ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 261, 264, 265, 269, 270, and 271

[FRL No. 3078-2]

Hazardous Waste Treatment, Storage, and Disposal Facilities; Air Emission Standards for Volatile Organics Control

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule and notice of public hearing.

SUMMARY: The proposed standards would limit emissions of volatile organics (VO) at hazardous waste treatment, storage, and disposal facilities (TSDF) where (a) equipment at the facilities contain hazardous wastes or derivatives of hazardous wastes and (b) these wastes or their derivatives contain 10 percent or more total organics. The proposed standards implement, in part, Section 3004(n) of the Resource Conservation and Recovery Act (RCRA), as amended. The intent of this proposed rule is to reduce the threat to human health and the environment posed by air emissions from certain hazardous organic waste management practices, e.g., reclamation and equipment associated with incineration of organic hazardous wastes.

DATES: *Comments.* The EPA will accept comments from the public on the proposed standards until April 6, 1987. A public hearing will be held on this proposed rulemaking to provide interested parties an opportunity for oral presentations of data or views concerning the proposed standards. See Section XI of this preamble for the schedule and location of this public hearing and a brief summary of how it will be conducted.

Incorporation by reference. The incorporation by reference of certain publications in these standards will be approved by the Director of the Federal Register as of the date of publication of the final rule.

ADDRESSES: *Comments.* Comments may be mailed to the Docket Clerk (Docket Number F-86-AESP, Air Emission Standards for Volatile Organics Control), Office of Solid Waste (WH-562), U.S. Environmental Protection Agency, 401 M Street SW, Washington, DC 20460. Comments received by EPA and all references used in this document may be inspected in Room S-212, U.S. Environmental Protection Agency, 401 M Street SW, Washington, DC, from 9:00 a.m. to 4:00 p.m., Monday through Friday, excluding legal holidays.

Background information document. The technical notes for the proposed standards may be obtained from the U.S. EPA Library (MD-35), Research Triangle Park, North Carolina 27711, telephone (919) 541-2777. Please refer to "RCRA TSDF Air Emissions—Background Technical Memoranda for Proposed Standards" (EPA-450/3-86-009).

FOR FURTHER INFORMATION CONTACT: RCRA Hotline, toll free at (800) 424-9346, or at (202) 382-3000, or call Cynthia Monroe at (919) 541-5578.

SUPPLEMENTARY INFORMATION: The contents of today's preamble are listed in the following outline:

I. Authority and Executive Summary

A. Authority

These regulations are proposed under the authority of Sections 1006, 2002, 3001-3007, 3010, 3014, 3015, 3017, 3018, 3019, and 7004 of the Solid Waste Disposal Act of 1970, as amended by RCRA, as amended (42 U.S.C. 6905, 6912, 6921-6927, 6930, 6934, 6935, 6937, 6938, 6939, and 6974).

B. Executive Summary

Today's proposal would establish new standards under Section 3004(n) of RCRA for the control of air emissions from hazardous waste treatment, storage, and disposal facilities (TSDF) that are already required to have a RCRA permit. The standards would reduce volatile organic (VO) emissions from such facilities managing organic hazardous waste by a combination of performance, design, and operating standards. The proposed standards include requirements for installation, operation, and maintenance of control equipment, leak detection and repair, and recordkeeping and reporting. Today's proposal also amends the requirements for facilities recycling certain "recyclable materials" (i.e., hazardous waste being recycled) to include regulation of the process of reclamation.

Facility owners or operators must determine (based on the procedures in the standards) which equipment at their facilities is subject to these air emission standards. The standards would cover equipment containing or contacting liquids, gases, or other emanations (derivatives) from hazardous waste in concentrations greater than 10 percent total organics located at affected TSDF. Total organics are a measure of whether sources potentially emit the VO emissions covered by the standards. The decision as to whether equipment is covered by the rule can be based either on testing the wastes and derivatives according to specified test procedures, or on engineering judgment as to these materials' total organic content. In questionable cases, the test procedures will be required to determine if equipment is subject to this regulation.

The proposed standards contain two major features. First, the proposal requires 95 percent reduction in VO emissions from product accumulator vessels, including process vents and

surge control vessels. Both new and existing units would be required to operate systems designed to achieve 95 percent reduction and to operate within this design. Once in operation, the facilities would demonstrate compliance with the requirements by monitoring the operation of the system. Second, the standards require leak detection and repair programs for valves, pumps, compressors, pressure relief devices, and closed-vent systems used to handle hazardous wastes and their derivatives at TSDF. Control systems, leak detection methodology, leak definition, and repair schedule are based on existing standards developed under sections 111 and 112 of the Clean Air Act (CAA).

Product accumulator vessels include units used to distill and steam and air strip volatile components from hazardous waste; therefore, the proposed regulations would regulate the process of reclamation for the first time. Only recycling facilities that are already subject to RCRA permit requirements or facilities that perform recycling and need a permit for another part of their operation would be subject to the proposed air emission standards. Therefore, the proposed rule would add 40 CFR 261.6(d) so that reclamation activities at facilities subject to permit requirements are subject to the air emission standards.

These proposed air emission standards would be effective in all States and territories when promulgated, regardless of authorization status. Section 3006(g) of the Hazardous and Solid Waste Amendments of 1984 (HSWA) requires immediate implementation of all regulations mandated by HSWA. Until authorized programs are updated, EPA will administer the program.

For more details, the following sections of this preamble should be consulted.

II. Background

A. Existing Air Emission Regulations Under RCRA

To date, the RCRA regulatory program has focused primarily on preventing exposure to humans and the environment through the ground water and surface water pathways. However, EPA also is charged under RCRA with ensuring that hazardous waste management is accomplished while protecting human health and the environment from exposure through the air pathway. As described below, several rulemaking activities related to the control of air emissions have been undertaken under authority of RCRA. Air standards for TSDF initially were proposed by EPA on December 18, 1978, in 40 CFR 250.42–3 (43 FR 58999). These regulations would have required that facilities be designed, constructed, and operated to prevent emissions from exceeding limits established under the CAA. However, these regulations were not promulgated by the Agency. On January 12, 1981 (46 FR 2867), the interim final regulations for permitted hazardous waste tank systems were promulgated under 40 CFR Part 264. Under an accompanying proposal (46 FR 2895), all tanks would have been required to have treatment process controls "to protect human health and the environment from toxic or otherwise harmful fumes, wastes, or gases." The tank regulations, while recently revised (see 51 FR 25470, July 14, 1986) to require secondary containment controls for ground water and surface water protection, do not include standards for air emissions.

Even though standards for air emission monitoring under 40 CFR Part 264 were proposed in conjunction with Subpart F ground water requirements for land disposal units on February 5, 1981 (46 FR 11165), the standards were promulgated on July 26, 1982 (47 FR 32349), without the air component. However, these standards [40 CFR 264.250(c)(3), 264.301(f), and 264.273(f)] require the implementation of design and operating practices at permitted wastepiles, landfills, and land treatment operations that prevent the release of particulate emissions.

Air standards have been developed for the control of hazardous waste incinerator emissions. Regulations were promulgated May 19, 1980, for air emissions from interim status incinerators. These 40 CFR Part 265 Subpart O regulations require monitoring of visible emissions and operating conditions. The operating conditions are controlled so as to ensure 99.99 percent destruction and removal efficiency for primary organic hazardous constituents as demonstrated by test burns. Standards for permitted incinerators, promulgated on January 23, 1981 (46 FR 7689), and June 24, 1982 (47 FR 27532), limited air emissions of organics, hydrochloric acid, and particulates from incinerator stacks. Interim status standards for other thermal treatment units are found in 40 CFR Part 265 Subpart P. Certification standards for thermal treatment units burning dioxin-containing acute hazardous wastes are found at 40 CFR 265.383.

Today's proposal would regulate point source and nonpoint source air emissions associated with certain hazardous wastes and their management. The proposal is authorized not only by general RCRA authorities over air emissions, but also by a specific directive contained in Section 3004(n), added by the 1984 amendments, which requires EPA to promulgate standards for the monitoring and control of air emissions from hazardous waste TSDF. The role of Section 3004(n) within the RCRA program is discussed below.

B. Role of Section 3004(n) in RCRA

Congress directed EPA to ". . . promulgate such regulations for the monitoring and control of air emissions at hazardous waste treatment, storage, and disposal facilities, including but not limited to open tanks, surface impoundments, and landfills, as may be necessary to protect human health and the environment" [provision added to HSWA in Section 3004(n)]. This provision does not confer any new authority, but rather requires the Agency to exercise its preexisting authority over air emissions from hazardous waste management (S. Rep. No. 284, 98th Cong. 2d Sess. at 63).

