*
	Dade County.*
	Escambia County.*
	Hillsborough County.*
	Lee County.†
	Manatee County.†
	Orange County.*
	Palm Beach County.*
	Pasco County.†
	Pinellas County.*
	Polk County.*
	Sarasota County.*
	Seminole County.†
Georgia	Bibb County.
	Chatham County.
	Clayton County.*
	Cobb County.*
	DeKalb County.*
	Fulton County.†
	Gwinnett County.†
	Muscogee County.
	Richmond County.*
Hawaii	Honolulu County.*
Kentucky	Jefferson County.
Louisiana	East Baton Rouge Parish.†
	Jefferson Parish.*
Maryland	Anne Arundel County.*
	Baltimore County.*
	Carroll County.
	Charles County.
	Frederick County.
	Harford County.
	Howard County.†
	Montgomery County.*
	Prince George's County.*
	Washington County.
North Carolina	Cumberland County.*
Nevada	Clark County.*
	Washoe County.
Oregon	Clackamas County.
	Multnomah County.
	Washington County.*
South Carolina	Greenville County.*
	Richland County.*
Texas	Harris County.*
Utah	Salt Lake County.*
Virginia	Arlington County.*
	Chesterfield County.*
	Fairfax County.*
	Henrico County.*
	Prince William County.†
Washington	Clark County.†
	King County.*
	Pierce County.*
	Snohomish County.*
	Spokane County.†

[6] County was listed in regulation; however, population dropped below 100,000 in 1990 census.

[7] Unincorporated areas defined as: beginning at the mouth of the South Fork Deer River and extending west to SW corner Section 18, Township 6 South, Range 2 West, thence north to NW corner, Section 6, Township 2 South, Range 2 West, thence east to the Mobile County line, thence south along the county line to U.S. Highway 90 bridge.

[8] All unincorporated areas of Shelby County within the drainage basin of the Cahaba River upstream of the confluence of Shoal Creek and the Cahaba River.

[9] Unincorporated areas of St. Clair County within the drainage basin of the Cahaba River.

* Identified in November 1990 rule.

† 1990 Census unincorporated, urbanized population increased to more than 100,000.

PARTIAL LIST OF LARGE, MEDIUM, AND DESIGNATED MUNICIPALITIES [BOUNDARIES NOT DEFINED BY CENSUS]

State	Municipal separate storm sewer system
Alaska	DOT.[1]
	University of Alaska.
Alabama	Highway Department.
Arizona	DOT.
California	Alameda County Flood Control District.
	Zone 7 of the Alameda County.
	Flood Control District.
	DOT.
	Coachella Valley Area.
	Contra Costa County Flood Control District.
	Orange County Flood Control District.
	Riverside Flood Control District.
	San Bernardino Flood Control District.
	San Diego Unified Port District.
	Santa Clara Valley Water District.
Colorado	DOT.
	Highway Department.
Delaware	DOT.
Florida	DOT.

PARTIAL LIST OF LARGE, MEDIUM, AND DESIGNATED MUNICIPALITIES [BOUNDARIES NOT DEFINED BY CENSUS]—Continued

State	Municipal separate storm sewer system
	Urban Water Control Districts.
Hawaii	DOT.
Idaho	DOT.
Illinois	DOT.
Indiana	DOT.
Kansas	Fairfax Drainage District.
	Kaw Valley Drainage District.
Louisiana	DOT.
Maryland	State Highway Administration.
Michigan	University of Michigan.
	DOT.
Minnesota	DOT.
North Carolina	DOT.
Nevada	Clark County Flood Control District.
	DOT.
New Mexico	Albuquerque Metropolitan Flood Control Authority.
	DOT.
Ohio	DOT.
Oklahoma	DOT.
Oregon	DOT.
	Port of Portland.
Pennsylvania	DOT.
South Carolina	Harbor of Charleston.
Tennessee	DOT.
Texas	Harris County Flood Control District.
	DOT.
Utah	DOT.
Wisconsin	DOT.
	University of Wisconsin.

[1] Department of Transportation.

Addendum E—Basic Format for Environmental Assessment

This is the basic format for the Environmental Assessment prepared by EPA from the review of the applicant's Environmental Information Document (EID) required for new source NPDES permits. Comprehensive information should be provided for those items or issues that are affected; the greater the impact, the more detailed information needed. The EID should contain a brief statement addressing each item listed below, even if the item is not applicable. The statement should at least explain why the item is not applicable.

A. General Information
1. Name of applicant
2. Type of facility
3. Location of facility
4. Product manufactured

B. Description Summaries
1. Describe the proposed facility and construction activity
2. Describe all ancillary construction not directly involved with the production processes
3. Describe briefly the manufacturing processes and procedures
4. Describe the plant site, its history, and the general area

C. Environmental Concerns
1. Historical and Archeological (include a statement from the State Historical Preservation Officer)
2. Wetlands Protection and 100-year Floodplain Management (the Army Corps of Engineers must be contacted if any wetland area of floodplain is affected)
3. Agricultural Lands (a prime farmland statement from the Soil Conservation Service must be included
4. Coastal Zone Management and Wild and Scenic Rivers
5. Endangered Species Protection and Fish and Wildlife Protection (a statement from the U.S. Fish and Wildlife Service must be included)
6. Air, Water, and Land Issues: quality, effects, usage levels, municipal services used, discharges and emissions, runoff and wastewater control, geology and soils involved, land-use compatibility, solid and hazardous waste disposal, natural and man-made hazards involved.
7. Biota concerns: floral, faunal, aquatic resources, inventories, and effects
8. Community Infrastructures available and resulting effects: social, economic, health, safety, educational, recreational, housing, transportation, and road resources

Basic Environmental Information Document Guidelines for New Source Category Industries

I. General Information

A. Name of Applicant and Proposed Facility:

B. Description of Site and Location:

C. Description of Project, Product, and Process:

ADDENDUM F—SECTION 313 WATER PRIORITY CHEMICALS

CAS No.	Common name
75–07–0	Acetaldehyde.
107–02–8	Acrolein.
107–13–1	Acrylonitrile.
309–00–2	Aldrin[1,4:5,8-Dimethanonaphthalene, 1, 2, 3, 4, 10, 10-hexachloro-1, 4, 4a, 5, 8, 8a hexahydro-(1.alpha., 4.alpha., 4a.beta., 5.alpha., 8.alpha., 8a.beta.)-].
107–05–1	Allyl Chloride.
7429–90–5	Aluminum (fume or dust).
7664–41–7	Ammonia.
62–53–3	Aniline.
120–12–7	Anthracene.
7440–36–0	Antimony.
7647189	Antimony pentachloride.
28300745	Antimony potassium tartrate.
7789619	Antimony tribromide.
10025919	Antimony trichloride.
7783564	Antimony trifluoride.
1309644	Antimony trioxide.
7440–38–2	Arsenic.
1303328	Arsenic disulfide.
1303282	Arsenic pentoxide.
7784341	Arsenic trichloride.
1327533	Arsenic trioxide.
1303339	Arsenic trisulfide.
1332–21–4	Asbestos (friable).
542621	Barium cyanide.
71–43–2	Benzene.
92–87–5	Benzidine.
100470	Benzonitrile.
218019	Benzo(a)phenanthrene.
50328	Benzo(a)pyrene.
205992	Benzo(b)fluoranthene.
205823	Benzo(j)fluoranthene.
207089	Benzo(k)fluoranthene.
189559	Benzo(rst)pentaphene.
56553	Benzo(a)anthracene.
100–44–7	Benzyl chloride.
7440–41–7	Beryllium.
7787475	Beryllium chloride.
7787497	Beryllium fluoride.
7787555	Beryllium nitrate.
111–44–4	Bis(2-chloroethyl) ether.
75–25–2	Bromoform.
74–83–9	Bromomethane (Methyl bromide).
85–68–7	Butyl benzyl phthalate.
7440–43–9	Cadmium.
543908	Cadmium acetate.
7789426	Cadmium bromide.
10108642	Cadmium chloride.
7778441	Calcium arsenate.
52740166	Calcium arsenite.
13765190	Calcium chromate.
592018	Calcium cyanide.
133–06–2	Captan [1H-Isoindole-1,3(2H)-dione,3a,4,7,7a-tetrahydro-2-[(trichloromethyl)thio]-].
63–25–2	Carbaryl [1-Naphthalenol, methylcarbamate].
75–15–0	Carbon disulfide.
1563662	Carbofuran.
56–23–5	Carbon tetrachloride.
57–74–9	Chlordane [4,7-Methanoindan,1,2,4,5,6,7,8,8- octachloro-2,3,3a,4,7,7a-hexahydro-].
7782–50–5	Chlorine.
59–50–7	4-Chloro 3-methyl phenol. *p*-Chloro-*m*-cresol.
108–90–7	Chlorobenzene.
75–00–3	Chloroethane (Ethyl chloride).
67–66–3	Chloroform.
74–87–3	Chloromethane (Methyl chloride).
95–57–8	2-Chlorophenol.
106–48–9	4-Chlorophenol.
75729	Chlorotrifluoromethane.
1066304	Chromic acetate.
11115745	Chromic acid.
10101538	Chromic sulfate.
7440–47–3	Chromium.

ADDENDUM F—SECTION 313 WATER PRIORITY CHEMICALS—Continued

CAS No.	Common name
1308–14–1	Chromium (Tri).
10049055	Chromous chloride.
7789437	Cobaltous bromide.
544183	Cobaltous formate.
14017415	Cobaltous sulfamate.
7440–50–8	Copper.
108–39–4	*m*-Cresol.
9548–7	*o*-Cresol.
106–44–5	*p*-Cresol.
4170303	Crotonaldehyde.
1319–77–3	Cresol (mixed isomers).
142712	Cupric acetate.
12002038	Cupric acetoarsenite.
7447394	Cupric chloride.
3251238	Cupric nitrate.
5893663	Cupric oxalate.
7758987	Cupric sulfate.
10380297	Cupric sulfate, ammoniated.
815827	Cupric tartrate.
57–12–5	Cyanide.
506774	Cyanogen chloride.
333415	Diazinon.
94–75–7	2,4-D [Acetic acid, (2,4-dichlorophenoxy)-].
226368	Dibenz(a,h)acridine.
224420	Dibenz(a,j)acridene.
5385751	Dibenzo(a,e)fluoranthene.
192654	Dibenzo(a,e)pyrene.
53703	Dibenzo(a,h)anthracene.
189640	Dibenzo(a,l)pyrene.
191300	Dibenzo(a,h)pyrene.
194592	7,H-Dibenzo(c,g)carbazole.
106–93–4	1,2-Dibromoethane (Ethylene dibromide).
84–74–2	Dibutyl phthalate.
1929733	2,4 D Butoxyethyl ester.
94804	2,4 D Butyl ester.
2971382	2,4 D Chlorocrotyl ester.
1918009	Dicamba.
95–50–1	1,2-Dichlorobenzene.
541–73–1	1,3-Dichlorobenzene.
106–46–7	1,4-Dichlorobenzene.
91–94–1	3,3’-Dichlorobenzidine.
75–27–4	Dichlorobromomethane.
107–06–2	1,2-Dichloroethane (Ethylene dichloride).
75434	Dichlorofluoromethane.
540–59–0	1,2-Dichloroethylene.
120–83–2	2,4-Dichlorophenol.
78–87–5	1,2-Dichloropropane.
10061026	trans-1,3-Dichloropropene.
542–75–6	1,3-Dichloropropylene.
62–73–7	Dichlorvos [Phosphoric acid, 2,2-dichloroethenyl dimethyl ester].
115–32–2	Dicofol [Benzenemethanol, 4-chloro-.alpha.-(4-chlorophenyl)-.alpha.-(trichloromethyl)-].
177–81–7	Di-(2-ethylhexyl) phthalate (DEHP).
84–66–2	Diethyl phthalate.
124403	Dimethylamine.
57976	7,12-Dimethylbenz(a)anthracene.
105–67–9	2,4-Dimethylphenol.
131–11–3	Dimethyl phthalate.
534–52–1	4,6-Dinitro-*o*-cresol.
51–28–5	2,4-Dinitrophenol.
121–14–2	2,4-Dinitrotoluene.
606–20–2	2,6-Dinitrotoluene.
117–84–0	*n*-Dioctyl phthalate.
122–66–7	1,2-Diphenylhydrazine (Hydrazobenzene).
94111	2,4-D Isopropyl ester.
106–89–8	Epichlorohydrin.
1320189	2,4-D Propylene glycol butyl ether ester.
330541	Diuron.
100–41–4	Ethylbenzene.
106934	Ethylene dibromide.
50–00–0	Formaldehyde.
76–44–8	Heptachlor [1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-tetrahydro-4,7-methano-1H-indene].
118–74–1	Hexachlorobenzene.

ADDENDUM F—SECTION 313 WATER PRIORITY CHEMICALS—Continued

CAS No.	Common name
319846	alpha-Hexachlorocyclohexane.
87–68–3	Hexachloro-1,3-butadiene.
77–47–4	Hexachlorocyclopentadiene.
67–72–1	Hexachloroethane.
7647–01–0	Hydrochloric acid.
74–90–8	Hydrogen cyanide.
7664–39–3	Hydrogen fluoride.
193395	Indeno[1,2,3-cd]pyrene.
7439–92–1	Lead.
301042	Lead acetate.
7784409	Lead arsenate.
7645252	Do.
10102484	Do.
7758954	Lead chloride.
13814965	Lead fluoborate.
7783462	Lead fluoride.
10101630	Lead iodide.
10099748	Lead nitrate.
7428480	Lead stearate.
1072351	Do.
52652592	Do.
7446142	Lead sulfate.
1314870	Lead sulfide.
592870	Lead thiocyanate.
58–89–9	Lindane [Cyclohexane, 1,2,3,4,5,6-hexachloro-(1.alpha.,3.beta.,4.alpha.,5.alpha.,6.beta.)-].
14307258	Lithium chromate.
121755	Malathion.
108–31–6	Maleic anhydride.
592041	Mercuric cyanide.
10045940	Mercuric nitrate.
7783359	Mercuric sulfate.
592858	Mercuric thiocyanate.
7782867	Mercurous nitrate.
7439–97–6	Mercury.
72–43–5	Methoxychlor [Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy-].
80–62–6	Methyl methacrylate.
75865	2-Methyllactonitrile.
3697243	5-Methylchrysene.
298000	Methyl parathion.
7786347	Mevinphos.
300765	Naled.
91–20–3	Naphthalene.
7440–02–0	Nickel.
15699180	Nickel ammonium sulfate.
37211055	Nickel chloride.
7718549	Do.
12054487	Nickel hydroxide.
14216752	Nickel nitrate.
7786814	Nickel sulfate.
7697–37–2	Nitric acid.
98–95–3	Nitrobenzene.
88–75–5	2-Nitrophenol.
100–02–7	4-Nitrophenol.
5522430	1-Nitropyrene.
62–75–9	*N*-Nitrosodimethylamine.
86–30–6	*N*-Nitrosodiphenylamine.
621–64–7	*N*-Nitrosodi-*n*-propylamine.
56–38–2	Parathion [Phosphorothioic acid, O,O-diethyl-O-(4-nitrophenyl) ester].
87–86–5	Pentachlorophenol (PCP).
85018	Phenanthrene.
108–95–2	Phenol.
7664–38–2	Phosphoric acid.
7723–14–0	Phosphorus (yellow or white).
1336–36–3	Polychlorinated biphenyls (PCBs).
7784410	Potassium arsenate.
10124502	Potassium arsenite.
7778509	Potassium bichromate.
7789006	Potassium chromate.
151508	Potassium cyanide.
2312358	Propargite.
75–56–9	Propylene oxide.
91–22–5	Quinoline.