Air emissions are generated or released from numerous sources at TSDF. Air emission sources include process vents, control systems, surface impoundments, open tanks, equipment leaks, transfer, storage, and handling operations, landfills, and land treatment operations. Depending on the source, air emissions can be classed as VO (including toxics, carcinogens, and ozone precursors) or particulates (including metals, aerosols of organics, dust, as well as toxics and carcinogens). Note that, as mentioned previously, EPA has established certain incinerator standards and currently is developing additional air regulations for incinerators and thermal treatment units. Today's proposed rules, also referred to as the "accelerated program," would require controls for certain of these sources. The rules are being developed for those situations for which sufficient information is currently available to support a rulemaking effort. The EPA is continuing to study the other sources and plans to propose comprehensive air standards by November 1987. The accelerated program is discussed further in the next subsection of this preamble.

Two other provisions added by the 1984 RCRA amendments also confer authority over air emissions resulting from hazardous waste management. These provisions are the corrective action authority in Section 3004(u) and the so-called omnibus permit authority in Section 3005(c)(3). Under section 3004(u), EPA must require corrective

action to address releases of hazardous constituents from solid waste management units at all facilities seeking a Subtitle C permit, as may be necessary to protect human health and the environment. This provision is applicable to releases of hazardous constituents to the air (50 FR 28713, July 15, 1985). Permit writers under the omnibus permit authority [Section 3005(c)(3)] may impose permit conditions beyond those contained in EPA regulations as may be necessary to protect human health and the environment from risks posed by that particular facility. These provisions thus provide additional authority to control certain types of air emissions.

The EPA has a duty to act under all three of these provisions. In considering how best to implement each provision, it appears clear that Congress envisioned development of national air emission standards, rather than exclusive reliance on ad hoc mechanisms imposed by other regulatory authorities on a potentially uncertain timetable. At the same time, there is a definite role for corrective action and omnibus permit authorities in controlling hazardous waste air emissions. Because corrective action decisions may precede development of section 3004(n) standards in certain instances, the Agency intends to issue guidance and order corrective action to control air emissions at those facilities where air emissions are clearly posing an imminent threat. Where it is difficult to pinpoint the extent of risk posed by a facility's air emissions, the Agency may order various types of monitoring. In any case, facilities-issued permits are not exempt from standards developed under section 3004(n). Rather, monitoring and other collected data should assist in developing regulations under Section 3004(n) for monitoring of air emissions resulting from hazardous waste management.

The omnibus permit authority likewise ties into the national standard-setting process. The EPA intends to develop national standards that protect against the significant risks posed by hazardous waste air emissions. However, these standards in some cases will not be the most protective possible because this degree of control would appear unnecessary for most facilities. The omnibus permit authority allows permit writers to impose more stringent conditions where warranted at individual facilities. In essence, EPA envisions that the national emission standards under 3004(n) will achieve major across-the-board emission and risk reductions that will be protective of human health and the environment in most cases. The omnibus permit authority then provides a means of fine-tuning these standards at individual facilities where incremental reduction would be significant for protection of human health and the environment. The EPA, in fact, intends to issue guidance to permit writers as to when the omnibus permit authority may appropriately be used to expand regulatory controls on hazardous waste air emissions, identifying such factors as particular pollutants and meteorological conditions warranting special controls, and identifying particular additional control options.

In addition, under section 3004(m) of RCRA, EPA is setting standards that are achievable by the best demonstrated available technologies (BDAT) that could be used to treat waste solvents prior to their land disposal in Subtitle C units. In these rules that were issued on November 7, 1986 (51 FR 40572), EPA did not set limits on air emissions from treatment units used to comply with the BDAT standards. Rather, EPA will establish limits controlling air emissions under authority of section 3004(n). Today's rulemaking proposes air emission standards that would apply to TSDF that employ certain treatment technologies identified as BDAT for waste solvents. The EPA believes that this use of section 3004(n) is entirely appropriate and will result in the protection of human health and the environment, as may be necessary, for all environmental pollution media associated with TSDF.

C. Rationale for Accelerated Air Program

Today's proposal would regulate air emissions from certain types of hazardous waste treatment in advance of the more comprehensive rules on air emissions now under development. The EPA is acting to control these activities on an accelerated basis for the following reasons.

The 1984 amendments to Section 3004 of RCRA were designed to avoid substantial risks to human health and the environment from disposal, transfer, and storage of hazardous wastes. These amendments include provisions that prohibit land disposal of all hazardous wastes by specified dates if EPA has not established treatment standards under section 3004(m) that substantially diminish the risks associated with land disposal of wastes or granted a case-specific petition demonstrating that there will be no migration of hazardous constituents from the disposal unit or injection zone for as long as the wastes remain hazardous. As previously discussed, the 1984 amendments to Section 3004 of RCRA also specifically require EPA to establish standards for the monitoring and control of air emissions from hazardous waste TSDF.

The first group of wastes subject to the statutory prohibition include specified spent solvents (hazardous wastes numbered F001–F005) and dioxin-containing wastes (F020, F021, F023, F026, F027, and F028). Treatment standards for waste solvents and dioxins were promulgated on November 7, 1986 (51 FR 40572), based on concentrations of constituents allowed in disposal units after the application of BDAT. These wastes would have been prohibited from land disposal effective November 8, 1986, if EPA had not set treatment standards under Subsection(m) or granted a waiver based on no migration from a unit for as long as waste remains hazardous. Other categories of hazardous wastes will become subject to the land disposal prohibition over a 66-month period from enactment of the 1984 amendments. For example, treatment standards are required by July 1987 for halogenated organic hazardous wastes, many of which are treated in a way similar to the way solvents are used.

Section 3004(n) requires EPA to establish standards for air emissions at TSDF by May 8, 1987. If the land ban regulations and the air emission standards were both promulgated at the deadlines specified in RCRA, the result could be the construction or expansion of waste solvent treatment facilities (WSTF) without emission controls, and, later, RCRA requirements that would cause retrofit at extra costs in terms of equipment and operation for those WSTF and TSDF treating waste solvents which are hazardous wastes. Recent Congressional comments on the January 1986 proposed land disposal restrictions indicated that treatments that replace land disposal should not be allowed to pose undue risks. The EPA's mandate is to set standards for these technologies to protect human health and the environment adequately. Because the first two groups of wastes scheduled for land disposal restrictions include many volatile compounds, today's accelerated rule will reduce air emissions from technologies expected to be used in lieu of land disposal. In particular, air emissions from solvent reclamation currently are unregulated under Subtitle C. Without today's early action by EPA, the timing of these initial land disposal restrictions could result in: (1) additional sources of uncontrolled air emissions from WSTF and (2) subsequent RCRA requirements to retrofit air emission

controls to WSTF (and TSDF in general). Because EPA desires to minimize the impact of the timing of these Section 3004 efforts, EPA accelerated the schedule for a portion of its air emission project.

The EPA has available data to accelerate the portion of its air emission project associated with certain emission sources of total organics, in particular, process vents and equipment leaks. The proposed standards do not apply to other emission sources' such as surface impoundments, nor to other emissions, such as particulates or toxic metals. The standards do not apply to such sources and emissions because EPA has not completed its data collection and technical and regulatory analyses that would form the basis of such standards. As discussed below, EPA focused its analysis for today's proposed standards on existing data based on (1) the need for accelerated standards and (2) certain treatment and control technologies discussed in the following paragraphs.

The EPA reviewed the treatment technologies associated with TSDF to decide which sources could be covered by the accelerated effort for air emissions. In reviewing the treatment technologies expected to be used as alternatives to land disposal of waste solvents and hazardous organic compounds, EPA considered whether information was readily available to use in setting air emission standards and whether accelerated air emission standards were needed for the applicable treatment technologies. As explained in Section III of this preamble, EPA decided to accelerate the standards for air emissions associated with vents from distillation and stripping (air and steam) technologies used to treat waste solvents and also fugitive emissions from valves, pumps, and other equipment associated with the handling of rich organic streams (both wastes and derivatives of these wastes).

As explained in Section III of this preamble, technologies for the control of air emissions from distillation and stripping processes and equipment leaks at WSTF currently are available and, therefore, do not require further study by EPA. These technologies have been proven effective for reducing or eliminating the health threat posed by volatile air emissions based on EPA's extensive studies of similar sources under the CAA. Thus, EPA has based its regulatory approach for the accelerated program on existing standards issued under Section 112 of the CAA for control of benzene emissions. Accordingly, today's proposed standards are intended to reduce the immediate health and environmental threat posed by air emissions from waste solvent treatment operations that are similar to air emissions regulated under the CAA.

The benzene standards can be logically and technologically extended to any facility managing total organics with similar equipment to that affected by the final benzene standards. Thus, today's proposed standards also are intended to reduce the health and environmental threat posed by air emissions from sources in other TSDF similar to those in WSTF. For example, these sources include equipment associated with fugitive emissions (valves, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, and pipeline flanges) and product accumulator vessels (certain process vents, distillate receivers, surge control vessels, product separators, and hot wells that are vented to the atmosphere either directly or through a vacuum-producing system). The equipment covered by the proposed standards is discussed further in Section III of this preamble. The technologies for controlling air emissions from spent solvent distillation and separation and for controlling fugitive emissions from leaking equipment are equally suitable for controlling sources at TSDF performing distillation of organic-rich hazardous waste and separation techniques or generating fugitive emissions. After reviewing the engineering basis for the standards and the regulatory approach for control of the air emissions, EPA concluded that the proposed approach would be applicable to all RCRA waste streams and derivatives from these wastes with greater than 10 percent total organic content in the specified equipment. This percent criterion is discussed in Section III.C of this preamble.