ADDENDUM F—SECTION 313 WATER PRIORITY CHEMICALS—Continued

CAS No.	Common name
7782–49–2	Selenium.
7446084	Selenium oxide.
7440–22–4	Silver.
7761888	Silver nitrate.
7631892	Sodium arsenate.
7784465	Sodium arsenite.
10588019	Sodium bichromate.
7775113	Sodium chromate.
143339	Sodium cyanide.
7632000	Sodium nitrite.
10102188	Sodium selenite.
7782823	Do.
7789062	Strontium chromate.
NA	Strychnine and salts.
100–42–5	Styrene.
7664–93–9	Sulfuric acid.
79–34–5	1,1,2,2-Tetrachloroethane.
127–18–4	Tetrachloroethylene (Perchloroethylene).
935–95–5	2,3,5,6-Tetrachlorophenol.
78002	Tetraethyl lead.
7440–28–0	Thallium.
10031591	Thallium sulfate.
108–88–3	Toluene.
8001–35–2	Toxaphene.
52–68–6	Trichlorfon [Phosphonic acid, (2,2,2-trichloro-1-hydroxyethyl)-dimethylester].
120–82–1	1,2,4-Trichlorobenzene.
71–55–6	1,1,1-Trichloroethane (Methyl chloroform).
79–00–5	1,1,2-Trichloroethane.
79–01–6	Trichloroethylene.
95–95–4	2,4,5-Trichlorophenol.
88–06–2	2,4,6-Trichlorophenol.
121448	Triethylamine.
7440–62–2	Vanadium (fume or dust).
108–05–4	Vinyl acetate.
75–01–4	Vinyl chloride.
75–35–4	Vinylidene chloride.
108–38–3	*m*-Xylene.
95–47–6	*o*-Xylene.
106–42–3	*p*-Xylene.
1330–20–7	Xylene (mixed isomers).
7440–66–6	Zinc (fume or dust).
557346	Zinc acetate.
14639975	Zinc ammonium chloride.
14639986	Do.
52628258	Do.
1332076	Zinc borate.
7699458	Zinc bromide.
3486359	Zinc carbonate.
7646857	Zinc chloride.
557211	Zinc cyanide.
7783495	Zinc fluoride.
557415	Zinc formate.
7779864	Zinc hydrosulfite.
7779886	Zinc nitrate.
127822	Zinc phenolsulfonate.
1314847	Zinc phosphide.
16871719	Zinc silicofluoride.
7733020	Zinc sulfate.

Addendum G—List of Applicable References

The following guidance manuals contain valuable information in assisting permittees in complying with the permit conditions of the multi-sector general permit and are available from The Office of Water Resources Center, USEPA—RC–4100, 401 M Street, SW., Washington, DC 20460, Telephone: (202) 260-7786.

Storm Water Management for Industrial Activities, Developing Pollution Prevention Plans and Best Management Practices (EPA–832–R–92–006, September 1992).

Summary: Storm Water Management for Industrial Activities, Developing Pollution Prevention Plans and Best Management Practices (October 1992).

NPDES Storm Water Sampling Guidance Document (EPA 833–B–92–001, July 1992).

Addendum H—Endangered Species Guidance

I. Instructions

Below is a list of species that EPA has determined may be affected by the activities covered by the multi-sector general permit (MSGP). These species are listed by county. In order to get MSGP coverage, applicants must:

• Indicate in box provided on the NOI whether any species listed in this Addendum are in proximity to the facility, and

• Certify pursuant to Section II.B.12 of the MSGP that their storm water discharges, and BMPs constructed to control storm water runoff, are not likely, and will not be likely to adversely affect species identified in Addendum H of this permit.

To do this, please follow steps 1 through 4 below.

Step 1: Review the County Species List to Determine if any Species are Located in the Discharging Facility County

If no species are listed in a facility's county or if a facility's county is not found on the list, an applicant is eligible for MSGP coverage and may indicate in the NOI that no species are found in proximity and provide the necessary certification. If species are located in the county, follow step 2 below. Where a facility is located in more than one county, the lists for all counties should be reviewed.

Step 2: Determine if any Species may be Found ''In Proximity'' to the Facility

A species is in proximity to a facility's storm water discharge when the species is:

• Located in the path or immediate area through which or over which contaminated point source storm water flows from industrial activities to the point of discharge into the receiving water.

• Located in the immediate vicinity of, or nearby, the point of discharge into receiving waters.

• Located in the area of a site where storm water BMPs are planned or are to be constructed.

The area in proximity to be searched/surveyed for listed species will vary with the size of the facility, the nature and quantity of the storm water discharges, and the type of receiving waters. Given the number of facilities potentially covered by the MSGP, no specific method to determine whether species are in proximity is required for permit coverage under the MSGP. Instead, applicants should use the method or methods which best allow them to determine to the best of their knowledge whether species are in proximity to their particular facility. These methods may include:

• *Conducting visual inspections:* This method may be particularly suitable for facilities that are smaller in size, facilities located in non-natural settings such as highly urbanized areas or industrial parks where there is little or no nature habitat; and facilities that discharge directly into municipal storm water collection systems. For other facilities, a visual survey of the facility site and storm water drainage areas may be insufficient to determine whether species are likely to be located in proximity to the discharge.

• *Contacting the nearest State Wildlife Agency or U.S. Fish and Wildlife Service (FWS) or National Marine Fisheries Service (NMFS) offices.* Many endangered and threatened species are found in well-defined areas or habitats. That information is frequently known to state or federal wildlife agencies. FWS has offices in every state. NMFS has regional offices in: Gloucester, Massachusetts; St. Petersburg, Florida; Long Beach, California; Portland, Oregon; and Juneau, Alaska.

• *Contacting local/regional conservation groups.* These groups inventory species and their locations and maintain lists of sightings and habitats.

• *Conducting a formal biological survey.* Larger facilities with extensive storm water discharges may choose to conduct biological surveys as the most effective way to assess whether species are located in proximity and whether there are likely adverse effects.

If no species are in proximity, an applicant is eligible for MSGP coverage and may indicate that in the NOI and provide the necessary certification. If listed species are found in proximity to a facility, applicants must follow step 3 below.

Step 3: Determine if Species Could be Adversely Affected by the Facility's Storm Water Discharges or by BMPS to Control Those Discharges

Scope of Adverse Effects: Potential adverse effects from storm water include:

• *Hydrological.* Storm water may cause siltation, sedimentation or induce other changes in the receiving waters such as temperature, salinity or pH. These effects will vary with the amount of storm water discharged and the volume and condition of the receiving water. Where a storm water discharge constitutes a minute portion of the total volume of the receiving water, adverse hydrological effects are less likely.

• *Habitat.* Storm water may drain or inundate listed species habitat.

• *Toxicity.* In some cases, pollutants in storm water may have toxic effects on listed species.

The scope of effects to consider will vary with each site. Applicants must also consider the likelihood of adverse effects on species from any BMPs to control storm water. Most adverse impact from BMPs are likely to occur from the construction activities.

Using earlier ESA authorizations for MSGP eligibility: In some cases, a facility may be eligible for MSGP coverage because actual or potential adverse affects were addressed or discounted through an earlier ESA authorization. Examples of such authorization include:

• An earlier ESA section 7 consultation for that facility.

• A section 10(a) permit issued for the facility.

• An area-wide Habitat Conservation Plan applicable to that facility.

• A clearance letter from the Services (which discounts the possibility of an adverse impact from the facility).

In order for applicants to use an earlier ESA authorization to meet eligibility requirements: (1) The authorization must adequately address impacts for storm water discharges and BMPs from the facility on endangered and threatened species, (2) it must be current because there have been no subsequent changes in facility operations or circumstances which might impact species in ways not considered in the earlier authorization, and (3) the applicant must comply with any requirements from those authorizations to avoid or mitigate adverse effects to species. Applicants who wish to pursue this approach should carefully review documentation for those authorizations ensure that the above conditions are met.

If adverse effects are not likely, an applicant is eligible for MSGP coverage and may indicate in the NOI that species are found in proximity and provide the necessary certification. If adverse effects are likely, follow step 4 below.

Step 4: Determine if Measures can be Implemented to Avoid any Adverse Effects

If an applicant determines that adverse effects are likely, it can receive coverage if appropriate measures are undertaken to avoid or eliminate any actual or potential adverse affects prior to applying for permit coverage. These measures may involve relatively simple changes to facility operations such as re-routing a storm water discharge to bypass an area where species are located.

At this stage, applicants may wish to contact the FWS and/or NMFS to see what appropriate measures might be suitable to avoid or eliminate adverse impacts to species.

If applicants adopt these measures, they must continue to abide by them during the course of permit coverage.

If appropriate measures are not available, the applicant is not eligible at that time for coverage under the MSGP. Applicants should contact the appropriate EPA regional office about either:

- Entering into Section 7 consultation in order to obtain MSGP coverage, or
- Obtaining an individual NPDES storm water permit.

II. County/Species List

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
ALASKA				
ALEUTIAN ISLANDS	BIRDS	GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia.	
ALEUTIANS EAST	BIRDS	EIDER, STELLER'S	POLYSTICTA STELLERI.	
ALEUTIANS, WEST	BIRDS	EIDER, STELLER'S	POLYSTICTA STELLERI.	
NORTH SLOPE	BIRDS	CURLEW, ESKIMO	Numenius borealis.	
ARIZONA				
APACHE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	MINNOW, LOACH	Tiaroga cobitis.	
		SPINEDACE, LITTLE COLORADO	Lepidomeda vittata.	
		TROUT, APACHE	Salmo apache.	
	PLANTS	SEDGE, NAVAJO	Carex specuicola.	
COCHISE	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	CATFISH, YAQUI	Ictalurus pricei.	
		CHUB, YAQUI	Gila purpurea.	
		PUPFISH, DESERT	Cyprinodon macularius.	
		SHINER, BEAUTIFUL	Notropis formosus.	
		TOPMINNOW, GILA (YAQUI)	Poeciliopsis occidentalis.	
COCONINO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	CHUB, HUMPBACK	Gila cypha.	
		SPINEDACE, LITTLE COLORADO	Lepidomeda vittata.	
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS.	
	PLANTS	SEDGE, NAVAJO	Carex specuicola.	
	SNAILS	AMBERSNAIL, KANAB	OXYLOMA HAYDENI KANABENSIS.	
GILA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	MINNOW, LOACH	Tiaroga cobitis.	
		SQUAWFISH, COLORADO	Ptychocheilus lucius.	
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS.	
		TOPMINNOW, GILA (YAQUI)	Poeciliopsis occidentalis.	
GRAHAM	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	MINNOW, LOACH	Tiaroga cobitis.	
		PUPFISH, DESERT	Cyprinodon macularius.	
		SPIKEDACE	Meda fulgida.	
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS.	
		TOPMINNOW, GILA (YAQUI)	Poeciliopsis occidentalis.	
		TROUT, APACHE	Salmo apache.	
GREENLEE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	MINNOW, LOACH	Tiaroga cobitis.	
		SPIKEDACE	Meda fulgida.	
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS.	
		TROUT, APACHE	Salmo apache.	
LA PAZ	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		RAIL, YUMA CLAPPER	Rallus longirostris yumanensis.	
	FISHES	CHUB, BONYTAIL	Gila elegans.	
		PUPFISH, DESERT	Cyprinodon macularius.	
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS.	
MARICOPA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		RAIL, YUMA CLAPPER	Rallus longirostris yumanensis.	
	FISHES	PUPFISH, DESERT	Cyprinodon macularius.	
		TOPMINNOW, GILA (YAQUI)	Poeciliopsis occidentalis.	
MOHAVE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		RAIL, YUMA CLAPPER	Rallus longirostris yumanensis.	
	FISHES	CHUB, BONYTAIL	Gila elegans.	
		CHUB, HUMPBACK	Gila cypha.	
		CHUB, VIRGIN RIVER	Gila robusta seminuda.	
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS.	
	PLANTS	CYCLADENIA, JONES	Cycladenia humilis var. jonesii.	
	SNAILS	AMBERSNAIL, KANAB	OXYLOMA HAYDENI KANABENSIS.	
NAVAJO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	CHUB, HUMPBACK	Gila cypha.	
		MINNOW, LOACH	Tiaroga cobitis.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
		SPINEDACE, LITTLE COLORADO	Lepidomeda vittata.	
		TROUT, APACHE	Salmo apache.	
	PLANTS	SEDGE, NAVAJO	Carex specuicola.	
PIMA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	CRUSTACEAN	TALUSSNAIL, SAN XAVIER	SONORELLA EREMITA.	
	FISHES	PUPFISH, DESERT	Cyprinodon macularius.	
		TOPMINNOW, GILA (YAQUI)	Poeciliopsis occidentalis.	
PINAL	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		RAIL, YUMA CLAPPER	Rallus longirostris yumanensis.	
	FISHES	MINNOW, LOACH	Tiaroga cobitis.	
		PUPFISH, DESERT	Cyprinodon macularius.	
		SPIKEDACE	Meda fulgida.	
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS.	
		TOPMINNOW, GILA (YAQUI)	Poeciliopsis occidentalis.	
SANTA CRUZ	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	CHUB, SONORA	Gila ditaenia.	
		TOPMINNOW, GILA (YAQUI)	Poeciliopsis occidentalis.	
YAVAPAI	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		FALCON, PEREGRINE	Falco peregrinus.	
	FISHES	PUPFISH, DESERT	Cyprinodon macularius.	
		SPIKEDACE	Meda fulgida.	
		SQUAWFISH, COLORADO	Ptychocheilus lucius.	
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS.	
		TOPMINNOW, GILA (YAQUI)	Poeciliopsis occidentalis.	
		TROUT, GILA	Salmo gilae.	
YUMA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		FALCON, PEREGRINE	Falco peregrinus.	
		PELICAN, BROWN	Pelicanus occidentalis.	
		RAIL, YUMA CLAPPER	Rallus longirostris yumanensis.	
	FISHES	SUCKER, RAZORBACK	XYRAUCHEN TEXANUS.	
CALIFORNIA				
ALAMEDA	BIRDS	PELICAN, BROWN	Pelicanus occidentalis	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
		RAIL, CALIFORNIA CLAPPER	Rallus longirostris obsoletus	IR
		TERN, CALIFORNIA LEAST	Sterna antillarum browni	IR
	CRUSTACEAN	LINDERIELLA, CALIFORNIA	LINDERIELLA OCCIDENTALIS	IR
		SHRIMP, LONGHORN FAIRY	BRANCHINECTA LONGIANTENNA	IR
		SHRIMP, VERNAL POOL FAIRY	BRANCHINECTA LYNCHI	IR
	FISHES	SALMON, CHINOOK (SNAKE RIVER SPRING.	ONCORHYNCHUS TSHAWYTSCHA	IR
ALPINE	FISHES	TROUT, LAHONTAN CUTTHROAT	Salmo clarki henshawi	IR
		TROUT, PAIUTE CUTTHROAT	Salmo clarki seleniris	IR
AMADOR	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
BUTTE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
	CRUSTACEAN	SHRIMP, CONSERVANCY FAIRY	BRANCINECTA CONSERVATIO	IR
		SHRIMP, VERNAL POOL TADPOLE	LEPIDURUS PACKARDI	IR
	FISHES	SALMON, CHINOOK (WINTER-RUN)	ONCORHYNCHUS TSHAWYTSCHA	IR
CALAVERAS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	CRUSTACEAN	SHRIMP, VERNAL POOL TADPOLE	LEPIDURUS PACKARDI	IR
COLUSA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
	CRUSTACEAN	SHRIMP, VERNAL POOL TADPOLE	LEPIDURUS PACKARDI	IR
CONTRA COSTA	BIRDS	GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		RAIL, CALIFORNIA CLAPPER	Rallus longirostris obsoletus	IR
		TERN, CALIFORNIA LEAST	Sterna antillarum browni	IR
	CRUSTACEAN	LINDERIELLA, CALIFORNIA	LINDERIELLA OCCIDENTALIS	IR
		SHRIMP, LONGHORN FAIRY	BRANCHINECTA LONGIANTENNA	IR
		SHRIMP, VERNAL POOL FAIRY	BRANCHINECTA LYNCHI	IR
	FISHES	SALMON, CHINOOK (WINTER-RUN)	ONCORHYNCHUS TSHAWYTSCHA	IR
DEL NORTE	AMPHIBIANS	FROG, CALIFORNIA RED-LEGGED	RANA AURORA DRAYTONII	IR
	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
EL DORADO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
	CRUSTACEAN	SHRIMP, VERNAL POOL TADPOLE	LEPIDURUS PACKARDI	IR
	FISHES	TROUT, LAHONTAN CUTTHROAT	Salmo clarki henshawi	IR
FRESNO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	TROUT, LITTLE KERN GOLDEN	Salmo aguabonita whitei	IR
		TROUT, PAIUTE CUTTHROAT	Salmo clarki seleniris	IR
GLENN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR
	CRUSTACEAN	SHRIMP, VERNAL POOL TADPOLE	LEPIDURUS PACKARDI	IR
	FISHES	SALMON, CHINOOK (WINTER-RUN)	ONCORHYNCHUS TSHAWYTSCHA	IR
HUMBOLDT	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
	REPTILES	TURTLE, OLIVE (PACIFIC) RIDLEY SEA	Lepidochelys olivacea	IR
IMPERIAL	AMPHIBIANS	TOAD, ARROYO SOUTHWESTERN	BUFO MICROSCAPHUS CALIFORNICUS.	IR
	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		RAIL, YUMA CLAPPER	Rallus longirostris yumanensis	IR
	FISHES	CHUB, BONYTAIL	Gila elegans	IR
		PUPFISH, DESERT	Cyprinodon macularius	IR
		SQUAWFISH, COLORADO	Ptychocheilus lucius	IR
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS	IR
INYO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
	FISHES	CHUB, OWENS TUI	Gila bicolor snyderi	IR
		PUPFISH, OWENS	Cyprinodon radiosus	IR
		TROUT, LAHONTAN CUTTHROAT	Salmo clarki henshawi	IR
	PLANTS	CENTAURY, SPRING-LOVING	Centaurium namophilum var. namophi	IR
		GUMPLANT, ASH MEADOWS	Grindelia fraxinopratensis	IR
		IVESIA, ASH MEADOWS	Ivesia kingii var. eremica	IR
KERN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
KINGS	BIRDS	GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
LAKE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR
	FISHES	SPLITTAIL, SACRAMENTO	POGONICHTHYS MACROLEPIDOTUS	IR
	PLANTS	COYOTE-THISTLE, LOCH LOMOND	Eryngium constancei	IR
		GOLDFIELDS, BURKE'S	Lasthenia burkei	IR
LASSEN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	SUCKER, MODOC	Catostomus microps	IR
LOS ANGELES	AMPHIBIANS	TOAD, ARROYO SOUTHWESTERN	BUFO MICROSCAPHUS CALIFORNICUS.	IR
	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
		RAIL, LIGHT-FOOTED CLAPPER	Rallus longirostris levipes	IR
		TERN, CALIFORNIA LEAST	Sterna antillarum browni	IR
	FISHES	CHUB, MOHAVE TUI	Gila bicolor mohavensis	IR
		STICKLEBACK, UNARMORED THREESPINE.	Gasterosteus aculeatus williamsoni	IR
	PLANTS	BIRD'S-BEAK, SALT MARSH	Cordylanthus maritimus ssp. mariti	IR
		BROOM, SAN CLEMENTE ISLAND	Lotus dendroideus ssp. traskiae	IR
		BUSH-MALLOW, SAN CLEMENTE ISLAND.	Malacothamnus clementinus	IR
		WATERCRESS, GAMBEL'S	RORIPPA GAMBELLII	IR
MADERA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	TROUT, LAHONTAN CUTTHROAT	Salmo clarki henshawi	IR
		TROUT, PAIUTE CUTTHROAT	Salmo clarki seleniris	IR
MARIN	AMPHIBIANS	FROG, CALIFORNIA RED-LEGGED	RANA AURORA DRAYTONII	IR
	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
		RAIL, CALIFORNIA CLAPPER	Rallus longirostris obsoletus	IR

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
	CRUSTACEAN	SHRIMP, CALIFORNIA FRESHWATER	Syncaris pacifica	IR
	FISHES	SALMON, CHINOOK (WINTER-RUN)	ONCORHYNCHUS TSHAWYTSCHA	IR
MARIPOSA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
MENDOCINO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
	MAMMALS	BEAVER, POINT ARENA MOUNTAIN	Aplodontia rufa nigra	IR
	PLANTS	GOLDFIELDS, BURKE'S	Lasthenia burkei	IR
	REPTILES	TURTLE, OLIVE (PACIFIC) RIDLEY SEA	Lepidochelys olivacea	IR
MERCED	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
	CRUSTACEAN	LINDERIELLA, CALIFORNIA	LINDERIELLA OCCIDENTALIS	IR
		SHRIMP, CONSERVANCY FAIRY	BRANCINECTA CONSERVATIO	IR
		SHRIMP, VERNAL POOL FAIRY	BRANCHINECTA LYNCHI	IR
MODOC	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	SUCKER, LOST RIVER	Deltistes luxatus	IR
		SUCKER, MODOC	Catostomus microps	IR
		SUCKER, SHORTNOSE	Chasmistes brevirostris	IR
MONO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
	FISHES	CHUB, OWENS TUI	Gila bicolor snyderi	IR
		PUPFISH, OWENS	Cyprinodon radiosus	IR
		TROUT, LAHONTAN CUTTHROAT	Salmo clarki henshawi	IR
		TROUT, PAIUTE CUTTHROAT	Salmo clarki seleniris	IR
MONTEREY	AMPHIBIANS	SALAMANDER, SANTA CRUZ LONG-TOED.	Ambystoma macrodactylum croceum	IR
	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
		RAIL, CALIFORNIA CLAPPER	Rallus longirostris obsoletus	IR
		TERN, CALIFORNIA LEAST	Sterna antillarum browni	IR
	CRUSTACEAN	LINDERIELLA, CALIFORNIA	LINDERIELLA OCCIDENTALIS	IR
		SHRIMP, VERNAL POOL FAIRY	BRANCHINECTA LYNCHI	IR
	MAMMALS	OTTER, SOUTHERN SEA	Enhydra lutris nereis	IR
	REPTILES	TURTLE, OLIVE (PACIFIC) RIDLEY SEA	Lepidochelys olivacea	IR
NAPA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
		RAIL, CALIFORNIA CLAPPER	Rallus longirostris obsoletus	IR
	CRUSTACEAN	LINDERIELLA, CALIFORNIA	LINDERIELLA OCCIDENTALIS	IR
		SHRIMP, CALIFORNIA FRESHWATER	Syncaris pacifica	IR
	FISHES	SALMON, CHINOOK (WINTER-RUN)	ONCORHYNCHUS TSHAWYTSCHA	IR
NEVADA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	TROUT, LAHONTAN CUTTHROAT	Salmo clarki henshawi	IR
ORANGE	AMPHIBIANS	TOAD, ARROYO SOUTHWESTERN	BUFO MICROSCAPHUS CALIFORNICUS.	IR
	BIRDS	MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
		RAIL, LIGHT-FOOTED CLAPPER	Rallus longirostris levipes	IR
		TERN, CALIFORNIA LEAST	Sterna antillarum browni	IR
	CRUSTACEAN	SHRIMP, RIVERSIDE FAIRY	STREPTOCEPHALUS WOOTTONI	IR
	PLANTS	BIRD'S-BEAK, SALT MARSH	Cordylanthus maritimus ssp. mariti	IR
PLACER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
	CRUSTACEAN	LINDERIELLA, CALIFORNIA	LINDERIELLA OCCIDENTALIS	IR
		SHRIMP, VERNAL POOL FAIRY	BRANCHINECTA LYNCHI	IR
		SHRIMP, VERNAL POOL TADPOLE	LEPIDURUS PACKARDI	IR
	FISHES	TROUT, LAHONTAN CUTTHROAT	Salmo clarki henshawi	IR
PLUMAS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
RIVERSIDE	AMPHIBIANS	SALAMANDER, DESERT SLENDER	Batrachoseps aridus	IR
		TOAD, ARROYO SOUTHWESTERN	BUFO MICROSCAPHUS CALIFORNICUS.	IR
	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
		PELICAN, BROWN	Pelicanus occidentalis	IR
		RAIL, YUMA CLAPPER	Rallus longirostris yumanensis	IR
	CRUSTACEAN	LINDERIELLA, CALIFORNIA	LINDERIELLA OCCIDENTALIS	IR
		SHRIMP, RIVERSIDE FAIRY	STREPTOCEPHALUS WOOTTONI	IR
		SHRIMP, VERNAL POOL FAIRY	BRANCHINECTA LYNCHI	IR
	FISHES	CHUB, BONYTAIL	Gila elegans	IR
		PUPFISH, DESERT	Cyprinodon macularius	IR
		SQUAWFISH, COLORADO	Ptychocheilus lucius	IR
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS	IR
	PLANTS	BUTTON-CELERY, SAN DIEGO	ERYNGIUM ARISTULATUM VAR. PARISHII.	IR
		GRASS, CALIFORNIA ORCUTT	ORCUTTIA CALIFORNICA	IR
		MILK-VETCH, COACHELLA VALLEY	ASTRAGALUS LENTIGINOSUS VAR. COACH.	IR
		MINT, OTAY MESA	POGOGYNE NUDIUSCULA	IR
SACRAMENTO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
	CRUSTACEAN	LINDERIELLA, CALIFORNIA	LINDERIELLA OCCIDENTALIS	IR
		SHRIMP, VERNAL POOL FAIRY	BRANCHINECTA LYNCHI	IR
		SHRIMP, VERNAL POOL TADPOLE	LEPIDURUS PACKARDI	IR
	FISHES	SALMON, CHINOOK (WINTER-RUN)	ONCORHYNCHUS TSHAWYTSCHA	IR
		SMELT, DELTA	HYPOMESUS TRANSPACIFICUS	IR
SAN BENITO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
SAN BERNARDINO	AMPHIBIANS	TOAD, ARROYO SOUTHWESTERN	BUFO MICROSCAPHUS CALIFORNICUS.	IR
	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
		RAIL, YUMA CLAPPER	Rallus longirostris yumanensis	IR
	FISHES	CHUB, BONYTAIL	Gila elegans	IR
		CHUB, MOHAVE TUI	Gila bicolor mohavensis	IR
		PUPFISH, DESERT	Cyprinodon macularius	IR
		SQUAWFISH, COLORADO	Ptychocheilus lucius	IR
		STICKLEBACK, UNARMORED THREESPINE.	Gasterosteus aculeatus williamsoni	IR
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS	IR
	PLANTS	CHECKER-MALLOW, PEDATE	Sidalcea pedata	IR
		OXYTHECA, CUSHENBURY	OXYTHECA PARISHII VAR. GOODMANIANA.	IR
		WATERCRESS, GAMBEL'S	RORIPPA GAMBELLII	IR
SAN DIEGO	AMPHIBIANS	TOAD, ARROYO SOUTHWESTERN	BUFO MICROSCAPHUS CALIFORNICUS.	IR
	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
		RAIL, LIGHT-FOOTED CLAPPER	Rallus longirostris levipes	IR
		TERN, CALIFORNIA LEAST	Sterna antillarum browni	IR
	CRUSTACEAN	SHRIMP, RIVERSIDE FAIRY	STREPTOCEPHALUS WOOTTONI	IR
	FISHES	CHUB, MOHAVE TUI	Gila bicolor mohavensis	IR
		PUPFISH, DESERT	Cyprinodon macularius	IR
		SHRIMP, SAN DIEGO FAIRY	BRANCHINECTA SANDIEGOENSIS	IR
		STICKLEBACK, UNARMORED THREESPINE.	Gasterosteus aculeatus williamsoni	IR
	PLANTS	BIRD'S-BEAK, SALT MARSH	Cordylanthus maritimus ssp. maritimus	IR
		BUTTON-CELERY, SAN DIEGO	ERYNGIUM ARISTULATUM VAR. PARISHII.	IR
		GRASS, CALIFORNIA ORCUTT	ORCUTTIA CALIFORNICA	IR
		MINT, OTAY MESA	POGOGYNE NUDIUSCULA	IR
		MINT, SAN DIEGO MESA	Pogogyne abramsii	IR
		WATERCRESS, GAMBEL'S	RORIPPA GAMBELLII	IR
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas	IR
		TURTLE, OLIVE (PACIFIC) RIDLEY SEA	Lepidochelys olivacea	IR
SAN FRANCISCO	BIRDS	GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
SAN JOAQUIN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
	CRUSTACEAN	LINDERIELLA, CALIFORNIA	LINDERIELLA OCCIDENTALIS	IR
		SHRIMP, VERNAL POOL FAIRY	BRANCHINECTA LYNCHI	IR
		SHRIMP, VERNAL POOL TADPOLE	LEPIDURUS PACKARDI	IR
	FISHES	SALMON, CHINOOK (WINTER-RUN)	ONCORHYNCHUS TSHAWYTSCHA	IR
		SMELT, DELTA	HYPOMESUS TRANSPACIFICUS	IR
SAN LUIS OBISPO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
		RAIL, CALIFORNIA CLAPPER	Rallus longirostris obsoletus	IR
		TERN, CALIFORNIA LEAST	Sterna antillarum browni	IR
	CRUSTACEAN	LINDERIELLA, CALIFORNIA	LINDERIELLA OCCIDENTALIS	IR
		SHRIMP, LONGHORN FAIRY	BRANCHINECTA LONGIANTENNA	IR
	MAMMALS	OTTER, SOUTHERN SEA	Enhydra lutris nereis	IR
	PLANTS	BIRD'S-BEAK, SALT MARSH	Cordylanthus maritimus ssp. maritimus	IR
		SANDWORT, MARSH	ARENARIA PALUDICOLA	IR
		SEA-BLITE, CALIFORNIA	SUAEDA CALIFORNICA	IR
		THISTLE, CHORRO CREEK BOG	CIRSIUM FONTINALE VAR. OBISPOENSE.	IR
		WATERCRESS, GAMBEL'S	RORIPPA GAMBELLII	IR
SAN MATEO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
		RAIL, CALIFORNIA CLAPPER	Rallus longirostris obsoletus	IR
		TERN, CALIFORNIA LEAST	Sterna antillarum browni	IR
	CRUSTACEAN	LINDERIELLA, CALIFORNIA	LINDERIELLA OCCIDENTALIS	IR
	PLANTS	THISTLE, FOUNTAIN	CIRSIUM FONTINALE VAR. FONTINALE	IR
SANTA BARBARA	AMPHIBIANS	TOAD, ARROYO SOUTHWESTERN	BUFO MICROSCAPHUS CALIFORNICUS.	IR
	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
		RAIL, LIGHT-FOOTED CLAPPER	Rallus longirostris levipes	IR
		TERN, CALIFORNIA LEAST	Sterna antillarum browni	IR
	CRUSTACEAN	LINDERIELLA, CALIFORNIA	LINDERIELLA OCCIDENTALIS	IR
	FISHES	STICKLEBACK, UNARMORED THREESPINE.	Gasterosteus aculeatus williamsoni	IR
	MAMMALS	SEAL, GUADALUPE FUR	Arctocephalus townsendi	IR
	PLANTS	BIRD'S-BEAK, SALT MARSH	Cordylanthus maritimus ssp. maritimus	IR
SANTA CLARA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
		RAIL, CALIFORNIA CLAPPER	Rallus longirostris obsoletus	IR
		TERN, CALIFORNIA LEAST	Sterna antillarum browni	IR
	PLANTS	THISTLE, FOUNTAIN	CIRSIUM FONTINALE VAR. FONTINALE	IR
SANTA CRUZ	AMPHIBIANS	SALAMANDER, SANTA CRUZ LONG-TOED.	Ambystoma macrodactylum croceum	IR
	BIRDS	MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
	MAMMALS	OTTER, SOUTHERN SEA	Enhydra lutris nereis	IR
SHASTA	AMPHIBIANS	FROG, CALIFORNIA RED-LEGGED	RANA AURORA DRAYTONII	IR
	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	CRUSTACEAN	CRAYFISH, SHASTA	Pacifasticus fortis	IR
		SHRIMP, VERNAL POOL TADPOLE	LEPIDURUS PACKARDI	IR
	FISHES	SALMON, CHINOOK (WINTER-RUN)	ONCORHYNCHUS TSHAWYTSCHA	IR
SIERRA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	TROUT, LAHONTAN CUTTHROAT	Salmo clarki henshawi	IR
SISKIYOU	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR
	FISHES	SUCKER, LOST RIVER	Deltistes luxatus	IR
SOLANO	BIRDS	GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		RAIL, CALIFORNIA CLAPPER	Rallus longirostris obsoletus	IR
	CRUSTACEAN	LINDERIELLA, CALIFORNIA	LINDERIELLA OCCIDENTALIS	IR
		SHRIMP, VERNAL POOL FAIRY	BRANCHINECTA LYNCHI	IR
		SHRIMP, VERNAL POOL TADPOLE	LEPIDURUS PACKARDI	IR
	FISHES	SALMON, CHINOOK (WINTER-RUN)	ONCORHYNCHUS TSHAWYTSCHA	IR
		SMELT, DELTA	HYPOMESUS TRANSPACIFICUS	IR
	PLANTS	GRASS, SOLANO	Tuctoria mucronata (=Orcuttia m.)	IR
SONOMA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
		RAIL, CALIFORNIA CLAPPER	Rallus longirostris obsoletus	IR
	CRUSTACEAN	LINDERIELLA, CALIFORNIA	LINDERIELLA OCCIDENTALIS	IR
		SHRIMP, CALIFORNIA FRESHWATER	Syncaris pacifica	IR
	FISHES	SALMON, CHINOOK (WINTER-RUN)	ONCORHYNCHUS TSHAWYTSCHA	IR
	PLANTS	BIRD'S-BEAK, PENNELL'S	CORDYLANTHUS TENUS SSP.CAPILLARI.	IR
		GOLDFIELDS, BURKE'S	Lasthenia burkei	IR
		STICKYSEED, BAKER'S	Blennosperma bakeri	IR
STANISLAUS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
	CRUSTACEAN	SHRIMP, VERNAL POOL TADPOLE	LEPIDURUS PACKARDI	IR
SUTTER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
	CRUSTACEAN	SHRIMP, VERNAL POOL TADPOLE	LEPIDURUS PACKARDI	IR
	FISHES	SALMON, CHINOOK (WINTER-RUN)	ONCORHYNCHUS TSHAWYTSCHA	IR
TEHAMA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	CRUSTACEAN	SHRIMP, VERNAL POOL TADPOLE	LEPIDURUS PACKARDI	IR
	FISHES	SALMON, CHINOOK (WINTER-RUN)	ONCORHYNCHUS TSHAWYTSCHA	IR
TRINITY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
TULARE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	TROUT, LITTLE KERN GOLDEN	Salmo aguabonita whitei	IR
TUOLUMNE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	TROUT, LAHONTAN CUTTHROAT	Salmo clarki henshawi	IR
VENTURA	AMPHIBIANS	TOAD, ARROYO SOUTHWESTERN	BUFO MICROSCAPHUS CALIFORNICUS.	IR
	BIRDS	PELICAN, BROWN	Pelicanus occidentalis	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
		RAIL, LIGHT-FOOTED CLAPPER	Rallus longirostris levipes	IR
		TERN, CALIFORNIA LEAST	Sterna antillarum browni	IR
	CRUSTACEAN	LINDERIELLA, CALIFORNIA	LINDERIELLA OCCIDENTALIS	IR
		SHRIMP, CONSERVANCY FAIRY	BRANCINECTA CONSERVATIO	IR
	PLANTS	BIRD'S-BEAK, SALT MARSH	Cordylanthus maritimus ssp. mariti	IR
		GRASS, CALIFORNIA ORCUTT	ORCUTTIA CALIFORNICA	IR
		WATERCRESS, GAMBEL'S	RORIPPA GAMBELLII	IR
YOLO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
	CRUSTACEAN	SHRIMP, VERNAL POOL TADPOLE	LEPIDURUS PACKARDI	IR
	FISHES	SALMON, CHINOOK (WINTER-RUN)	ONCORHYNCHUS TSHAWYTSCHA	IR
		SMELT, DELTA	HYPOMESUS TRANSPACIFICUS	IR
YUBA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
	CRUSTACEAN	LINDERIELLA, CALIFORNIA	LINDERIELLA OCCIDENTALIS	IR
		SHRIMP, VERNAL POOL FAIRY	BRANCHINECTA LYNCHI	IR
		SHRIMP, VERNAL POOL TADPOLE	LEPIDURUS PACKARDI	IR
COLORADO				
ADAMS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
ALAMOSA	BIRDS	CRANE, WHOOPING	Grus americana	IR
		EAGLE, BALD	Haliaeetus leucocephalus	IR
ARCHULETA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
BACA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
BENT	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
BOULDER	BIRDS	CRANE, WHOOPING	Grus americana	IR
	FISHES	TROUT, GREENBACK CUTTHROAT	Salmo clarki stomias	IR
	PLANTS	LADIES'-TRESSES, UTE	Spiranthes diluvialis	IR
CHAFFEE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
CHEYENNE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
CLEAR CREEK	FISHES	TROUT, GREENBACK CUTTHROAT	Salmo clarki stomias	IR
CONEJOS	BIRDS	CRANE, WHOOPING	Grus americana	IR
		EAGLE, BALD	Haliaeetus leucocephalus	IR
COSTILLA	BIRDS	CRANE, WHOOPING	Grus americana	IR
CUSTER	FISHES	TROUT, GREENBACK CUTTHROAT	Salmo clarki stomias	IR
DELTA	BIRDS	CRANE, WHOOPING	Grus americana	IR
		EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	SQUAWFISH, COLORADO	Ptychocheilus lucius	IR
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS	IR
DOLORES	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
DOUGLAS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	TROUT, GREENBACK CUTTHROAT	Salmo clarki stomias	IR
EAGLE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
EL PASO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	TROUT, GREENBACK CUTTHROAT	Salmo clarki stomias	IR
FREMONT	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
GARFIELD	BIRDS	CRANE, WHOOPING	Grus americana	IR
		EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	SQUAWFISH, COLORADO	Ptychocheilus lucius	IR
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS	IR
GRAND	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
GUNNISON	BIRDS	CRANE, WHOOPING	Grus americana	IR
		EAGLE, BALD	Haliaeetus leucocephalus	IR
HINSDALE	BIRDS	CRANE, WHOOPING	Grus americana	IR
		EAGLE, BALD	Haliaeetus leucocephalus	IR
HUERFANO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	TROUT, GREENBACK CUTTHROAT	Salmo clarki stomias	IR
JACKSON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
JEFFERSON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	PLANTS	LADIES'-TRESSES, UTE	Spiranthes diluvialis	IR
KIOWA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
LA PLATA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
LAKE	FISHES	TROUT, GREENBACK CUTTHROAT	Salmo clarki stomias	IR
LARIMER	BIRDS	CRANE, WHOOPING	Grus americana	IR
		EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	TROUT, GREENBACK CUTTHROAT	Salmo clarki stomias	IR
LAS ANIMAS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
LINCOLN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
LOGAN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
MESA	BIRDS	CRANE, WHOOPING	Grus americana	IR
		EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	CHUB, BONYTAIL	Gila elegans	IR
		CHUB, HUMPBACK	Gila cypha	IR
		SQUAWFISH, COLORADO	Ptychocheilus lucius	IR
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS	IR
MOFFAT	BIRDS	CRANE, WHOOPING	Grus americana	IR
		EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	CHUB, BONYTAIL	Gila elegans	IR
		CHUB, HUMPBACK	Gila cypha	IR
		SQUAWFISH, COLORADO	Ptychocheilus lucius	IR
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS	IR
MONTEZUMA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	SQUAWFISH, COLORADO	Ptychocheilus lucius	IR
MONTROSE	BIRDS	CRANE, WHOOPING	Grus americana	IR
		EAGLE, BALD	Haliaeetus leucocephalus	IR
MORGAN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	PLANTS	LADIES'-TRESSES, UTE	Spiranthes diluvialis	IR
OTERO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
OURAY	BIRDS	CRANE, WHOOPING	Grus americana	IR
		EAGLE, BALD	Haliaeetus leucocephalus	IR
PARK	BIRDS	CRANE, WHOOPING	Grus americana	IR
		EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	TROUT, GREENBACK CUTTHROAT	Salmo clarki stomias	IR
	PLANTS	MUSTARD, PENLAND ALPINE FEN	Eutrema penlandii	IR
PROWERS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
PUEBLO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
RIO BLANCO	BIRDS	CRANE, WHOOPING	Grus americana	IR
		EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	SQUAWFISH, COLORADO	Ptychocheilus lucius	IR
RIO GRANDE	BIRDS	CRANE, WHOOPING	Grus americana	IR
		EAGLE, BALD	Haliaeetus leucocephalus	IR
ROUTT	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
SAGUACHE	BIRDS	CRANE, WHOOPING	Grus americana	IR
		EAGLE, BALD	Haliaeetus leucocephalus	IR
SAN JUAN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
SAN MIGUEL	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
SEDGWICK	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
SUMMIT	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	PLANTS	MUSTARD, PENLAND ALPINE FEN	Eutrema penlandii	IR
WASHINGTON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
WELD	BIRDS	CRANE, WHOOPING	Grus americana	IR
		EAGLE, BALD	Haliaeetus leucocephalus	IR
	PLANTS	LADIES'-TRESSES, UTE	Spiranthes diluvialis	IR
YUMA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
			.	
CONNECTICUT				
FAIRFIELD	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		PLOVER, PIPING	+haradrius melodus	IR
HARTFORD	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	STURGEON, SHORTNOSE	Acipenser brevirostrum	IR
LITCHFIELD	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
MIDDLESEX	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		PLOVER, PIPING	+haradrius melodus	IR
	FISHES	STURGEON, SHORTNOSE	Acipenser brevirostrum	IR
NEW HAVEN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		PLOVER, PIPING	+haradrius melodus	IR
		TERN, ROSEATE	Sterna dougalli dougalli	IR
NEW LONDON	BIRDS	PLOVER, PIPING	+haradrius melodus	IR
WINDHAM	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
DISTRICT OF COLUMBIA				
DISTRICT OF CO-LUMBIA.	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	CRUSTACEAN	AMPHIPOD, HAY'S SPRING	Stygobromus hayi.	
DELAWARE				
KENT	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	FF
	FISHES	STURGEON, SHORTNOSE	Acipenser brevirostrum	FF
	PLANTS	PINK, SWAMP	Helonias bullata	FF
	REPTILES	TURTLE, HAWKSBILL SEA	Eretmochelys imbricata	FF
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii	FF
		TURTLE, LOGGERHEAD SEA	Caretta caretta	FF
NEW CASTLE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	FF
	FISHES	STURGEON, SHORTNOSE	Acipenser brevirostrum	FF
	PLANTS	PINK, SWAMP	Helonias bullata	FF
SUSSEX	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	FF
		PLOVER, PIPING	+haradrius melodus	FF
	PLANTS	PINK, SWAMP	Helonias bullata	FF
	REPTILES	TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii	FF
		TURTLE, LOGGERHEAD SEA	Caretta caretta	FF
FLORIDA				
ALACHUA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		STORK, WOOD	Mycteria americana.	
	CRUSTACEAN	SHRIMP, SQUIRREL CHIMNEY CAVE	Palaemonetes cummingi.	
BAKER	BIRDS	STORK, WOOD	Mycteria americana.	
BAY	BIRDS	PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	PLANTS	BUTTERWORT, GODFREY'S	PINGUICULA IONANTHA.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
BRADFORD	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		STORK, WOOD	Mycteria americana.	
BREVARD	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	PLANTS	SEAGRASS, JOHNSON'S	Halophila johnsonii.	
	REPTILES	SNAKE, ATLANTIC SALT MARSH	Nerodia fasciata taeniata.	
		TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
BROWARD	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		KITE, EVERGLADE SNAIL	Rostrhamus sociabilis plumbeus.	
		STORK, WOOD	Mycteria americana.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	PLANTS	SEAGRASS, JOHNSON'S	Halophila johnsonii.	
	REPTILES	CROCODILE, AMERICAN	Crocodylus acutus.	
		TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
CALHOUN	BIRDS	STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
CHARLOTTE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		STORK, WOOD	Mycteria americana.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
CITRUS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		KITE, EVERGLADE SNAIL	Rostrhamus sociabilis plumbeus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
CLAY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, SHORTNOSE	Acipenser brevirostrum.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
COLLIER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		KITE, EVERGLADE SNAIL	Rostrhamus sociabilis plumbeus.	
		PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	CROCODILE, AMERICAN	Crocodylus acutus.	
		TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
COLUMBIA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
DADE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		KITE, EVERGLADE SNAIL	Rostrhamus sociabilis plumbeus.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
		PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	PLANTS	SEAGRASS, JOHNSON'S	Halophila johnsonii.	
	REPTILES	CROCODILE, AMERICAN	Crocodylus acutus.	
		TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
DE SOTO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		STORK, WOOD	Mycteria americana.	
DIXIE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
DUVAL	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, SHORTNOSE	Acipenser brevirostrum.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
ESCAMBIA	BIRDS	PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
FLAGLER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		STORK, WOOD	Mycteria americana.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
FRANKLIN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
	PLANTS	BEAUTY, HARPER'S	Harperocallis flava.	
		BUTTERWORT, GODFREY'S	PINGUICULA IONANTHA.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
GADSDEN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
GILCHRIST	BIRDS	STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
GLADES	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		KITE, EVERGLADE SNAIL	Rostrhamus sociabilis plumbeus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
GULF	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	PLANTS	BUTTERWORT, GODFREY'S	PINGUICULA IONANTHA.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
HAMILTON	BIRDS	STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
HARDEE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		STORK, WOOD	Mycteria americana.	
HENDRY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		KITE, EVERGLADE SNAIL	Rostrhamus sociabilis plumbeus.	
		STORK, WOOD	Mycteria americana.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
HERNANDO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		STORK, WOOD	Mycteria americana.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	PLANTS	BELLFLOWER, BROOKSVILLE	Campanula robinsiae.	
		WATER-WILLOW, COOLEY'S	Justicia cooleyi.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
HIGHLANDS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		KITE, EVERGLADE SNAIL	Rostrhamus sociabilis plumbeus.	
		STORK, WOOD	Mycteria americana.	
HILLSBOROUGH	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
HOLMES	BIRDS	STORK, WOOD	Mycteria americana.	
INDIAN RIVER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		KITE, EVERGLADE SNAIL	Rostrhamus sociabilis plumbeus.	
		STORK, WOOD	Mycteria americana.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	PLANTS	SEAGRASS, JOHNSON'S	Halophila johnsonii.	
	REPTILES	SNAKE, ATLANTIC SALT MARSH	Nerodia fasciata taeniata.	
		TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
JACKSON	BIRDS	STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
JEFFERSON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
	PLANTS	GOOSEBERRY, MICCOSUKEE (FLORIDA).	Ribes echinellum.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
LAFAYETTE	BIRDS	STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
LAKE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		KITE, EVERGLADE SNAIL	Rostrhamus sociabilis plumbeus.	
		STORK, WOOD	Mycteria americana.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
LEE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		KITE, EVERGLADE SNAIL	Rostrhamus sociabilis plumbeus.	
		PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	CROCODILE, AMERICAN	Crocodylus acutus.	
		TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
LEON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		STORK, WOOD	Mycteria americana.	
LEVY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
LIBERTY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
	PLANTS	BEAUTY, HARPER'S	Harperocallis flava.	
		BUTTERWORT, GODFREY'S	PINGUICULA IONANTHA.	
MADISON	BIRDS	STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
MANATEE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
MARION	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		KITE, EVERGLADE SNAIL	Rostrhamus sociabilis plumbeus.	
		STORK, WOOD	Mycteria americana.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
MARTIN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		KITE, EVERGLADE SNAIL	Rostrhamus sociabilis plumbeus.	
		PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	PLANTS	SEAGRASS, JOHNSON'S	Halophila johnsonii.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
MONROE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		KITE, EVERGLADE SNAIL	Rostrhamus sociabilis plumbeus.	
		PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
		TERN, ROSEATE	Sterna dougalli dougalli.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	CROCODILE, AMERICAN	Crocodylus acutus.	
		TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
NASSAU	BIRDS	STORK, WOOD	Mycteria americana.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
OKALOOSA	BIRDS	PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	DARTER, OKALOOSA	Etheostoma okaloosae.	
		STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
OKEECHOBEE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		KITE, EVERGLADE SNAIL	Rostrhamus sociabilis plumbeus.	
		STORK, WOOD	Mycteria americana.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
ORANGE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		KITE, EVERGLADE SNAIL	Rostrhamus sociabilis plumbeus.	
		STORK, WOOD	Mycteria americana.	
OSCEOLA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		KITE, EVERGLADE SNAIL	Rostrhamus sociabilis plumbeus.	
		STORK, WOOD	Mycteria americana.	
PALM BEACH	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		KITE, EVERGLADE SNAIL	Rostrhamus sociabilis plumbeus.	
		PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	PLANTS	GOURD, OKEECHOBEE	CUCURBITA OKEECHEOBEENSIS.	
		SEAGRASS, JOHNSON'S	Halophila johnsonii.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
PASCO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
PINELLAS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
POLK	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		KITE, EVERGLADE SNAIL	Rostrhamus sociabilis plumbeus.	
		STORK, WOOD	Mycteria americana.	
PUTNAM	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, SHORTNOSE	Acipenser brevirostrum.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
SANTA ROSA	BIRDS	PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
SARASOTA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
SEMINOLE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		STORK, WOOD	Mycteria americana.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
ST. JOHNS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
ST. LUCIE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		KITE, EVERGLADE SNAIL	Rostrhamus sociabilis plumbeus.	
		PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	PLANTS	SEAGRASS, JOHNSON'S	Halophila johnsonii.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
SUMTER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		KITE, EVERGLADE SNAIL	Rostrhamus sociabilis plumbeus.	
		STORK, WOOD	Mycteria americana.	
SUWANNEE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
TAYLOR	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
UNION	BIRDS	STORK, WOOD	Mycteria americana.	
VOLUSIA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		KITE, EVERGLADE SNAIL	Rostrhamus sociabilis plumbeus.	
		PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	SNAKE, ATLANTIC SALT MARSH	Nerodia fasciata taeniata.	
		TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
WAKULLA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
WALTON	BIRDS	PLOVER, PIPING	+haradrius melodus.	
		STORK, WOOD	Mycteria americana.	
	FISHES	DARTER, OKALOOSA	Etheostoma okaloosae.	
		STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
	PLANTS	MEADOWRUE, COOLEY'S	Thalictrum cooleyi.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
WASHINGTON	BIRDS	STORK, WOOD	Mycteria americana.	
IDAHO				
ADA	FISHES	SALMON, CHINOOK (SNAKE RIVER SPRING.	ONCORHYNCHUS TSHAWYTSCHA.	
ADAMS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	SALMON, CHINOOK (SNAKE RIVER SPRING.	ONCORHYNCHUS TSHAWYTSCHA.	
BANNOCK	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
BEAR LAKE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
BENEWAH	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
BINGHAM	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
BLAINE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	SALMON, CHINOOK	ONCORHYNCHUS TSHAWSTSCHA.	
		SALMON, CHINOOK (SNAKE RIVER SPRING.	ONCORHYNCHUS TSHAWYTSCHA.	
		SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA.	
BOISE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
BONNER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	MAMMALS	BEAR, GRIZZLY	Ursus arctos (=U.a. horribilis).	
BONNEVILLE	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
BOUNDARY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	MAMMALS	BEAR, GRIZZLY	Ursus arctos (=U.a. horribilis).	
BUTTE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
CAMAS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
CANYON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	SALMON, CHINOOK (SNAKE RIVER SPRING.	ONCORHYNCHUS TSHAWYTSCHA.	
CARIBOU	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
CASSIA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	SALMON, CHINOOK (SNAKE RIVER SPRING.	ONCORHYNCHUS TSHAWYTSCHA.	
CLARK	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
CLEARWATER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	SALMON, CHINOOK	ONCORHYNCHUS TSHAWSTSCHA.	
		SALMON, CHINOOK (SNAKE RIVER SPRING.	ONCORHYNCHUS TSHAWYTSCHA.	
	MAMMALS	BEAR, GRIZZLY	Ursus arctos (=U.a. horribilis).	
CUSTER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	SALMON, CHINOOK	ONCORHYNCHUS TSHAWSTSCHA.	
		SALMON, CHINOOK (SNAKE RIVER SPRING.	ONCORHYNCHUS TSHAWYTSCHA.	
		SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA.	
ELMORE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	CLAMS	LIMPET, BANBURY SPRINGS	Lanx n. sp..	
	FISHES	SALMON, CHINOOK (SNAKE RIVER SPRING, SUMMER).	ONCORHYNCHUS TSHAWYTSCHA.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
	SNAILS	SNAIL, BLISS RAPIDS	Family Hydrobiidae n. sp..	
		SNAIL, SNAKE RIVER PHYSA	Physa natricina.	
		SNAIL, UTAH VALVATA	Valvata utahensis.	
		SPRINGSNAIL, IDAHO	Fontelicella idahoensis.	
FRANKLIN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
FREMONT	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	MAMMALS	BEAR, GRIZZLY	Ursus arctos (=U.a. horribilis).	
GEM	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
GOODING	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	CLAMS	LIMPET, BANBURY SPRINGS	Lanx n. sp..	
	FISHES	SALMON, CHINOOK (SNAKE RIVER SPRING, SUMMER).	ONCORHYNCHUS TSHAWYTSCHA.	
	SNAILS	SNAIL, BLISS RAPIDS	Family Hydrobiidae n. sp..	
		SNAIL, SNAKE RIVER PHYSA	Physa natricina.	
		SNAIL, UTAH VALVATA	Valvata utahensis.	
IDAHO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	SALMON, CHINOOK	ONCORHYNCHUS TSHAWSTSCHA.	
		SALMON, CHINOOK (SNAKE RIVER SPRING, SUMMER).	ONCORHYNCHUS TSHAWYTSCHA.	
		SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA.	
	MAMMALS	BEAR, GRIZZLY	Ursus arctos (=U.a. horribilis).	
JEFFERSON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
JEROME	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	SALMON, CHINOOK (SNAKE RIVER SPRING, SUMMER).	ONCORHYNCHUS TSHAWYTSCHA.	
KOOTENAI	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	PLANTS	HOWELLIA, WATER	HOWELLIA AQUATILIS.	
LATAH	PLANTS	HOWELLIA, WATER	HOWELLIA AQUATILIS.	
LEMHI	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	SALMON, CHINOOK	ONCORHYNCHUS TSHAWSTSCHA.	
		SALMON, CHINOOK (SNAKE RIVER SPRING, SUMMER).	ONCORHYNCHUS TSHAWYTSCHA.	
LEWIS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	SALMON, CHINOOK	ONCORHYNCHUS TSHAWSTSCHA.	
		SALMON, CHINOOK (SNAKE RIVER SPRING, SUMMER).	ONCORHYNCHUS TSHAWYTSCHA.	
		SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA.	
MADISON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
MINIDOKA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	SALMON, CHINOOK (SNAKE RIVER SPRING, SUMMER).	ONCORHYNCHUS TSHAWYTSCHA.	
NEZ PERCE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	SALMON, CHINOOK	ONCORHYNCHUS TSHAWSTSCHA.	
		SALMON, CHINOOK (SNAKE RIVER SPRING, SUMMER).	ONCORHYNCHUS TSHAWYTSCHA.	
		SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA.	
OWYHEE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	SALMON, CHINOOK (SNAKE RIVER SPRING, SUMMER).	ONCORHYNCHUS TSHAWYTSCHA.	
	SNAILS	SNAIL, BRUNEAU HOT SPRINGS	Bruneau Hot Springs snail (Genus/s.	
		SNAIL, SNAKE RIVER PHYSA	Physa natricina.	
		SPRINGSNAIL, IDAHO	Fontelicella idahoensis.	
PAYETTE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	SALMON, CHINOOK (SNAKE RIVER SPRING, SUMMER).	ONCORHYNCHUS TSHAWYTSCHA.	
POWER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	SALMON, CHINOOK (SNAKE RIVER SPRING, SUMMER).	ONCORHYNCHUS TSHAWYTSCHA.	
	SNAILS	SNAIL, UTAH VALVATA	Valvata utahensis.	
SHOSHONE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	MAMMALS	BEAR, GRIZZLY	Ursus arctos (=U.a. horribilis).	
TETON	MAMMALS	BEAR, GRIZZLY	Ursus arctos (=U.a. horribilis).	
TWIN FALLS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	SALMON, CHINOOK (SNAKE RIVER SPRING, SUMMER).	ONCORHYNCHUS TSHAWYTSCHA.	
	SNAILS	SNAIL, SNAKE RIVER PHYSA	Physa natricina.	
VALLEY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	SALMON, CHINOOK	ONCORHYNCHUS TSHAWSTSCHA.	
		SALMON, CHINOOK (SNAKE RIVER SPRING, SUMMER).	ONCORHYNCHUS TSHAWYTSCHA.	
WASHINGTON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
	FISHES	SALMON, CHINOOK (SNAKE RIVER SPRING, SUMMER).	ONCORHYNCHUS TSHAWYTSCHA.	
			.	
LOUISIANA				
			.	
ASCENSION	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	CLAMS	HEELSPLITTER, INFLATED	POTAMILUS INFLATUS.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
		STURGEON, PALLID	Scaphirhynchus albus.	
ASSUMPTION	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
AVOYELLES	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
BIENVILLE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
BOSSIER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
CADDO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
CALDWELL	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
CAMERON	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
		PLOVER, PIPING	+haradrius melodus.	
	REPTILES	TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
CATAHOULA	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
CLAIBORNE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
CONCORDIA	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
DE SOTO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
EAST BATON ROUGE.	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	CLAMS	HEELSPLITTER, INFLATED	POTAMILUS INFLATUS.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
		STURGEON, PALLID	Scaphirhynchus albus.	
EAST CARROLL	BIRDS	TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
	BIRDS	TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
FRANKLIN	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
GRANT	CLAMS	PEARLSHELL, LOUISIANA	Margaritifera hembeli.	
	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
IBERIA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PELICAN, BROWN	Pelicanus occidentalis.	
		PLOVER, PIPING	+haradrius melodus.	
	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
IBERVILLE	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
JEFFERSON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PELICAN, BROWN	Pelicanus occidentalis.	
		PLOVER, PIPING	+haradrius melodus.	
	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
	REPTILES	TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
LA SALLE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
LAFOURCHE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PELICAN, BROWN	Pelicanus occidentalis.	
		PLOVER, PIPING	+haradrius melodus.	
	REPTILES	TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
LIVINGSTON	CLAMS	HEELSPLITTER, INFLATED	POTAMILUS INFLATUS.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
MADISON	BIRDS	TERN, CALIFORNIA LEAST	Sterna antillarum browni.	
	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
MOREHOUSE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
NATCHITOCHES	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
ORLEANS	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
		STURGEON, PALLID	Scaphirhynchus albus.	
OUACHITA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
PLAQUEMINES	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PELICAN, BROWN	Pelicanus occidentalis.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
		PLOVER, PIPING	+haradrius melodus.	
	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
POINTE COUPEE	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
RAPIDES	CLAMS	PEARLSHELL, LOUISIANA	Margaritifera hembeli.	
	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
RED RIVER	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
RICHLAND	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
SABINE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
ST. BERNARD	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PELICAN, BROWN	Pelicanus occidentalis.	
		PLOVER, PIPING	+haradrius melodus.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
		STURGEON, PALLID	Scaphirhynchus albus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
ST. CHARLES	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
		STURGEON, PALLID	Scaphirhynchus albus.	
ST. JAMES	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
ST. JOHN THE BAPTIST.	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
		STURGEON, PALLID	Scaphirhynchus albus.	
ST. LANDRY	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
ST. MARTIN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
ST. MARY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PELICAN, BROWN	Pelicanus occidentalis.	
		PLOVER, PIPING	+haradrius melodus.	
	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
	REPTILES	TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
ST. TAMMANY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PELICAN, BROWN	Pelicanus occidentalis.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
	REPTILES	TURTLE, RINGED SAWBACK	Graptemys oculifera.	
TANGIPAHOA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
TENSAS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
TERREBONNE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PELICAN, BROWN	Pelicanus occidentalis.	
		PLOVER, PIPING	+haradrius melodus.	
	REPTILES	TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
UNION	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
VERMILION	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
		PLOVER, PIPING	+haradrius melodus.	
	REPTILES	TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
WASHINGTON	FISHES	STURGEON, GULF	Acipenser oxyrhynchus desotoi.	
	REPTILES	TURTLE, RINGED SAWBACK	Graptemys oculifera.	
WEBSTER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
WEST BATON ROUGE.	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
WEST CARROLL	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
WEST FELICIANA	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
WINN	FISHES	STURGEON, PALLID	Scaphirhynchus albus.	
MASSACHUSETTS				
BARNSTABLE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, ROSEATE	Sterna dougalli dougalli.	
	REPTILES	TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
BRISTOL	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
	FISHES	STURGEON, SHORTNOSE	Acipenser brevirostrum.	
	REPTILES	TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
DUKES	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
	REPTILES	TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
ESSEX	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
	FISHES	STURGEON, SHORTNOSE	Acipenser brevirostrum.	
	REPTILES	TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
FRANKLIN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	STURGEON, SHORTNOSE	Acipenser brevirostrum.	
	PLANTS	BULRUSH, NORTHEASTERN (=BARBED BRISTLE.	Scirpus ancistrochaetus.	
HAMPDEN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	STURGEON, SHORTNOSE	Acipenser brevirostrum.	
HAMPSHIRE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	STURGEON, SHORTNOSE	Acipenser brevirostrum.	
MIDDLESEX	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
NANTUCKET	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
	REPTILES	TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
NORFOLK	REPTILES	TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
PLYMOUTH	BIRDS	CURLEW, ESKIMO	Numenius borealis.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, ROSEATE	Sterna dougalli dougalli.	
	REPTILES	TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
		TURTLE, PLYMOUTH RED-BELLIED	Pseudemys (Chrysemys) rubriventris.	
SUFFOLK	REPTILES	TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
WORCESTER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
MAINE				
ANDROSCOGGIN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
AROOSTOOK	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	PLANTS	ORCHID, EASTERN PRAIRIE FRINGED	Platanthera leucophaea.	
CUMBERLAND	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
	FISHES	STURGEON, SHORTNOSE	Acipenser brevirostrum.	
HANCOCK	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
KENNEBEC	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
KNOX	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
LINCOLN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
PENOBSCOT	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
PISCATAQUIS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
SAGADAHOC	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
	FISHES	STURGEON, SHORTNOSE	Acipenser brevirostrum.	
SOMERSET	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
WALDO	FISHES	STURGEON, SHORTNOSE	Acipenser brevirostrum.	
WASHINGTON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, ROSEATE	Sterna dougalli dougalli.	
YORK	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
		PLOVER, PIPING	+haradrius melodus.	
NORTHERN MARIANA ISLANDS				
WORCESTER	BIRDS	MALLARD, MARIANA	Anas oustaleti.	
		MEGAPODE, MICRONESIAN (LA PEROUSE'S).	Megapodius laperouse.	
	REPTILES	CROCODILE, SALTWATER	CROCODYLUS POROSUS.	
NEW HAMPSHIRE				
BELKNAP	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
CHESHIRE	CLAMS	MUSSEL, DWARF WEDGE	Alasmidonta heterodon.	
COOS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
GRAFTON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
HILLSBOROUGH	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
MERRIMACK	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
ROCKINGHAM	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
SULLIVAN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	CLAMS	MUSSEL, DWARF WEDGE	Alasmidonta heterodon.	
	PLANTS	MILK-VETCH, JESUP'S	Astragalus robbinsii var. jesupi.	
			.	
NEW MEXICO				
			.	
BERNALILLO	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	MINNOW, RIO GRANDE SILVERY	HYBOGNATHUS AMARUS.	
CATRON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	MINNOW, LOACH	Tiaroga cobitis.	
		SPIKEDACE	Meda fulgida.	
		TROUT, GILA	Salmo gilae.	
CHAVES	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
	FISHES	GAMBUSIA, PECOS	Gambusia nobilis.	
		SHINER, PECOS BLUNTNOSE	Notropis simus peconsensis.	
COLFAX	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
CURRY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
DE BACA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	SHINER, PECOS BLUNTNOSE	Notropis simus peconsensis.	
DONA ANA	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
EDDY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
	FISHES	GAMBUSIA, PECOS	Gambusia nobilis.	
		SHINER, PECOS BLUNTNOSE	Notropis simus peconsensis.	
GRANT	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	CHUB, CHIHUAHUA	Gila nigrescens.	
		MINNOW, LOACH	Tiaroga cobitis.	
		SHINER, BEAUTIFUL	Notropis formosus.	
		SPIKEDACE	Meda fulgida.	
		TOPMINNOW, GILA (YAQUI)	Poeciliopsis occidentalis.	
		TROUT, GILA	Salmo gilae.	
GUADALUPE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
HARDING	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
HIDALGO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	SPIKEDACE	Meda fulgida.	
LEA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
LINCOLN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
LOS ALAMOS	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
LUNA	BIRDS	CRANE, WHOOPING	Grus americana.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
		EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	SHINER, BEAUTIFUL	Notropis formosus.	
MCKINLEY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
MORA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
OTERO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	PLANTS	THISTLE, SACRAMENTO MOUNTAINS	Cirsium vinaceum.	
OTHER–999	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
QUAY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
RIO ARRIBA	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
ROOSEVELT	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
SAN JUAN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	SQUAWFISH, COLORADO	Ptychocheilus lucius.	
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS.	
SAN MIGUEL	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
SANDOVAL	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	MINNOW, RIO GRANDE SILVERY	HYBOGNATHUS AMARUS.	
SANTA FE	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
SIERRA	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	TROUT, GILA	Salmo gilae.	
SOCORRO	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
	CRUSTACEAN	ISOPOD, SOCORRO	Thermosphaeroma (=Exosphaeroma) thermophilus.	
	FISHES	MINNOW, RIO GRANDE SILVERY	HYBOGNATHUS AMARUS.	
	SNAILS	SPRINGSNAIL, ALAMOSA	Tryonia alamosae.	
		SPRINGSNAIL, SOCORRO	Pyrgulopsis neomexicana.	
TAOS	BIRDS	CRANE, WHOOPING	Grus americana.	
	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
TORRANCE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
UNION	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
VALENCIA	BIRDS	CRANE, WHOOPING	Grus americana.	
	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	MINNOW, RIO GRANDE SILVERY	HYBOGNATHUS AMARUS.	
NEVADA				
CARSON CITY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
CHURCHILL	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
CLARK	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
		RAIL, YUMA CLAPPER	Rallus longirostris yumanensis	IR
	FISHES	CHUB, BONYTAIL	Gila elegans	IR
		CHUB, VIRGIN RIVER	Gila robusta seminuda	IR
		DACE, MOAPA	Moapa coriacea	IR
		KILLIFISH, PAHRUMP	EMPETRICHYTHYS LATOS	IR
		PUPFISH, DEVILS HOLE	Cyprinodon diabolis	IR
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS	IR
		WOUNDFIN	Plagopterus argentissimus	IR
DOUGLAS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
ELKO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	DACE, CLOVER VALLEY SPECKLED	Rhinichthys osculus oligoporous	IR
		DACE, INDEPENDENCE VALLEY SPECKLED.	Rhinichthys osculus lethoporous	IR
		TROUT, LAHONTAN CUTTHROAT	Salmo clarki henshawi	IR
EUREKA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	TROUT, LAHONTAN CUTTHROAT	Salmo clarki henshawi	IR
HUMBOLDT	FISHES	DACE, DESERT	Eremichthys acros	IR
		TROUT, LAHONTAN CUTTHROAT	Salmo clarki henshawi	IR
LANDER	FISHES	TROUT, LAHONTAN CUTTHROAT	Salmo clarki henshawi	IR
LINCOLN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	CHUB, PAHRANAGAT ROUNDTAIL	Gila robusta jordani	IR
		SPINEDACE, BIG SPRING	Lepidomeda mollispinis pratensis	IR
		SPRINGFISH, HIKO WHITE RIVER	Crenichthys baileyi grandis	IR
		SPRINGFISH, WHITE RIVER	Crenichthys baileyi baileyi	IR