In summary, data currently are available to estimate the emissions and health impacts posed by these emissions at WSTF and at certain other TSDF. Air toxics from the numerous fugitive sources at these TSDF also pose risks comparable on a facility basis to WSTF and contribute to the ambient ozone problem. For these reasons, EPA subsequently broadened this rulemaking to include emission controls for affected TSDF. Therefore, although today's proposal focuses primarily on WSTF and the cross-media effects of land disposal restrictions, the rulemaking also is applicable to the TSDF community as a whole.

Equipment leak controls can be applied at WSTF and the larger TSDF community now, based on the same technology already required for other similar industries under the CAA. The EPA believes that proceeding with available standards based on CAA regulations is in the best interests of the Section 3004(n) mandate—protection of human health and the environment from hazards posed by air emissions. Data currently are being collected and analyzed to determine the air emission impact from the many TSDF processes apart from distillation and separation operations that may be used at TSDF. Standards for these and other air sources are scheduled for later proposal.

III. Overview: Accelerated Regulation of Air Emissions

A. Regulatory and Technical Approach

Today's proposed standards are based on EPA's 10-year study of air emissions from the synthetic organic chemical manufacturing industry (SOCMI) and other major industrial sources of benzene and VO emissions (e.g., petroleum refineries, coke by-product plants, natural gas production plants, and manufacturing and recovery processes related to benzene and vinyl chloride). Regulations established under Sections 109, 110, 111, and 112 of the CAA that control certain process and fugitive emissions (i.e., equipment leaks) of VO and benzene have been applied to numerous industries that have equipment in benzene or volatile hazardous air pollutant service (see 40 CFR Part 60 Subpart VV and 40 CFR Part 61 Subpart V). In general, these industries handle organic liquid streams substantially the same as those handled at TSDF. Just as the organic liquid streams are similar, the equipment, sources of leakage, and applicable repairs are the same. Thus the regulatory approach used in developing today's regulations is based on the same technologies used to set these CAA standards for hazardous air pollutants and VO.

Today's proposed standards differ from the CAA standards only in the manner in which the standards are expressed and the way their impacts are characterized. The standards would reduce total VO emissions from TSDF as the basis for providing the protection required by section 3004 of RCRA. The EPA characterized the impacts of the standards by estimating the effects of the VO expected to be emitted by the sources covered by the standards. That is, VO is a surrogate or indicator for the many individual hazardous organic compounds, ambient ozone precursors, and other chemicals listed as hazardous under RCRA. By using VO as a surrogate, EPA can identify the overall

air emissions generated from WSTF and certain TSDF, rather than focusing on constituent-based estimates. Using these air emission estimates, EPA is able to project the health and environmental effects (at least, those that are quantifiable) associated with these emissions as part of its risk assessment.

The EPA viewed several impacts with an awareness of the uncertainty associated with them while considering the need for and the protection provided by the proposed standards. The impacts considered to be indicators of the protection that will be provided upon compliance with the standards include reductions in VO emissions, cancer annual incidence, and cancer risk to the most exposed individuals. In estimating these impacts, EPA developed emission estimates, unit risk estimates, and other factors after reviewing all the available data for these estimates. Based on this review, EPA estimated medium or average factors for nationwide emission and risk estimates and reasonable worst-case estimates for the risks to the most exposed individuals. There is, of course, uncertainty in making these estimates. The EPA performed a risk assessment based on a Gaussian-based air dispersion model. For nationwide estimates, the risk assessment contained a range of expected locations to reflect variations in meteorological conditions and proximity to population. For the risks to the most exposed individuals, a location was selected based on exposure typical of urban areas. The dispersion model is similar to those EPA uses in development of standards under section 112 of the CAA and is mathematically similar to air dispersion models used in development of standards under RCRA. (The basis for these factors and modeling can be found in the introduction to the background information documentation.)

The EPA believes, as discussed below, the impacts associated with the proposed standards indicate that the standards are needed. In addition, EPA believes the protection envisioned by Section 3004 of RCRA is achieved by the standards because the standards are based on the most effective control except where additional controls would result in nonquantifiable reductions in impacts at high costs.

Although EPA believes its estimates are appropriate to use in considering the protection provided by this national standard, unusual situations (e.g., unexpectedly large emissions or emissions of particular chemicals) at particular sites could require additional control. Thus, if data and information become available showing exceptional health risks posed by specific operations at particular sites, the Agency will apply the omnibus authority of section 3005(c)(3) of RCRA to reduce emissions further when it issues the permit for that facility.

The EPA also transferred the use of control technologies. The technologies upon which current CAA standards are based have been proven effective in terms of emissions and costs for controlling emissions of benzene, VO, and other toxic or carcinogenic compounds emitted from process and fugitive sources. As discussed above, the equipment and repairs required by the proposed standards can be transferred from SOCMI because the equipment is substantially the same and the repairs and other control techniques apply equally well regardless of the industry in which it is used. Based on these considerations, EPA believes the data base and analysis used to select these technologies under the CAA are applicable to TSDF air emissions.

B. Need for Regulation

As discussed below, VO emissions from TSDF managing organic hazardous wastes increase cancer risks and contribute to ambient ozone formation. The overall breakdown of facilities affected by the proposed standard is estimated at about 100 WSTF that distill or strip F001–F005 solvents containing over 10 percent total organics and at about 1,300 TSDF that manage other RCRA wastes with over 10 percent total organics. Based on available data, it is estimated that emissions of VO from equipment at these types of activities at RCRA facilities pose cancer risks, contribute to ambient ozone formation, and cause other environmental impacts comparable to impacts produced by sources evaluated under the CAA.

Nationwide emissions of total VO from fugitive and process sources at WSTF are estimated at more than 8,660 megagrams/year (Mg/yr). Nationwide emissions of total VO from fugitive and process sources at other TSDF affected by the standards are estimated at more than 17,800 Mg/yr. Sources regulated under the CAA with similar emissions are considered significant. Similarly, WSTF and other TSDF affected by the standards are viewed as significant sources of VO and air toxics by EPA.

Annual cancer incidence associated with these emissions is estimated at 1.0 case/yr, with a range of 0.1 to 10.0 cases/yr. This range is associated with the variation in unit risk estimates associated with chemicals affected by the proposed standards. Similarly, a nationwide maximum lifetime risk (MLR) on the order of 1×10^{-3} (i.e., 1 in 1,000) could result from uncontrolled VO emissions that would be regulated by today's proposed rules.

VO emissions, as previously mentioned, also contribute to ambient ozone formation. The health and environmental effects of ambient ozone can be measured in terms of monetary losses totaling hundreds of millions of dollars each year. Ozone, a very reactive form of oxygen, is a primary constituent of photochemical smog. Unlike many other pollutants, ozone results from a series of chemical reactions between oxidant precursors [nitrogen oxides (NO_x) and VO] in the presence of sunlight. VO and NO_x are the two basic precursor classes controlling the ozone production process.

Ozone is a pulmonary irritant that affects the respiratory mucous membranes, other lung tissues, and respiratory functions. Clinical and epidemiologic studies have demonstrated that ozone can impair the normal mechanical function of the human lung and cause clinical symptoms such as chest tightness, coughing, and wheezing. Toxicologic studies show it increases susceptibility to bacterial infections in laboratory animals; other effects such as biochemical changes, morphological abnormalities, and genetic changes have been found in some studies of animals exposed to ozone.

In terms of public welfare and the environment, ozone can reduce the yields of citrus, cotton, potatoes, soybeans, wheat, spinach, and other sensitive crops, including visible injury to a variety of plant species. Entire ecosystems can be affected by ozone, as evidenced by damage to mixed conifer forests in California, reduction in the fruit and seed diets of small mammals, and alterations in species composition and wildlife habitat.

The VO emissions emitted from WSTF (and from TSDF in general) contribute to ambient ozone formation and cancer risks. The magnitude of these impacts is similar to those regulated by EPA under the CAA. Consequently, EPA believes standards limiting air emissions from facilities treating organic hazardous waste are needed to reduce the risk to human health. Such standards—among other advantages—will ensure that treatment alternatives to land disposal do not merely transfer the primary route of exposure from one environmental medium to another. Ambient ozone formation and the resulting health and environmental effects, including cancer risks, can be reduced by controlling VO

emissions. Standards limiting air emissions from waste solvent treatment and associated sources are appropriate to reduce VO emissions that threaten human health as well as contribute to the formation of ambient ozone. One of EPA's current goals is to improve the nationwide program to help States and industries reduce VO emissions from major and minor sources. Today's proposed standards will assist in that goal.