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
	PLANTS	LADIES'-TRESSES, UTE	Spiranthes diluvialis	IR
LYON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
MINERAL	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	SPRINGFISH, HIKO WHITE RIVER	Crenichthys baileyi grandis	IR
		SPRINGFISH, RAILROAD VALLEY	Crenichthys nevadae	IR
		TROUT, LAHONTAN CUTTHROAT	Salmo clarki henshawi	IR
	PLANTS	MILK-VETCH, SODAVILLE	ASTRAGALUS LENTIGINOSUS VAR. SESLQ MIMETRALIS.	IR
NYE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	POOLFISH, PAHRUMP	Empetrichthys latos	IR
		PUPFISH, ASH MEADOWS AMARGOSA	Cyprinodon nevadensis mionectes	IR
		PUPFISH, DEVILS HOLE	Cyprinodon diabolis	IR
		PUPFISH, WARM SPRINGS	Cyprinodon nevadensis pectoralis	IR
		SPINEDACE, WHITE RIVER	Lepidomeda albivallis	IR
		SPRINGFISH, RAILROAD VALLEY	Crenichthys nevadae	IR
		TROUT, LAHONTAN CUTTHROAT	Salmo clarki henshawi	IR
	INSECTS	NAUCORID, ASH MEADOWS	Ambrysus amargosus	IR
	PLANTS	CENTAURY, SPRING-LOVING	Centaurium namophilum var. namophilum	IR
		GUMPLANT, ASH MEADOWS	Grindelia fraxinopratensis	IR
		IVESIA, ASH MEADOWS	Ivesia kingii var. eremica	IR
PERSHING	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
STOREY	FISHES	TROUT, LAHONTAN CUTTHROAT	Salmo clarki henshawi	IR
WASHOE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	CUI-UI	Chasmistes cujus	IR
		SUCKER, WARNER	Catostomus warnerensis	IR
		TROUT, LAHONTAN CUTTHROAT	Salmo clarki henshawi	IR
	PLANTS	BUCKWHEAT, STEAMBOAT	Eriogonum ovalifolium var. williamsiae	IR
WHITE PINE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	KILLIFISH, PAHRUMP	EMPETRICHYTHYS LATOS	IR
		SPINEDACE, WHITE RIVER	Lepidomeda albivallis	IR
OKLAHOMA				
ADAIR	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
ALFALFA	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
ATOKA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
BEAVER	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
BECKHAM	BIRDS	CRANE, WHOOPING	Grus americana.	
BLAINE	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
BRYAN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
	REPTILES	ALLIGATOR, AMERICAN	Alligator mississippiensis.	
CADDO	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
CANADIAN	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
CARTER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
CHEROKEE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
CHOCTAW	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	PLANTS	ORCHID, EASTERN PRAIRIE FRINGED	Platanthera leucophaea.	
CIMARRON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
	FISHES	SHINER, ARKANSAS RIVER	NOTROPIS GIRARDI.	
CLEVELAND	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
COMANCHE	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
COTTON	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
CRAIG	FISHES	CAVEFISH, OZARK	Amblyopsis rosae.	
		MADTOM, NEOSHO	Noturus placidus.	
	PLANTS	ORCHID, WESTERN PRAIRIE FRINGED	Platanthera praeclara.	
CREEK	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
CUSTER	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
DELAWARE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	CAVEFISH, OZARK	Amblyopsis rosae.	
DEWEY	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
ELLIS	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
GARFIELD	BIRDS	CRANE, WHOOPING	Grus americana.	
GARVIN	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
GRADY	BIRDS	CRANE, WHOOPING	Grus americana.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
GRANT	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
GREER	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
HARMON	BIRDS	CRANE, WHOOPING	Grus americana.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
HARPER	BIRDS	CRANE, WHOOPING	Grus americana.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
HASKELL	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
HUGHES	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
JACKSON	BIRDS	CRANE, WHOOPING	Grus americana.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
JEFFERSON	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
JOHNSTON	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
KAY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
KINGFISHER	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
KIOWA	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
LE FLORE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
	CLAMS	ROCK-POCKETBOOK, OUACHITA	Arkansia (=Arcidens) wheeleri.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
		ROCK-POCKETBOOK, OUACHITA (=WHEELER'S PM).	Arkansia (=Arcidens) wheeleri.	
	FISHES	DARTER, LEOPARD	Percina pantherina.	
LINCOLN	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
LOGAN	BIRDS	CRANE, WHOOPING	Grus americana.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
LOVE	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
MAJOR	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
MARSHALL	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
MAYES	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	CAVEFISH, OZARK	Amblyopsis rosae.	
MCCLAIN	BIRDS	CRANE, WHOOPING	Grus americana.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
MCCURTAIN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
	FISHES	DARTER, LEOPARD	Percina pantherina.	
	REPTILES	ALLIGATOR, AMERICAN	Alligator mississippiensis.	
MCINTOSH	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
MURRAY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
MUSKOGEE	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
NOBLE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
NOWATA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
OKLAHOMA	BIRDS	CRANE, WHOOPING	Grus americana.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
OSAGE	BIRDS	CRANE, WHOOPING	Grus americana.	
		CURLEW, ESKIMO	Numenius borealis.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
OTTAWA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	CAVEFISH, OZARK	Amblyopsis rosae.	
		MADTOM, NEOSHO	Noturus placidus.	
PAWNEE	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
PAYNE	BIRDS	CRANE, WHOOPING	Grus americana.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
PITTSBURG	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
PONTOTOC	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
POTTAWATOMIE	BIRDS	TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
PUSHMATAHA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	CLAMS	ROCK-POCKETBOOK, OUACHITA	Arkansia (=Arcidens) wheeleri.	
		ROCK-POCKETBOOK, OUACHITA (=WHEELER'S PM).	Arkansia (=Arcidens) wheeleri.	
	FISHES	DARTER, LEOPARD	Percina pantherina.	
ROGER MILLS	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
ROGERS	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
	PLANTS	ORCHID, WESTERN PRAIRIE FRINGED	Platanthera praeclara.	
SEMINOLE	BIRDS	TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
SEQUOYAH	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
STEPHENS	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
TEXAS	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
TILLMAN	BIRDS	CRANE, WHOOPING	Grus americana.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
TULSA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
WAGONER	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
WASHINGTON	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
WASHITA	BIRDS	CRANE, WHOOPING	Grus americana.	
WOODS	BIRDS	CRANE, WHOOPING	Grus americana.	
		CURLEW, ESKIMO	Numenius borealis.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
WOODWARD	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
			.	
OREGON				
BAKER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR
	FISHES	SALMON, CHINOOK (SNAKE RIVER SPRING/SUMMER.	ONCORHYNCHUS TSHAWYTSCHA	IR
BENTON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
	FISHES	CHUB, OREGON	OREGONICHTHYS CRAMERI	IR
	PLANTS	CHECKER-MALLOW, NELSON'S	SIDALCEA NELSONIANA	IR
		LOMATIUM, BRADSHAW'S	Lomatium bradshawii	IR
CLACKAMAS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	CHUB, OREGON	OREGONICHTHYS CRAMERI	IR
	PLANTS	CHECKER-MALLOW, NELSON'S	SIDALCEA NELSONIANA	IR
CLATSOP	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
	FISHES	SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA	IR