The EPA currently is examining certain chemicals that may be contained in VO emissions and their role as potential depleters of stratospheric ozone. Stratospheric ozone depletion may result in increased cases of skin cancer in humans. The Agency is continuing to study stratospheric ozone depletion and its environmental and health risk impacts. The reduction in VO emissions provided by the proposed standards also may reduce emissions of potential ozone depleters. Any reduction in these VO emissions containing potential ozone depleters also may assist in protecting stratospheric ozone.

There also have been several reported damage incidents attributable to air emissions from hazardous waste solvent recycling operations (50 FR 659, January 4, 1985, damage incidents numbers 30 and 32). These incidents point out that harm to human health and the environment from these operations is not merely a potential occurrence but has in fact occurred.

C. Types of Facilities That Would Be Covered by Proposed Standards for Air Emissions

Today's proposed rule would control air emissions from certain equipment in volatile hazardous air pollutant (VHAP) service at RCRA facilities already required to obtain a RCRA permit for reasons other than those contained in today's proposal. To be covered, (a) a TSDF must have equipment, process vents, or accumulator vessels affected by the standards, (b) these sources must be in VHAP service (i.e., contain hazardous wastes or their derivatives with concentrations greater than 10 percent total organics, and (c) the TSDF is required to obtain a permit for an independent reason. The EPA explains these concepts and the reasons for structuring the rule in this way in the following sections of the preamble.

1. Equipment That Would Be Covered

Today's proposed rule generally would apply to facilities treating organic-rich hazardous waste to recover a usable product (e.g., solvent reclamation via distillation) or to generate a disposable residue. The standard affects ancillary equipment within a TSDF coming into contact with or containing fluids in concentrations greater than 10 percent total organics (either the wastes or derivatives from these hazardous wastes). "Equipment" is defined to include equipment generating both process and nonprocess (i.e., fugitive) air emissions. "Product accumulator vessels" are the types of equipment that generate process emissions and include process vents, distillate receivers, surge control vessels, product separators, or hot-wells that are vented to the atmosphere either directly or through a vacuum-producing system [proposed 40 CFR 269.30(b)]. Examples include most distillation columns, steam stripping columns, carbon adsorption vents, certain air stripping vents, and thin-film evaporation vents located in TSDF. Types of equipment associated with fugitive emissions are valves, pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, and pipeline flanges.

The standards apply only to the specifically enumerated types of equipment. Devices such as piping or open tanks thus would not be "equipment" for purposes of today's rule and so would not be covered by today's proposal. On the other hand, a closed tank that otherwise satisfied the definition of "product accumulator vessel" would be "equipment" for purposes of the rule. [The EPA is investigating appropriate controls for air emissions from devices not covered by today's proposed rule in the context of the broader section 3004(n) standards.]

It should be noted that facilities can be covered by today's proposed rule if any type of equipment (including nonprocess equipment) is in VHAP service. The equipment need not be recovering solvents or other organics from hazardous waste. For example, hazardous waste incinerators use valves, pumps, and other equipment to transfer wastes or their derivatives to the incinerator: that equipment would be covered by today's proposed rule.

2. Limitation of Applicability to Facilities Requiring Permits for an Independent Reason

Applicability of today's proposed standards would be limited to facilities required to obtain RCRA permits for reasons independent of today's rule. The EPA is proposing this course to avoid further burdening an already stressed RCRA permitting system at a time when the Agency and authorized States are attempting to issue final permits in the timeframes mandated by RCRA Section 3005(c)(2). More importantly, EPA needs more time to study the implications of the rule for certain types of facilities, particularly certain small quantity generators and small businesses with continuous reclamation processes that would not qualify as 90-day accumulation tanks (see 40 CFR 262.34) because they are not physically emptied each 90 days.

The EPA also believes that today's proposed standards will apply to the bulk of air emissions from facilities with equipment in VHAP service. The EPA, moreover, believes that many of the production facilities with such equipment not covered by today's proposal are in fact subject to the same standards under the CAA. The EPA established identical standards under the CAA for new and modified sources covering production of all petroleum products and most organic chemicals (see 40 CFR Part 60 Subparts VV and GGG). The EPA also has established guidelines for use by States to cover similar existing production facilities. In estimating the impacts of these standards, EPA found that, by about the year 1990, almost all petroleum and organic chemical production would be affected by the CAA standards. Thus, the majority of process equipment in VHAP service associated with production facilities is covered by CAA standards. Consequently, EPA believes that today's proposal covers a significant part of the problem posed by currently unregulated air emissions from hazardous waste management facilities with equipment in VHAP service.

The following examples illustrate how coverage under today's proposal is affected by the requirement that facilities be required to obtain a RCRA permit for a reason independent of this proposal.

1a. Facility A is an offsite reclaimer of hazardous waste spent solvents by distillation. The spent solvents are stored in tanks before being reclaimed.

Facility A's distillation column and associated equipment would be subject to today's proposed rule (assuming the spent solvents or their derivatives contain greater than 10 percent organics; see Section III.C. of this preamble). This is because Facility A s storage of spent solvent before distillation already requires a permit [40 CFR 261.6(c)].

1b. Same facts as Example 1a, except that Facility A is able to distill solvent without any prior storage.

Facility A's distillation activities are not subject to today's proposal because the facility is not already required to obtain an RCRA permit. The EPA believes that this situation is unlikely to

occur; nonetheless, EPA requests specifically for comments on the number of offsite recyclers who recycle without storing the waste.

1c. Same facts as Example 1b, except that Facility A stores its distillation bottoms consisting of hazardous waste in drums for more than 90 days before sending them offsite for disposal.

Facility A's distillation activities would be subject to today's proposal because the storage of distillation bottoms requires a permit. Furthermore, the result would be the same if the hazardous waste storage resulted from a process unrelated to the spent solvent distillation.

2a. Facility B recycles hazardous waste spent solvents generated on site, storing the solvents and distilling the spent solvents in tanks for a total of fewer than 90 days from time of generation. There is no other hazardous waste management at the facility.

Facility B's distillation is not covered by today's proposed rule because Facility B is not required to obtain a permit (40 CFR 262.34).

2b. Same facts as Example 2a, except that the tank preceding distillation stores for more than 90 days.

Facility B's distillation is covered by today's proposed rule because Facility B already requires a storage permit. Note, however, that this type of configuration could potentially constitute an excluded closed loop reclamation system if it meets the conditions in 40 CFR 261.4(a)(8) (i)–(iv), July 14, 1986.

2c. Same facts as Example 2a, except that Facility B also operates a surface impoundment managing a different hazardous waste.

Facility B's distillation of a hazardous waste is subject to today's proposal because the facility requires a permit for the impoundment.

2d. Facility B generates hazardous waste spent solvents and sends them to onsite distillation without prior storage.

The distillation activities are not subject to today's proposal. They would be covered if Facility B had an independent unit requiring a RCRA permit, as in Example 2c.

3. Facility C operates a manufacturing process that distills organic-rich feedstocks and generates a distillation bottom that is a listed hazardous waste.

The distillation column is not covered by today's proposal because it processes raw materials, not hazardous wastes and so is not in VHAP service. In addition, no storage permit is required for the still bottom while it is in the distillation column [40 CFR 261.4(c)]. It should be noted that this facility would likely be covered under a CAA requirement (e.g., 40 CFR Part 60 Subpart VV).

D. Hazardous Wastes and Their Derivatives Covered by Today's Proposal

1. Hazardous Waste Containing Greater Than 10 Percent Organics

As noted above, today's proposed rule is limited in applicability to equipment "in VHAP service," defined as being equipment associated with hazardous waste treatment, storage, or disposal. The equipment must contain or be in contact with organic hazardous wastes or derivatives of hazardous wastes containing greater than 10 percent total organics by weight. Percent total organic content of these hazardous waste process fluids is determined by using Method 9060 of SW–846, Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, or an appropriate ASTM method such as ASTM Method D 2267–68, E 169–63, E 168–67, or E 260–73 [40 CFR 269.34(a)(1)]. Owners or operators also may use engineering Judgment to determine percent total organic content, but they have the burden of proof on the issue and are at risk if their judgment is incorrect [40 CFR 269.34(a)(2)]. In addition, equipment containing or contacting wastes with fluctuating organic content are considered to be in VHAP service if the wastes ever contain greater than 10 percent total organics [40 CFR 269.34(a)(1)]. Even though EPA does not believe owners or operators would dilute wastes in an attempt to avoid the need to comply with the standards, EPA will not accept dilution as a means of avoiding compliance with the standards. The Agency expects that hazardous spent solvents are a principal example of such wastes covered by the standards.

The Agency is proposing the 10-percent cutoff for a number of reasons. As elaborated in the rulemaking on CAA benzene standards, a 10-percent cutoff deals with the air emissions from equipment most likely to cause significant human health and environmental harm. In addition, EPA has not yet determined whether the control technologies for organic-rich waste streams are suitable for low organic streams, how effective these technologies would be, or whether regulation of these streams is necessary to protect human health and the environment. The EPA is continuing to investigate these questions as part of its overall rulemaking activities to implement Section 3004(n) of RCRA.

The determination associated with whether equipment are in VHAP service is based on total organics. The standards cover VO emissions and are intended to reduce impacts on human health and the environment associated with total organics. The basic reason for measuring total organics is that the original collection of data used to support the proposed standards measured total organics. In practice, most organic wastes and their derivatives affected by the proposed standards are considered volatile even though some may be relatively nonvolatile. The standards have been drafted to distinguish between sources containing or coming into contact with wastes or their derivatives which are more or less volatile. For example, the standards for pressure relief devices in gaseous service require no detectable emissions and the standards for pressure relief devices in liquid service only require gaseous leak detection if indications of liquid leaks are detected or otherwise sensed. Since the standards are based on volatile organics, however, the Agency solicits comment on the use of total volatile organics (e.g., as determined by Method 8240 of SW–846), rather than total organics, in determining the applicability of today's rule.

IV. Proposed Air Standards for Waste Solvent Treatment Facilities

A. Background

Some of the restrictions on land disposal of waste solvents, specifically spent solvents, will be effective in November 1986. Applicable treatment processes for these solvent wastes include: incineration, use as a fuel, distillation (which includes thin-film evaporation and simple and fractional distillation), and sometimes stripping (steam and air). Other treatment processes that may be used, such as biological treatment, carbon/resin adsorption, and chemical oxidation applied to solvent-water mixtures, are not considered expressly in this rulemaking because EPA is not prepared to address air emissions from treatment technologies used for most solvent-water mixtures at this time. In addition, EPA is not prepared to address air emissions from treatment technologies for waste solvents containing less than 10 percent total organics. Stack emissions from facilities burning waste solvents in incinerators and reusing waste solvents as fuel are being considered under separate standards for air emissions. Consequently, the development of air standards for WSTF (and TSDF) was limited to air evaluation of emissions of VO from

distillation and stripping (steam and air) treatment technologies. The evaluation of emissions and controls was limited to VO because other pollutants such as metals or toxic particulate matter are not likely to be released to the atmosphere by these processes. The EPA has not evaluated emissions and controls for highly volatile organometallics such as tetraethyl lead or dimethyl mercury and requests comments on these emissions and controls for them.

Distillation and stripping (air and steam) treatment processes separate organic components through volatilization and condensation of the more volatile components in the waste stream. The equipment used by these processes are similar when treating any type of spent solvent (indeed, any organic liquids) and embody the sources of fugitive and process air emissions. The organic liquids and sources are substantially the same as EPA has found in SOCMI. The wastes affected by the proposed standards are generally generated in SOCMI. For example, the solvents affected by the proposed standards are produced and used in SOCMI. Generally, process air emissions are associated with enclosed tanks that vent to the atmosphere as part of the treatment process. Fugitive air emissions are associated with ancillary equipment (e.g., pumps and valves) used in handling the spent solvents. The EPA studied these sources across several industries and found that their emissions are independent of industry. This is documented in an EPA information document covering these sources (EPA 450/3–81–002). These treatment processes use tanks and ancillary equipment to separate solvents from the waste stream.

Fugitive emissions from distillation and stripping treatment processes are those that escape directly to the atmosphere from leakage of gases, vapors, and liquids through faulty or inadequate seals in ancillary equipment used in the processes. This equipment is used to move and to control the movement of process fluids through these processes. In EPA and industry studies on fugitive emissions from ancillary equipment in various refining and organic chemical manufacturing industries, EPA has found that the quantity of fugitive emissions from facilities varies with the number of equipment components (e.g., pumps and valves used in the processes), the materials being handled, and the specific operation and maintenance practices applied to the equipment. Because the ancillary equipment used in WSTF (and certain TSDF) contain the same organic liquids found in these industries, EPA believes that fugitive emissions from WSTF ancillary equipment can be estimated using these studies. The studies include similar processes (distillation and stripping for product recovery) and identical ancillary equipment.

Control technologies for fugitive emissions comprise the use of control equipment, inspection of equipment, and repair programs to limit or reduce emissions from leaking equipment. These control technologies have been studied and evaluated for equipment containing fluids with more than 10 percent organics. The 10-percent criterion was used in EPA's original benzene/SOCMI studies to focus on air emissions from equipment containing relatively concentrated organics and presumably having the greatest potential for air emissions. The EPA has not decided at this time whether to set standards for equipment containing fluids with less than 10 percent organics. Fugitive emission controls and test methodology for equipment leaks have been proposed or established under both Sections 111 and 112 of the CAA. (See 46 FR 1136, January 5, 1981; 46 FR 1165' January 5, 1981; 48 FR 279, January 4, 1983; 48 FR 37598, August 18, 1983; 48 FR 48328' October 18, 1983; 49 FR 22598, May 30, 1984: 49 FR 23498, June 6, 1984; 49 FR 23522, June 6, 1984.) Emission reductions achievable with such programs are limited primarily by the number of components used in the operation, the frequency of monitoring, the ability to repair leaks, and the volatility of the organic waste (solvent). For operations such as are expected at WSTF, fugitive emission reductions of almost 75 percent are estimated for the program required by the proposed standards.

Process emissions from WSTF are those released to the atmosphere through process vents such as vents on the condenser column, the accumulator vessel, or the hotwell. (The hotwell is a vessel that contains the unvolatilized process stream.) Emissions from process vents include the noncondensible vapors and emissions resulting from any overload of the condenser during operations. These emissions are expected to be VO and are not expected to include emissions of metals or other solid materials in the waste solvent. Emissions from process vents vary with the throughput capacity, the vapor pressure of the compound(s) being recovered, and condenser operating conditions. In addition, vent emissions from batch operations vary over the operating cycle, with higher emission rates occurring at the start of the cycle.

The EPA has carried out studies of air emission control technologies for processes similar to those in WSTF such as distillation operations (EPA–450/3–83–005a, EPA–450/3–80–032a,b). National emission standards also have been established for equipment containing or contacting streams with a benzene content of 10 percent or more by weight (40 CFR 61 Subparts J and V). Air emission control technologies for process emissions include secondary condensers, flares, thermal afterburners, incinerators, scrubbers' and carbon adsorbers. The emission reduction potentially achievable by these control technologies depends on physical parameters associated with the process vent stream and the design and operation of the control technologies. For example, the efficiency of condensers is dependent on the physical properties of the solvents being condensed and the temperature of the cooling water used by the condenser. Of these possible control technologies, EPA believes condensers, flares, carbon adsorbers, and incinerators are generally applicable, feasible means of VO emission reduction and most likely will be used to reduce process emissions of VO at WSTF. However, the other control measures might be applicable in some situations. Properly designed and operated, all these control technologies can achieve 95 percent emission reduction or better. For further information on EPA technology decisions on emission control technologies for similar streams, see 46 FR 1165' January 5, 1981; 49 FR 23498, June 6, 1984.

Process and fugitive emission sources found at WSTF also are found at other TSDF. As explained previously, EPA believes that emissions from TSDF with waste streams containing more than 10 percent organics are significant. The EPA has determined that these emissions warrant control for protection of human health and the environment and are wholly appropriate for inclusion in this accelerated rulemaking. Emission controls for other TSDF processes, area sources, and waste categories are under development and will be proposed under a separate rulemaking. This inclusion of emission controls for TSDF with waste streams containing 10 percent or more organics treated by the designated types of equipment is discussed later in this preamble.

B. Need and Basis for Proposed Standards

The proposed air emission standards are based on the control technologies discussed in this preamble and provide emission reductions that are needed to protect the public health and the environment. These technologies have been demonstrated to achieve reductions in VO emissions for the ancillary equipment like those used in TSDF. Control technologies for process emissions that can be applied now are secondary condensers, carbon adsorbers, flares, and incinerators; these techniques can be designed and operated to achieve at least 95 percent VO emission reduction. Control technologies for fugitive emissions consist of inspection and maintenance programs like those currently required by national emission standards for petrochemical facilities under the CAA. The control technologies discussed above for process emissions and fugitive emissions were used as the engineering and regulatory basis of the national emission standard for benzene equipment leaks (40 CFR Part 61 Subpart V). These technologies were selected as candidates for the reduction of air emissions in view of the need to develop accelerated air emission standards under RCRA section 3004(n). Further information on the selection and application of these control techniques is available in the **Federal Register** notices cited previously for proposal and promulgation of related standards under Sections 111 and 112 of the CAA. In this and the next section of the preamble, EPA summarizes the selection and application of these control techniques to WSTF and other TSDF.