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
COLUMBIA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA	IR
COOS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
CROOK	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
CURRY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
DESCHUTES	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
DOUGLAS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
GILLIAM	FISHES	SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA	IR
GRANT	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
HARNEY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	CHUB, BORAX LAKE	Gila boraxobius	IR
		TROUT, LAHONTAN CUTTHROAT	Salmo clarki henshawi	IR
HOOD RIVER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA	IR
JACKSON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
JEFFERSON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
JOSEPHINE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
KLAMATH	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	SUCKER, LOST RIVER	Deltistes luxatus	IR
		SUCKER, SHORTNOSE	Chasmistes brevirostris	IR
LAKE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	CHUB, HUTTON TUI	Gila bicolor ssp.	IR
		DACE, FOSKETT SPECKLED	Rhinichthys osculus ssp.	IR
		SUCKER, WARNER	Catostomus warnerensis	IR
LANE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
	FISHES	CHUB, OREGON	OREGONICHTHYS CRAMERI	IR
	PLANTS	LOMATIUM, BRADSHAW'S	Lomatium bradshawii	IR
LINCOLN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
LINN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	CHUB, OREGON	OREGONICHTHYS CRAMERI	IR
	PLANTS	CHECKER-MALLOW, NELSON'S	SIDALCEA NELSONIANA	IR
		LOMATIUM, BRADSHAW'S	Lomatium bradshawii	IR
MALHEUR	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	SALMON, CHINOOK (SNAKE RIVER SPRING/SUMMER.	ONCORHYNCHUS TSHAWYTSCHA	IR
MARION	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
	FISHES	CHUB, OREGON	OREGONICHTHYS CRAMERI	IR
	PLANTS	CHECKER-MALLOW, NELSON'S	SIDALCEA NELSONIANA	IR
		LOMATIUM, BRADSHAW'S	Lomatium bradshawii	IR
MORROW	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA	IR
MULTNOMAH	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA	IR
POLK	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR
	FISHES	CHUB, OREGON	OREGONICHTHYS CRAMERI	IR

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
	PLANTS	CHECKER-MALLOW, NELSON'S	SIDALCEA NELSONIANA	IR
		LOMATIUM, BRADSHAW'S	Lomatium bradshawii	IR
SHERMAN	FISHES	SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA	IR
TILLAMOOK	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR
		PELICAN, BROWN	Pelicanus occidentalis	IR
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR
	PLANTS	CHECKER-MALLOW, NELSON'S	SIDALCEA NELSONIANA	IR
UMATILLA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA	IR
UNION	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	SALMON, CHINOOK (SNAKE RIVER SPRING/SUMMER.	ONCORHYNCHUS TSHAWYTSCHA	IR
WALLOWA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	SALMON, CHINOOK (SNAKE RIVER SPRING/SUMMER.	ONCORHYNCHUS TSHAWYTSCHA	IR
		SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA	IR
WASCO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA	IR
WASHINGTON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	PLANTS	CHECKER-MALLOW, NELSON'S	SIDALCEA NELSONIANA	IR
WHEELER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
YAMHILL	PLANTS	CHECKER-MALLOW, NELSON'S	SIDALCEA NELSONIANA	IR
PUERTO RICO				
ADJUNTAS	AMPHIBIANS	COQUI, GOLDEN	Eleutherodactylus jasperi.	
AGUADA	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
AGUADILLA	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
ANASCO	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
ARECIBO	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	PLANTS	PALMA DE MANACA	Calyptronoma rivalis.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
ARROYA	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
BARCELONETA	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
CABO ROJO	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
		PLOVER, PIPING	+haradrius melodus.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	PLANTS	COBANA NEGRA	Stahlia monosperma.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
CAMUY	PLANTS	PALMA DE MANACA	Calyptronoma rivalis.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
CAROLINA	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
CATANO	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
CEIBA	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
CIALES	PLANTS	FERN, THELYPTERIS INABONENSIS	THELYPTERIS INABONENSIS.	
		FERN, THELYPTERIS YAUCOENSIS	THELYPTERIS YAUCOENSIS.	
COAMO	AMPHIBIANS	TOAD, PUERTO RICAN CRESTED	Peltophryne lemur.	
CULEBRA	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
		TERN, ROSEATE	Sterna dougalli dougalli.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
DORADO	AMPHIBIANS	TOAD, PUERTO RICAN CRESTED	Peltophryne lemur.	
	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
FAJARDO	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
GUANICA	AMPHIBIANS	TOAD, PUERTO RICAN CRESTED	Peltophryne lemur.	
	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
GUAYAMA	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
GUAYANILLA	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
HATILLO	PLANTS	FERN, THELYPTERIS VERECUNDA	THELYPTERIS VERECUNDA.	
		PALMA DE MANACA	Calyptronoma rivalis.	
HUMACAO	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
	REPTILES	TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
ISABELA	AMPHIBIANS	TOAD, PUERTO RICAN CRESTED	Peltophryne lemur.	
	REPTILES	TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
JUANA DIAZ	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
LAJAS	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
		TERN, ROSEATE	Sterna dougalli dougalli.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	PLANTS	COBANA NEGRA	Stahlia monosperma.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
LOIZA	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
LUQUILLO	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	PLANTS	COBANA NEGRA	Stahlia monosperma.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
MANATI	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
MAUNABO	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
MAYAGUEZ	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
NAGUABO	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
PATILLAS	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
PENUELAS	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
PONCE	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	PLANTS	FERN, THELYPTERIS INABONENSIS	THELYPTERIS INABONENSIS.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
QUEBRADILLAS	AMPHIBIANS	TOAD, PUERTO RICAN CRESTED	Peltophryne lemur.	
	PLANTS	FERN, THELYPTERIS VERECUNDA	THELYPTERIS VERECUNDA.	
		PALMA DE MANACA	Calyptronoma rivalis.	
RINCON	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
RIO GRANDE	PLANTS	COBANA NEGRA	Stahlia monosperma.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
SALINAS	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
SAN JUAN	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
SAN SEBASTIAN	PLANTS	FERN, THELYPTERIS VERECUNDA	THELYPTERIS VERECUNDA.	
		PALMA DE MANACA	Calyptronoma rivalis.	
SANTA ISABEL	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
TOA BAJA	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
UTUADO	PLANTS	PALMA DE MANACA	Calyptronoma rivalis.	
VEGA ALTA	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
VEGA BAJA	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
VIEQUES	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
	PLANTS	COBANA NEGRA	Stahlia monosperma.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
YABUCOA	MAMMALS	MANATEE, WEST INDIAN (FLORIDA)	Trichechus manatus.	
YAUCO	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
	PLANTS	FERN, THELYPTERIS YAUCOENSIS	THELYPTERIS YAUCOENSIS.	
	REPTILES	TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
RHODE ISLAND				
KENT	FISHES	STURGEON, SHORTNOSE	Acipenser brevirostrum	IR
NEWPORT	BIRDS	PLOVER, PIPING	+haradrius melodus	IR
	FISHES	STURGEON, SHORTNOSE	Acipenser brevirostrum	IR
WASHINGTON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
		PLOVER, PIPING	+haradrius melodus	IR
	FISHES	STURGEON, SHORTNOSE	Acipenser brevirostrum	IR
TEXAS				
ANDERSON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
ANGELINA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
ARANSAS	BIRDS	CRANE, WHOOPING	Grus americana.	
		CURLEW, ESKIMO	Numenius borealis.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
ARCHER	BIRDS	CRANE, WHOOPING	Grus americana.	
AUSTIN	AMPHIBIANS	TOAD, HOUSTON	Bufo houstonensis.	
	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
BAILEY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
BASTROP	AMPHIBIANS	TOAD, HOUSTON	Bufo houstonensis.	
	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
BAYLOR	BIRDS	CRANE, WHOOPING	Grus americana.	
BEE	BIRDS	CRANE, WHOOPING	Grus americana.	
BELL	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
BEXAR	BIRDS	CRANE, WHOOPING	Grus americana.	
BLANCO	BIRDS	CRANE, WHOOPING	Grus americana.	
BOSQUE	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
BOWIE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
BRAZORIA	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PELICAN, BROWN	Pelicanus occidentalis.	
		PLOVER, PIPING	+haradrius melodus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
BRAZOS	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
	PLANTS	LADIES'-TRESSES, NAVASOTA	Spiranthes parksii.	
BREWSTER	FISHES	GAMBUSIA, BIG BEND	Gambusia gaigei.	
BROWN	BIRDS	CRANE, WHOOPING	Grus americana.	
	REPTILES	SNAKE, CONCHO WATER	Nerodia harteri paucimaculata.	
BURLESON	AMPHIBIANS	TOAD, HOUSTON	Bufo houstonensis.	
	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
	PLANTS	LADIES'-TRESSES, NAVASOTA	Spiranthes parksii.	
BURNET	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
CALDWELL	BIRDS	CRANE, WHOOPING	Grus americana.	
	FISHES	DARTER, FOUNTAIN	Etheostoma fonticola.	
CALHOUN	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PELICAN, BROWN	Pelicanus occidentalis.	
		PLOVER, PIPING	+haradrius melodus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
CAMERON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PELICAN, BROWN	Pelicanus occidentalis.	
		PLOVER, PIPING	+haradrius melodus.	
	FISHES	MINNOW, RIO GRANDE SILVERY	HYBOGNATHUS AMARUS.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
CASS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
CHAMBERS	BIRDS	CURLEW, ESKIMO	Numenius borealis.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PELICAN, BROWN	Pelicanus occidentalis.	
		PLOVER, PIPING	+haradrius melodus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
CHEROKEE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
CHILDRESS	BIRDS	CRANE, WHOOPING	Grus americana.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
CLAY	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
COKE	REPTILES	SNAKE, CONCHO WATER	Nerodia harteri paucimaculata.	
COLEMAN	BIRDS	CRANE, WHOOPING	Grus americana.	
	REPTILES	SNAKE, CONCHO WATER	Nerodia harteri paucimaculata.	
COLLINGSWORTH	BIRDS	CRANE, WHOOPING	Grus americana.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
COLORADO	AMPHIBIANS	TOAD, HOUSTON	Bufo houstonensis.	
	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
COMAL	AMPHIBIANS	SALAMANDER, SAN MARCOS	Eurycea nana.	
	FISHES	DARTER, FOUNTAIN	Etheostoma fonticola.	
COMANCHE	BIRDS	CRANE, WHOOPING	Grus americana.	
CONCHO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	REPTILES	SNAKE, CONCHO WATER	Nerodia harteri paucimaculata.	
COOKE	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
CORYELL	BIRDS	CRANE, WHOOPING	Grus americana.	
DE WITT	BIRDS	CRANE, WHOOPING	Grus americana.	
EDWARDS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	PLANTS	SNOWBELLS, TEXAS	Styrax texana.	
ELLIS	BIRDS	CRANE, WHOOPING	Grus americana.	
ERATH	BIRDS	CRANE, WHOOPING	Grus americana.	
FALLS	BIRDS	CRANE, WHOOPING	Grus americana.	
FANNIN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
FAYETTE	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
FORT BEND	AMPHIBIANS	TOAD, HOUSTON	Bufo houstonensis.	
	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
FREESTONE	AMPHIBIANS	TOAD, HOUSTON	Bufo houstonensis.	
	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	PLANTS	LADIES'-TRESSES, NAVASOTA	Spiranthes parksii.	
GALVESTON	BIRDS	CURLEW, ESKIMO	Numenius borealis.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PELICAN, BROWN	Pelicanus occidentalis.	
		PLOVER, PIPING	+haradrius melodus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
GILLESPIE	BIRDS	CRANE, WHOOPING	Grus americana.	
GOLIAD	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
GONZALES	BIRDS	CRANE, WHOOPING	Grus americana.	
GRAYSON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PLOVER, PIPING	+haradrius melodus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
GREGG	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
GRIMES	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	PLANTS	LADIES'-TRESSES, NAVASOTA	Spiranthes parksii.	
GUADALUPE	BIRDS	CRANE, WHOOPING	Grus americana.	
HALL	BIRDS	TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
	BIRDS	TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
HAMILTON	BIRDS	CRANE, WHOOPING	Grus americana.	
HARDEMAN	BIRDS	CRANE, WHOOPING	Grus americana.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
HARDIN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
HARRISON	AMPHIBIANS	TOAD, HOUSTON	Bufo houstonensis.	
	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
HASKELL	BIRDS	CRANE, WHOOPING	Grus americana.	
HAYS	AMPHIBIANS	SALAMANDER, SAN MARCOS	Eurycea nana.	
		SALAMANDER, TEXAS BLIND	Typhlomolge rathbuni.	
	BIRDS	CRANE, WHOOPING	Grus americana.	
	FISHES	DARTER, FOUNTAIN	Etheostoma fonticola.	
		GAMBUSIA, SAN MARCOS	Gambusia georgei.	
	PLANTS	WILD-RICE, TEXAS	Zizania texana.	
HEMPHILL	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
HENDERSON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
HILL	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
HOOD	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
HOUSTON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
HUNT	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
HUTCHINSON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
IRION	REPTILES	SNAKE, CONCHO WATER	Nerodia harteri paucimaculata.	
JACKSON	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PELICAN, BROWN	Pelicanus occidentalis.	
JASPER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	PLANTS	LADIES'-TRESSES, NAVASOTA	Spiranthes parksii.	
JEFF DAVIS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	FISHES	GAMBUSIA, PECOS	Gambusia nobilis.	
		PUPFISH, COMANCHE SPRINGS	Cyprinodon elegans.	
	PLANTS	PONDWEED, LITTLE AGUJA CREEK	Potamogeton clystocarpus.	
JEFFERSON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		PELICAN, BROWN	Pelicanus occidentalis.	
		PLOVER, PIPING	+haradrius melodus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
JOHNSON	BIRDS	CRANE, WHOOPING	Grus americana.	
JONES	BIRDS	CRANE, WHOOPING	Grus americana.	
KARNES	BIRDS	CRANE, WHOOPING	Grus americana.	
KENEDY	BIRDS	CURLEW, ESKIMO	Numenius borealis.	
		PELICAN, BROWN	Pelicanus occidentalis.	
		PLOVER, PIPING	+haradrius melodus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
KIMBLE	PLANTS	SNOWBELLS, TEXAS	Styrax texana.	
KING	BIRDS	CRANE, WHOOPING	Grus americana.	
KLEBERG	BIRDS	CURLEW, ESKIMO	Numenius borealis.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PELICAN, BROWN	Pelicanus occidentalis.	
		PLOVER, PIPING	+haradrius melodus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
KNOX	BIRDS	CRANE, WHOOPING	Grus americana.	
LAMAR	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
LAMPASAS	BIRDS	CRANE, WHOOPING	Grus americana.	
	REPTILES	SNAKE, CONCHO WATER	Nerodia harteri paucimaculata.	
LAVACA	AMPHIBIANS	TOAD, HOUSTON	Bufo houstonensis.	
	BIRDS	CRANE, WHOOPING	Grus americana.	
LEE	AMPHIBIANS	TOAD, HOUSTON	Bufo houstonensis.	
	BIRDS	CRANE, WHOOPING	Grus americana.	
LEON	AMPHIBIANS	TOAD, HOUSTON	Bufo houstonensis.	
	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	PLANTS	LADIES'-TRESSES, NAVASOTA	Spiranthes parksii.	
LIBERTY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
LIMESTONE	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
LIPSCOMB	BIRDS	CRANE, WHOOPING	Grus americana.	
LLANO	BIRDS	CRANE, WHOOPING	Grus americana.	
MADISON	PLANTS	LADIES'-TRESSES, NAVASOTA	Spiranthes parksii.	
MARION	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
MASON	BIRDS	CRANE, WHOOPING	Grus americana.	
MATAGORDA	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PELICAN, BROWN	Pelicanus occidentalis.	
		PLOVER, PIPING	+haradrius melodus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
MAVERICK	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
	REPTILES	SNAKE, CONCHO WATER	Nerodia harteri paucimaculata.	
MENARD	FISHES	GAMBUSIA, CLEAR CREEK	Gambusia heterochir.	
MIDLAND	BIRDS	CRANE, WHOOPING	Grus americana.	
MILAM	AMPHIBIANS	TOAD, HOUSTON	Bufo houstonensis.	
MILLS	BIRDS	CRANE, WHOOPING	Grus americana.	
	REPTILES	SNAKE, CONCHO WATER	Nerodia harteri paucimaculata.	
MONTAGUE	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
MONTGOMERY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
MOORE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
MORRIS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
NACOGDOCHES	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
NEWTON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
NUECES	BIRDS	PELICAN, BROWN	Pelicanus occidentalis.	
		PLOVER, PIPING	+haradrius melodus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SEA.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
OCHILTREE	BIRDS	CRANE, WHOOPING	Grus americana.	
ORANGE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
PALO PINTO	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
PANOLA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
PARKER	BIRDS	CRANE, WHOOPING	Grus americana.	
PECOS	FISHES	GAMBUSIA, PECOS	Gambusia nobilis.	
		PUPFISH, LEON SPRINGS	Cyprinodon bovinus.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
POLK	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
POTTER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
RANDALL	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
REAL	PLANTS	SNOWBELLS, TEXAS	Styrax texana.	
RED RIVER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
REEVES	FISHES	GAMBUSIA, PECOS	Gambusia nobilis.	
		PUPFISH, COMANCHE SPRINGS	Cyprinodon elegans.	
REFUGIO	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PELICAN, BROWN	Pelicanus occidentalis.	
		PLOVER, PIPING	+haradrius melodus.	
ROBERTS	BIRDS	TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
ROBERTSON	AMPHIBIANS	TOAD, HOUSTON	Bufo houstonensis.	
	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
	PLANTS	LADIES'-TRESSES, NAVASOTA	Spiranthes parksii.	
RUNNELS	REPTILES	SNAKE, CONCHO WATER	Nerodia harteri paucimaculata.	
RUSK	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
SABINE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
SAN AUGUSTINE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
SAN JACINTO	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
SAN PATRICIO	BIRDS	CRANE, WHOOPING	Grus americana.	
		PELICAN, BROWN	Pelicanus occidentalis.	
		PLOVER, PIPING	+haradrius melodus.	
SAN SA BA	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
	REPTILES	SNAKE, CONCHO WATER	Nerodia harteri paucimaculata.	
SHACKELFORD	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
SHELBY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
SOMERVELL	BIRDS	CRANE, WHOOPING	Grus americana.	
STARR	BIRDS	TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
STERLING	BIRDS	CRANE, WHOOPING	Grus americana.	
TARRANT	BIRDS	PLOVER, PIPING	+haradrius melodus.	
THROCKMORTON	BIRDS	CRANE, WHOOPING	Grus americana.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
TOM GREEN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
	REPTILES	SNAKE, CONCHO WATER	Nerodia harteri paucimaculata.	
TRAVIS	AMPHIBIANS	SALAMANDER, BARTON SPRINGS	EURYCEA SOSORUM.	
	BIRDS	CRANE, WHOOPING	Grus americana.	
TRINITY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
TYLER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
UPSHUR	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
UVALDE	PLANTS	SNOWBELLS, TEXAS	Styrax texana.	
VAL VERDE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
	PLANTS	SNOWBELLS, TEXAS	Styrax texana.	
VICTORIA	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
		PELICAN, BROWN	Pelicanus occidentalis.	
WALKER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	
WALLER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus.	