The EPA considered the impacts of the control techniques as applied to WSTF when selecting the basis of the proposed standard. The EPA considered these impacts because they represented a complete and well-analyzed data collection for the air emission sources affected by this proposed rule. These control techniques result in an emission reduction of about 85 percent overall and at least 95 percent for process emissions. As indicated in the "Impacts of Proposed Standards" section of this preamble (Section IX), EPA made estimates on the basis of a range of impacts, which indicated that WSTF typically would emit about 8,660 Mg/yr of VO nationally without the proposed standards. This estimate of emissions is based on about 95 WSTF processing, about 440 million gallons of spent solvents. (See 51 FR 1727 concerning the recycling capacity of organic liquids.) Based on a scoping analysis, the nationwide annual incidence of cancer in the population living within 50 kilometers (km) of WSTF is estimated to be about 0.34 case/yr without the proposed standards. The nationwide maximum lifetime risk (MLR) to the most exposed individuals is estimated at 3.7×10^{-3}, or almost 4 in 1,000. With the proposed standards in place, WSTF typically would emit about 700 Mg/yr nationally with a corresponding nationwide incidence of about 0.028 case/yr. The estimated MLR would be reduced by the proposed standards to approximately 2.6×10^{-4} with WSTF process and fugitive controls. The estimated MLR is considered a reasonable indicator of the health risk posed by WSTF emissions. These impacts indicate the need to establish, and the protection provided by, the proposed air emission standards.

The proposed rules generally are based on the most stringent, technologically feasible controls for industry-wide application at new and existing sites. In certain cases, however, EPA did not select the highest level of control that could be achieved. For example, application of sealed bellows valves could achieve 100 percent control for certain manufacturing process streams but is generally not feasible for WSTF or TSDF because of the likelihood of corrosion due to contact with waste chemicals. (The EPA solicits comments on whether WSTF or TSDF routinely treat chemicals that would not destroy sealed bellows valves.) For certain other sources, however, the most effective controls that also are technologically feasible were not selected. These include dual seals for pumps and flaring or incinerating process vent emissions. (Note that the standards automatically allow the use of any controls equally or more effective than the prescribed controls; the rule includes provisions allowing for alternative controls. For example, pressure relief devices can be controlled by rupture discs or by venting emissions to flares via a closed system.) The EPA's reasons for not selecting the highest level of control available for pumps and product accumulator/process vents are discussed below.

Pumps are an air emission source for which additional emission reductions are feasible. Pumps can be controlled either by the use of dual seals to capture essentially all the fugitive emissions or by the use of the leak detection and repair program (contained in the proposed standards) that reduces the fugitive emissions by about 75 percent. The overall standard for WSTF, including leak detection and repair, would achieve an expected VO emission reduction of about 7,960 Mg/yr at an expected annualized cost of about $1.3 million/yr. The estimated MLR would be reduced from 3.7×10^{-3} to about 2.6×10^{-3}. In comparison, including dual seals would achieve an overall emission reduction of about 8,010 Mg/yr at a cost of $1.9 million/yr. The overall standard reduces the nationwide incidence from about 0.34 case/yr to about 0.028 or 0.023 case/yr based on including leak detection and repair or dual seals, respectively. With dual mechanical seals, the estimated MLR would be reduced to about 2.4×10^{-4}—an incremental MLR reduction of about 2×10^{-5}.

The EPA considered these impacts when deciding whether to require WSTF to install dual seals on pumps to control air emissions rather than to rely on monthly leak detection and repair. These impacts indicate that including leak detection and repair results in less emission reductions than including dual seals for pumps. However, the incremental decrease in emission reductions attributable to implementing a monthly leak detection program rather than more stringent dual seals appears to be small in comparison to the results of the overall standards; the decrease amounts to less than 1 percent of the overall emission reduction. In addition, this small incremental emission reduction does not clearly lead to a quantifiable reduction in risk because the data and models on which the risk estimates are based are not precise enough to quantify risk meaningfully to this exact a level. These data and models include the emission estimates, the air dispersion modeling, and the risk assessment, including location, population, and meteorologic uncertainties. If EPA were to present the risk estimates based on the number of significant digits in these estimates, they would include one digit, and the difference between the risk estimates would be zero.

Given the smallness and the imprecise nature of the emission and risk reductions associated with including dual seals in the overall standard, EPA believes the costs of achieving these reductions may not be warranted. More important, EPA cannot attribute a meaningful reduction in risk to use of the more expensive dual seals and, therefore, is proposing to select the less expensive control technology of monthly leak detection and repair for pumps. The EPA believes the use of leak detection and repair for pumps would provide the protection that is needed and that the use of the more expensive dual seals is

not warranted by the emissions and risk reductions [see 45 FR 33089, May 19, 1980 (cost effectiveness is a relevant factor under RCRA in selecting among equally effective control technologies)].

Furthermore, EPA intends to prepare guidance to permit writers as to when imposition of dual seal pumps (through exercise of omnibus permit authority) may be appropriate (provided that it is technologically feasible). Through exercise of this authority, a means exists to impose the extra control if a significant reduction in risk would result.

The EPA also reviewed the application of flares and incinerators achieving 98 percent control in comparison to 95 percent control for WSTF process emission control. Although flares and incinerators may achieve 98 percent efficiency (or more) for many waste solvent streams, EPA cannot conclude, based on information and data currently available, when flares or incinerators rather than condensers or other 95-percent control devices should be applied to WSTF processes. (It should be noted that EPA has established requirements for hazardous waste incinerators that combust wastes very similarly to the way fuel oil furnaces combust oil. The incinerators and flares discussed in this preamble are different in that the air pollutants are combusted in a lean air stream heated by a flame rather than through the flame as is the case with combustion in fuel oil furnaces.)

In addition to the question of technical applicability, EPA reviewed the health, environmental, and cost impacts of secondary condensers (reflecting 95 percent control) compared to flares and incinerators (reflecting 98 percent control) as further information in deciding whether to require 98 percent control. Application of flares or incinerators for WSTF process emissions would be expected to reduce nationwide emissions from about 8,660 Mg/yr to about 470 Mg/yr. Condensers would reduce the emissions to about 700 Mg/yr. Thus, an incremental emission reduction of about 230 Mg/yr results with flares. Even though the models upon which the risk estimates are based are not sufficiently precise to quantify risk meaningfully to an exact level, EPA estimates that including flares or incinerators in the overall proposed standard would reduce annual cancer incidence from about 0.34 case/yr to about 0.018 case/yr in comparison to 0.028 case/yr for including condensers in the overall proposed standard. The estimated MLR associated with WSTF emissions would be reduced from about 3.7×10^{-3} to about 2.0×10^{-4} with flares or incinerators and 2.6×10^{-4} with condensers, an incremental MLR reduction of 6×10^{-5}.

Based on available information and data, 95 percent control appears to provide essentially the same level of protection for public health as 98 percent control. This level of control is achievable to WSTF processes and, as explained below, can be achieved at significantly less cost. In addition, if the Agency discovered that emissions from a facility resulted in an unacceptable overall impact to human health and the environment, section 3005(c)(3) of RCRA may be used to require the additional control. For these reasons, EPA selected 95 percent control over 98 percent control as the basis of the proposed standard.

As discussed above, a secondary point is that the costs of flares or incinerators do not appear to warrant their selection as the basis of the standard for process vents in WSTF. The net annual cost of secondary condensers is estimated at an overall credit of $620,000 nationwide, considering the recovery credit achievable. In comparison, the incremental nationwide annual net cost of flares or incinerators over condensers is estimated at about $7.2 million/yr. This incremental cost does not seem to warrant additional emission reduction of 230 Mg/yr when this nonquantifiable further health risk reduction is achieved.

C. Summary of Proposed Standards

The proposed standards apply to certain equipment at facilities treating waste solvents (i.e., WSTF) and, as discussed later, at TSDF in general. These facilities treat waste solvents (F001–F005) by distillation, air stripping, steam stripping, thin-film evaporation, or related chemical engineering processes to allow: (1) the use or reuse of the waste solvent or chemical or (2) disposal of the residual waste. (See discussion later in this notice on EPA's reasons for eliminating the current regulatory exemption for reclamation units and the proposal to cover TSDF handling organic hazardous wastes or their derivatives in concentrations greater than 10 percent.) The equipment affected by the proposed standards contains organic concentrations greater than 10 percent; this equipment includes valves, pumps, compressors pressure relief devices, sampling connection systems, open-ended valves or lines, pipeline flanges, product accumulator vessels, and closed-vent systems and control devices used to comply with the standard.

This equipment is used to move waste solvents and recycled solvents through various recycling operations at WSTF and TSDF. The proposed standards apply to the ancillary equipment containing or contacting fluids with more than 10 percent total organics that are hazardous wastes or derived from hazardous wastes within a facility. The approach of covering total organics as the basis for providing the protection as necessary under RCRA section 3004(n) is discussed in Section II.A of this preamble. Also as discussed before, the 10-percent criterion was selected because EPA has not studied and evaluated control technologies for equipment containing less than 10 percent total organics.

The details associated with the proposed standards can be found at 40 CFR Part 61 Subpart V. The following is a summary of Subpart V and how it applies to facilities affected by the proposed standards.

1. Valves

A monthly leak detection and repair program is required by the proposed standard for valves. This program should not be confused with the program required under Subpart J of 40 CFR Parts 264 and 265. The proposed standard allows quarterly leak detection for valves that have been found not to leak for 2 successive months; this is monthly/quarterly leak detection and repair. Leak detection is to be performed with a portable organic vapor analyzer according to Method 21 (see Appendix A of 40 CFR Part 60). If a reading of 10,000 parts per million (ppm) or greater of organic materials is obtained, a leak is detected. Initial repair of the leak must be attempted within 5 days, and the repair must be completed within 15 days. Delay of repair is allowed if repair is not technically feasible without a process unit shutdown; repair must occur at the next process unit shutdown. Delays are allowed for other specific reasons; all delays must be recorded and explained by the operator. The EPA expects few delays of repair and anticipates that no repairs would be delayed for more than 1 year. The standard also includes provisions that (1) exempt unsafe-to-monitor or difficult-to-monitor valves from the monthly monitoring program and that (2) allow use of alternative programs (e.g., skip period monitoring) if certain conditions are met (see 40 CFR 61.243–2 and 40 CFR 61.244).

The EPA concluded that the technological feasibility of control technologies for equipment leaks is limited by several factors including the

10,000-ppm reading, the frequency of monitoring, and the ability to repair a leak. The 10,000-ppm reading is measured at the equipment-atmosphere interface. For this reason, this reading should not be compared to concentration readings from area-wide monitoring systems or personnel monitoring systems where lower readings are technologically feasible. In addition, the 10,000-ppm reading should not be confused with the 500-ppm reading that is used to confirm that no leakage is present at a leakless technology source (e.g., sealless valves); see 40 CFR 61.242-7(f), no detectable emissions for valves. The 10,000-ppm reading reflects the most restrictive level of control technologically feasible; EPA has not concluded that repairs are feasible or effective for concentration levels less than 10,000 ppm. The monitoring and repair frequencies reflect the most restrictive frequencies considered technologically feasible by EPA and are based on studies of existing, effective leak detection and repair programs.

These monitoring frequencies should not be confused with spill or leak detection and response requirements for hazardous waste tank systems or secondary containment systems [e.g., 40 CFR 264.15(b)(4)]; those frequencies of detection and response address soil and ground/surface water pollution, and are based on the application of visual inspection techniques.

The delay of repair provisions is required to make the program technologically achievable and to eliminate situations in which resulting emissions could be greater than allowing a delay in repair (e.g., during a process unit shutdown). Likewise, EPA included provisions that address the practical limitation associated with valves that are located in elevated pipe racks (e.g., difficult to monitor) and alternative leak detection and repair programs that are as effective as the required program. These alternative programs are based on never exceeding 2 percent of the valves leaking within a TSDF process unit, which reflects the performance of the best leak detection and repair programs within SOCMI; these programs allow TSDF operators to continue effective programs such as routine replacement of valve seals without the need to perform the required inspection program. Effective alternative programs (as measured by the 2-percent criterion) result in the same impacts as the required program.

2. Pumps

A monthly leak detection and repair program is required by the proposed standard for pumps. Leak detection is to be performed with a portable organic vapor analyzer according to Method 21. If a reading of 10,000 ppm or greater of total organic materials is obtained, a leak is detected. Initial repair of the leak must be attempted within 5 days, and the repair must be completed within 15 days. Delay of repair will be allowed for pumps that cannot be repaired without a process unit shutdown because emissions from a shutdown could easily exceed those from delaying a repair. Delay of repair, up to 6 months after detecting a leak, also is allowed when the plant owner or operator determines that repair of the pump requires using a dual mechanical seal system. Delay of repair is not expected to be needed for most situations, however, because pumps commonly are spared.

3. Compressors

The proposed standard for compressors requires the use of mechanical seals with barrier fluid systems and controlling degassing vents. The controlling degassing vents must use a closed-vent system and a control device that complies with the requirements as discussed in the "Product Accumulator Vessels, Closed-Vent Systems, and Control Devices" section of this preamble. The standard also would allow the use of alternative control systems (i.e., enclosed and leakless compressors) that provide equivalent emission reductions. [See 40 CFR 61.242-3(h) and (i).] Although these systems provide equivalent emission reductions, they cannot be used as the sole basis for this proposed standard because they are not technologically feasible in all situations. Compliance with these alternatives would be determined by review of records and inspection.

4. Pressure Relief Devices

The use of control equipment (rupture disc systems or closed-vent systems to flares) is the basis for the proposed standard for pressure relief devices in gas service. These requirements address leaks from pressure relief devices; they do not regulate discharges of air emissions through these devices. (The EPA notes that such discharges may be subject to the reportable quantity requirements of 40 CFR Part 302 and that these discharges will be considered further in setting air emission standards for TSDF.) For control techniques that eliminate equipment leaks, such as the use of rupture disc systems, an emission limit measurement for "no detectable emissions" can be established. An instrument reading of less than 500 parts per million volume (ppmv) above a background concentration based on Method 21 will be used to indicate whether equipment leaks are not detectable.

The "no detectable emission" limit will not apply to discharges through the pressure relief device during overpressure relief because the function of relief devices is to discharge process fluid, thereby reducing dangerously high pressures within the equipment. The standard specifies, however, that the relief device be returned to a "no detectable emission" status within 5 days after such a discharge. Plant owners or operators also may comply with this standard by connecting pressure relief devices in gas service to a system that complies with the requirements as discussed in the "Product Accumulator Vessels, Closed-Vent Systems, and Control Devices" portion of this section.

5. Sampling Connection Systems

Closed-purge sampling is the required standard for sampling connection systems and is the most stringent feasible control. Closed-purge sampling connection systems eliminate emissions due to purging by either returning the purge material directly to the process or by collecting the purge in a collection system that is not open to the atmosphere. Collected purge material must be destroyed or recovered in a system that complies with requirements discussed in the "Product Accumulator Vessels, Closed-Vent Systems, and Control Devices" portion of this section.

6. Open-Ended Valves or Lines

The standard for open-ended valves or lines requires the use of caps, plugs, or any other equipment that will effect enclosure of the open end. These are the most stringent controls possible. If a second valve is used, the standard requires the upstream valve to be closed first. After the upstream valve is closed completely, the downstream valve must be closed. This operational requirement is necessary to prevent trapping process fluid between the two valves, which could result in a situation equivalent to the uncontrolled open-ended valve or line.

7. Pipeline Flanges and Pressure Relief Devices in Liquid Service

Flanges and pressure relief devices in liquid service will be excluded from the routine leak detection and repair requirements. The EPA has not completely evaluated these sources at TSDF and may regulate them further in setting future emission standards. Even though these sources appear not to

warrant routine leak detection and repair requirements at this time, they do warrant certain inspection requirements similar to those practiced by prudent operators. Thus, if indications of leaks are seen, heard, or smelled from these sources when operators perform routine inspection or other work practices, the operators must determine if a leak is detected based on Method 21. The same allowable repair interval that applies to valves and pumps will apply to leaks detected through this procedure.

8. Product Accumulator Vessels, Closed-Vent Systems, and Control Devices

The proposed standards affect product accumulator vessels and other process vent sources containing total organics in concentrations greater than 10 percent. Product accumulator vessels generally include overhead and bottoms receiver vessels used with fractionalization or stripping columns and product separator vessels used in series with reactor vessels to separate reaction products. Specifically, a product accumulator vessel includes any distillate receiver, condenser, bottoms receiver, surge control vessel, product separator, or hot well. Typically, accumulator vessels are vented directly to the atmosphere or indirectly to the atmosphere through a blowdown drum or through vacuum systems. Process vents are covered under the proposed rule only if they are in VHAP service or are associated with another type of product accumulator vessel, e.g., a distillate receiver in VHAP service. Surge control vessels and other vessels do not include equalization basins unless they are in VHAP service and are vented to the atmosphere. Venting occurs because mechanical or process-related effects cause the gases in an accumulator vessel to move through the vessel; tanks such as fixed or floating roof storage tanks are not accumulator vessels unless they vent VO emissions to the atmosphere. When an accumulator vessel contains VO (including toxics) and vents to the atmosphere, emissions are released. The EPA requests comment on whether the definitions of process vents and surge control vessels are defined clearly.