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
WASHINGTON	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
	PLANTS	LADIES'-TRESSES, NAVASOTA	Spiranthes parksii.	
WEBB	BIRDS	TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
WHARTON	BIRDS	CRANE, WHOOPING	Grus americana.	
		EAGLE, BALD	Haliaeetus leucocephalus.	
WHEELER	BIRDS	CRANE, WHOOPING	Grus americana.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
WICHITA	BIRDS	CRANE, WHOOPING	Grus americana.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
WILBARGER	BIRDS	CRANE, WHOOPING	Grus americana.	
		TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
WILLACY	BIRDS	CURLEW, ESKIMO	Numenius borealis.	
		PELICAN, BROWN	Pelicanus occidentalis.	
		PLOVER, PIPING	+haradrius melodus.	
	REPTILES	TURTLE, GREEN SEA	Chelonia mydas.	
		TURTLE, HAWKSBILL SEA	Eretmochelys imbricata.	
		TURTLE, KEMP'S (ATLANTIC) RIDLEY SE.	Lepidochelys kempii.	
		TURTLE, LEATHERBACK SEA	Dermochelys coriacea.	
		TURTLE, LOGGERHEAD SEA	Caretta caretta.	
WILLIAMSON	BIRDS	CRANE, WHOOPING	Grus americana.	
WILSON	BIRDS	CRANE, WHOOPING	Grus americana.	
WISE	BIRDS	CRANE, WHOOPING	Grus americana.	
YOUNG	BIRDS	CRANE, WHOOPING	Grus americana.	
ZAPATA	BIRDS	TERN, INTERIOR (POPULATION LEAST).	Sterna antillarum.	
		TERN, INTERIOR (POPULATION) LEAST.	Sterna antillarum.	
UTAH				
BEAVER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	PLANTS	MILK-VETCH, RYDBERG	ASTRAGALUS PERIANUS	IR
BOX ELDER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	TROUT, LAHONTAN CUTTHROAT	Salmo clarki henshawi	IR
CACHE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
CARBON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	CHUB, BONYTAIL	Gila elegans	IR
		CHUB, HUMPBACK	Gila cypha	IR
		SQUAWFISH, COLORADO	Ptychocheilus lucius	IR
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS	IR
DAGGETT	BIRDS	CRANE, WHOOPING	Grus americana	IR
		EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	SQUAWFISH, COLORADO	Ptychocheilus lucius	IR
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS	IR
	PLANTS	LADIES'-TRESSES, UTE	Spiranthes diluvialis	IR
DAVIS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
DUCHESNE	BIRDS	CRANE, WHOOPING	Grus americana	IR
		EAGLE, BALD	Haliaeetus leucocephalus	IR
	PLANTS	LADIES'-TRESSES, UTE	Spiranthes diluvialis	IR
EMERY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	CHUB, BONYTAIL	Gila elegans	IR
		CHUB, HUMPBACK	Gila cypha	IR
		SQUAWFISH, COLORADO	Ptychocheilus lucius	IR
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS	IR
	PLANTS	CYCLADENIA, JONES	Cycladenia humilis var. jonesii	IR
GARFIELD	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	CHUB, BONYTAIL	Gila elegans	IR
		CHUB, HUMPBACK	Gila cypha	IR

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
		SQUAWFISH, COLORADO	Ptychocheilus lucius	IR
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS	IR
	PLANTS	BUTTERCUP, AUTUMN	Ranunculus acriformis var. aestiva	IR
		CYCLADENIA, JONES	Cycladenia humilis var. jonesii	IR
		LADIES'-TRESSES, UTE	Spiranthes diluvialis	IR
		MILK-VETCH, RYDBERG	ASTRAGALUS PERIANUS	IR
GRAND	BIRDS	CRANE, WHOOPING	Grus americana	IR
		EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	CHUB, BONYTAIL	Gila elegans	IR
		CHUB, HUMPBACK	Gila cypha	IR
		SQUAWFISH, COLORADO	Ptychocheilus lucius	IR
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS	IR
	PLANTS	CYCLADENIA, JONES	Cycladenia humilis var. jonesii	IR
IRON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	PLANTS	MILK-VETCH, RYDBERG	ASTRAGALUS PERIANUS	IR
JUAB	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
KANE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	CHUB, BONYTAIL	Gila elegans	IR
		SQUAWFISH, COLORADO	Ptychocheilus lucius	IR
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS	IR
	PLANTS	CYCLADENIA, JONES	Cycladenia humilis var. jonesii	IR
	SNAILS	AMBERSNAIL, KANAB	OXYLOMA HAYDENI KANABENSIS	IR
MILLARD	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
MORGAN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
PIUTE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	PLANTS	MILK-VETCH, RYDBERG	ASTRAGALUS PERIANUS	IR
RICH	BIRDS	CRANE, WHOOPING	Grus americana	IR
		EAGLE, BALD	Haliaeetus leucocephalus	IR
SALT LAKE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	PLANTS	LADIES'-TRESSES, UTE	Spiranthes diluvialis	IR
SAN JUAN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	CHUB, BONYTAIL	Gila elegans	IR
		CHUB, HUMPBACK	Gila cypha	IR
		SQUAWFISH, COLORADO	Ptychocheilus lucius	IR
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS	IR
	PLANTS	SEDGE, NAVAJO	Carex specuicola	IR
SANPETE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
SEVIER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	PLANTS	MILK-VETCH, RYDBERG	ASTRAGALUS PERIANUS	IR
SUMMIT	BIRDS	CRANE, WHOOPING	Grus americana	IR
		EAGLE, BALD	Haliaeetus leucocephalus	IR
TOOELE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	PLANTS	LADIES'-TRESSES, UTE	Spiranthes diluvialis	IR
UINTAH	BIRDS	CRANE, WHOOPING	Grus americana	IR
		EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	CHUB, BONYTAIL	Gila elegans	IR
		CHUB, HUMPBACK	Gila cypha	IR
		SQUAWFISH, COLORADO	Ptychocheilus lucius	IR
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS	IR
	PLANTS	LADIES'-TRESSES, UTE	Spiranthes diluvialis	IR
UTAH	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	SUCKER, JUNE	Chasmistes liorus	IR
	PLANTS	LADIES'-TRESSES, UTE	Spiranthes diluvialis	IR
WASATCH	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
WASHINGTON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	CHUB, VIRGIN RIVER	Gila robusta seminuda	IR
		WOUNDFIN	Plagopterus argentissimus	IR
WAYNE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	FISHES	CHUB, BONYTAIL	Gila elegans	IR
		CHUB, HUMPBACK	Gila cypha	IR
		SQUAWFISH, COLORADO	Ptychocheilus lucius	IR
		SUCKER, RAZORBACK	XYRAUCHEN TEXANUS	IR
	PLANTS	LADIES'-TRESSES, UTE	Spiranthes diluvialis	IR
WEBER	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR
	PLANTS	LADIES'-TRESSES, UTE	Spiranthes diluvialis	IR
VERMONT				
ADDISON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,F
BENNINGTON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,F
CALEDONIA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,F
CHITTENDEN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,F

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
ESSEX	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,F
FRANKLIN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,F
GRAND ISLE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,F
LAMOILLE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,F
ORANGE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,F
ORLEANS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,F
RUTLAND	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,F
WASHINGTON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,F
WINDHAM	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,F
	PLANTS	BULRUSH, NORTHEASTERN (=BARBED BRIS.	Scirpus ancistrochaetus	IR,F
WINDSOR	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,F
	CLAMS	MUSSEL, DWARF WEDGE	Alasmidonta heterodon	IR,F
	PLANTS	MILK-VETCH, JESUP'S	Astragalus robbinsii var. jesupi	IR,F
WASHINGTON				
ADAMS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
ASOTIN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
	FISHES	SALMON, CHINOOK (SNAKE RIVER SPRING/SUMMER).	ONCORHYNCHUS TSHAWYTSCHA	IR,FF
		SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA	IR,FF
BENTON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
	FISHES	SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA	IR,FF
CHELAN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
	MAMMALS	BEAR, GRIZZLY	Ursus arctos (=U.a. horribilis)	IR,FF
CLALLAM	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR,FF
		PELICAN, BROWN	Pelicanus occidentalis	IR,FF
CLARK	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
	FISHES	SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA	IR,FF
	PLANTS	HOWELLIA, WATER	HOWELLIA AQUATILIS	IR,FF
COLUMBIA	FISHES	SALMON, CHINOOK (SNAKE RIVER SPRING/SUMMER.	ONCORHYNCHUS TSHAWYTSCHA	IR,FF
		SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA	IR,FF
COWLITZ	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR,FF
	FISHES	SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA	IR,FF
	PLANTS	CHECKER-MALLOW, NELSON'S	SIDALCEA NELSONIANA	IR,FF
DOUGLAS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
FERRY	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
	MAMMALS	BEAR, GRIZZLY	Ursus arctos (=U.a. horribilis)	IR,FF
FRANKLIN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
	FISHES	SALMON, CHINOOK (SNAKE RIVER SPRING/SUMMER).	ONCORHYNCHUS TSHAWYTSCHA	IR,FF
		SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA	IR,FF
GARFIELD	FISHES	SALMON, CHINOOK (SNAKE RIVER SPRING/SUMMER).	ONCORHYNCHUS TSHAWYTSCHA	IR,FF
		SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA	IR,FF
GRANT	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
GRAYS HARBOR	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR,FF
		PELICAN, BROWN	Pelicanus occidentalis	IR,FF
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR,FF
ISLAND	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR,FF
JEFFERSON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR,FF
		PELICAN, BROWN	Pelicanus occidentalis	IR,FF
KING	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR,FF
	MAMMALS	BEAR, GRIZZLY	Ursus arctos (=U.a. horribilis)	IR,FF
KITSAP	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR,FF
KITTITAS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR,FF
	MAMMALS	BEAR, GRIZZLY	Ursus arctos (=U.a. horribilis)	IR,FF
KLICKITAT	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
	FISHES	SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA	IR,FF
LEWIS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR,FF

II. COUNTY/SPECIES LIST—Continued

[The following list identifies federally listed or proposed U.S. species by State and County. It has been updated through March 31, 1995.]

State/County	Group name	Inventory name	Scientific name	IR/FF*
	MAMMALS	BEAR, GRIZZLY	Ursus arctos (=U.a. horribilis)	IR,FF
LINCOLN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
MASON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
	PLANTS	HOWELLIA, WATER	HOWELLIA AQUATILIS	IR,FF
OKANOGAN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
	MAMMALS	BEAR, GRIZZLY	Ursus arctos (=U.a. horribilis)	IR,FF
PACIFIC	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
		GOOSE, ALEUTIAN CANADA	Branta canadensis leucopareia	IR,FF
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR,FF
		PELICAN, BROWN	Pelicanus occidentalis	IR,FF
		PLOVER, WESTERN SNOWY	CHARADRIUS ALEXANDRINUS NIVOSUS.	IR,FF
	FISHES	SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA	IR,FF
PEND OREILLE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
	MAMMALS	BEAR, GRIZZLY	Ursus arctos (=U.a. horribilis)	IR,FF
PIERCE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR,FF
	MAMMALS	BEAR, GRIZZLY	Ursus arctos (=U.a. horribilis)	IR,FF
SAN JUAN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
SKAGIT	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR,FF
	MAMMALS	BEAR, GRIZZLY	Ursus arctos (=U.a. horribilis)	IR,FF
SKAMANIA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
	FISHES	SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA	IR,FF
SNOHOMISH	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR,FF
	MAMMALS	BEAR, GRIZZLY	Ursus arctos (=U.a. horribilis)	IR,FF
SPOKANE	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
	PLANTS	HOWELLIA, WATER	HOWELLIA AQUATILIS	IR,FF
STEVENS	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
	MAMMALS	BEAR, GRIZZLY	Ursus arctos (=U.a. horribilis)	IR,FF
THURSTON	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR,FF
	PLANTS	HOWELLIA, WATER	HOWELLIA AQUATILIS	IR,FF
WAHKIAKUM	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR,FF
		PELICAN, BROWN	Pelicanus occidentalis	IR,FF
WALLA WALLA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
	FISHES	SALMON, CHINOOK (SNAKE RIVER SPRING/SUMMER.	ONCORHYNCHUS TSHAWYTSCHA	IR,FF
		SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA	IR,FF
WHATCOM	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
		MURRELET, MARBLED	BRACHYRAMPHUS MARMORATUS	IR,FF
	FISHES	SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA	IR,FF
	MAMMALS	BEAR, GRIZZLY	Ursus arctos (=U.a. horribilis)	IR,FF
WHITMAN	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
	FISHES	SALMON, CHINOOK (SNAKE RIVER SPRING/SUMMER).	ONCORHYNCHUS TSHAWYTSCHA	IR,FF
		SALMON, SNAKE RIVER SOCKEYE	ONCORHYNCHUS NERKA	IR,FF
YAKIMA	BIRDS	EAGLE, BALD	Haliaeetus leucocephalus	IR,FF
	MAMMALS	BEAR, GRIZZLY	Ursus arctos (=U.a. horribilis)	IR,FF

*Permit is being issued for these areas only: IR=Federal Indian Reservations, FF=Federal Facilities.

[FR Doc. 95–23257 Filed 9–28–95; 8:45 am]
BILLING CODE 6560–50–P

PARTIAL LIST OF LARGE, MEDIUM, AND DESIGNATED MUNICIPALITIES

[Counties]

State	County
Alabama	Baldwin county.[1]
	Jefferson county.[6]
	Mobile county.[7]
	Shelby county.[8]
	St. Clair county.[9]
Arizona	Pima County.*
California	Alameda County.*
	Contra Costa County.*
	Kern County.*
	Lake Tahoe Basin.* (2 counties).
	Los Angeles County.*
	Orange County.*
	Riverside County.*
	Sacramento County.
	San Bernardino County.*
	San Diego County.*