The proposed standards for product accumulator vessels would require that each vessel be equipped with a closed-vent system capable of capturing and transporting any leakage to a control device that is designed and operated to recover the organic vapors at an efficiency of 95 percent or greater. The efficiency of 95 percent or greater will be determined by estimating the mass of organics entering the control device and by estimating the mass of organics exiting the control device. Operational parameters (such as temperature of condenser cooling fluids and temperature of incinerators) then will be monitored to ensure that the mass recovery (or destruction) of 95 percent is maintained during operation of the control device. Method 21 will be used to verify that a closed-vent system has been designed and installed properly. The standards for control devices are design and operation requirements that ensure continuous effective removal of the emissions. Although EPA expects that TSDF sites will choose condensers to comply with the standards, approved alternatives to condensers are flares, incinerators, and adsorbers that achieve 95 percent control (or greater). Permit requirements relating to these design and operational (monitoring) requirements are discussed in Section VI, "Permits and Other Aspects of Implementation," of this preamble.

If an enclosed combustion device is used, the unit must be designed and operated for an efficiency of 95 percent or more. Alternatively, a minimum residence time of 0.5 second at a minimum temperature of 760 °C is required under Subpart V (40 CFR 61.242–11). If flares are used, the owner or operator must meet the design and operational provisions of 40 CFR 60.18. Subpart V also requires the monitoring of control devices to ensure that they are operated and maintained in conformance with their design. Additionally, closed-vent systems and control devices must be operated at all times when emissions may be vented to them.

Leak detection requirements for closed-vent systems are similar to those for fugitive sources. That is, all closed-vent systems must be designed and operated with no detectable emissions (i.e., 500 ppm above background by instrument reading using Method 21). The closed-vent system must be monitored initially to determine compliance. Followup monitoring is required annually and at any other time requested by EPA. If a leak is detected (by instrument reading or visible inspection), it must be repaired no later than 15 calendar days after detection. However, a first attempt at repair must be made within 5 days of detection.

V. Applicability of Proposed Standards to Other TSDF Operations

After selecting the proposed standards for WSTF, EPA considered the applicability of the standards to WSTF that could be applied to other RCRA facilities treating organic-rich hazardous waste with equipment identical to those for WSTF. Based on a review of the engineering basis for the proposed standard and the regulatory approach taken under RCRA for WSTF, as discussed above, EPA concluded that the proposed standard for WSTF could be broadened to cover all TSDF process streams with greater than 10 percent organics. Simply put, there is no technical basis for limiting the proposed controls on equipment in VHAP service at solvent treatment operations. The control technologies control VO emissions uniformly and indeed are already applicable under the CAA to many nonsolvent-emitting sources. In addition, there do not appear to be differences in emissions and risks that would justify not regulating equipment in VHAP service at TSDF.

Data currently are too limited to perform a detailed analysis of the impacts of the proposed standards on TSDF process streams greater than 10 percent organics. Specifically, the number of TSDF affected by the proposed standards cannot be determined accurately. However, EPA performed a rough analysis of these impacts as discussed below. Additional TSDF controls for other process emissions and area sources are currently under study and will be proposed in a later rulemaking.

Roughly speaking, extension of the proposed standards to TSDF with hazardous waste streams or other derivatives containing greater than 10 percent organics would affect from 269 to 2,332 sites, with a midrange estimate of 1,300 facilities. Using this midrange estimate, fugitive emissions of VO at these sites are expected to be in the area of 17,800 Mg/yr and result in an annual cancer incidence of approximately 0.65 case/yr nationwide. These estimates do not include estimated emissions or health risks associated with process vents at TSDF because data are insufficient at this time to provide such estimates. The EPA believes, however, that few, if any, of these vents (except those found at WSTF) are found at other TSDF; and, if they do exist, they would be appropriately covered by the proposed standards. The EPA requests comments on the types of process equipment and number of vents that would be regulated by these standards. (As noted earlier, TSDF with any equipment in VHAP service already required to obtain an RCRA permit would be covered by this proposal. They need not be engaged in distillation or other activities using product accumulation vessels or otherwise have process vents. TSDF with valves or pumps in VHAP service and otherwise required to obtain a permit would be

covered by the proposal.) Further information on this topic is requested as described elsewhere in this preamble. Controls proposed for WSTF are applicable, available, and would achieve the same reductions—about 75 percent overall—at TSDF. Based on this overall control efficiency, nationwide emissions and risks would be reduced to about 4,500 Mg/yr, with residual annual cancer incidence of about 0.13 case/yr. The nationwide, annual net cost of this action would be roughly $9.6 million/yr.

VI. Permits and Other Aspects of Implementation

The EPA considered the proposed standards for WSTF and TSDF in light of the permitting process, the requirements for final permits, and the relation of these standards to similar CAA regulatory requirements.

A. Interim Status and Permitted Facilities

After selecting the standards for affected TSDF, EPA considered how to implement the standards with respect to interim status and final compliance. In doing so, EPA considered the overall burden for TSDF owners and operators and Agency personnel in preparing, reviewing, and approving final permits or modifications to permits. Although the administrative burden associated with the proposed standards would add to this overall burden, EPA believes that the incremental effort will be small. Because air emissions from these facilities are currently unregulated under RCRA and, as discussed above, the Agency believes these emissions are capable of posing significant risk to human health and the environment, the Agency believes it important to move to control these emissions expeditiously. The EPA, therefore, has examined the appropriateness of applying air emission standards to interim status facilities. [See, e.g., 50 FR 26484, June 26, 1985 (similar considerations justify adoption of 40 CFR Part 265 standards for tanks similar or identical to 40 CFR Part 264 standards).] In addition, because EPA needs to assign higher permitting priority to land disposal and treatment technologies, EPA considered whether the proposed standards could be self-implementing, i.e., without the burden associated with negotiations between the TSDF owner/operator and a permit writer.

The proposed standards, as discussed above, are based on the standards for equipment leaks of benzene, which were established under a regulatory program that inherently uses standards that are self-implemented. The standards for equipment leaks of benzene are self-implementable because either the specifications for a requirement are explicit (e.g. the leak definition of 10,000 ppm is explicitly specified in the standards) or, to the extent they are not explicit, the specifications include specific design criteria (e.g. the 95-percent design criterion) that can serve as the primary basis for determining compliance with the standards. All the requirements are set out explicitly in the rule except the design and operation requirements for control devices.

The requirements for control devices are not as completely explained in the rule because the proposed standards provide for many types of control devices that can be used to comply with the standards. However, engineering design practices for the control devices customarily used to comply with air emission standards are well enough established to provide the necessary documentation to show the ultimate levels of performance are achieved. Essentially, one can determine that a control device is achieving 95 percent reduction of VO by evaluating device design and—to ensure that the device is operating to achieve the designed level of performance—by monitoring certain parameters during operations. Appropriate parameters are discussed below and are based on monitoring performance of control device rather than measuring emissions directly. The parameters utilized are related to the physical and chemical nature of the removal or destruction mechanisms used as the basis for the control devices, design. For example, condensers use cooling fluids to reduce the temperature of an exhaust gas stream low enough to condense the organics in the stream. By designing a system to remove 95 percent of the organics entering the system, an exhaust gas temperature, along with other factors, such as the temperature of the cooling fluids, is estimated. Based on such parameters, the control device can be monitored to ensure it is operated as designed. The EPA considers these requirements reasonably self-implementable.

Compliance (for interim status facilities) with the standards for equipment leaks can be accomplished within a relatively short period of time (6 months) after the promulgation date of the standards. However, compliance with the standards requiring closed-vent systems and control devices could take longer. Based on EPA's experience under the benzene standard, compliance can be achieved within 24 months after the promulgation date of these standards. Thus, EPA is proposing to allow TSDF owners and operators up to 24 months to comply with the proposed standards requiring closed-vent systems and control devices. The EPA also is proposing that design of these systems and devices occur within 6 months and that construction begin within 9 months after promulgation of the standard to ensure that steady progress toward compliance with the standards occurs.

Compliance determinations (for interim status facilities) with the standards would occur through inspections and review of records and reports. The records are mainly associated with documenting the ongoing efforts of the leak detection and repair associated with equipment leaks and with demonstrating that add-on control devices achieve 95 percent reduction in organics by design and during operation. The design of these devices must show the basis for estimating the 95-percent control and the basis for the operating parameters used to monitor compliance with the device's design. The 95-percent control would be indicated by showing on a mass balance basis that the control device removes 95 percent of the organics entering the device. Specific operating or monitoring parameters are (1) coolant fluid temperature and exit gas temperature for condensers, (2) exit gas breakthrough of organics and carbon bed temperature for carbon adsorbers, (3) flue gas temperature for incinerators, and (4) pilot light flame detection and visible emission readings for flows. These general requirements are found at 40 CFR 61.242–11 and 61.245 Subpart V; EPA is proposing to add specific requirements at 40 CFR 269.33. These parameters would be monitored to ensure that the control device is performing according to its design. A review of these records and an inspection would serve to confirm whether a facility complies with the standards.

The final permit standards are the same as those for interim status facilities. The final permit requirements would include submitting documentation that the control equipment satisfying the interim status standards has been installed and that interim status standards are being achieved. A review of compliance with the interim status standards could occur. The EPA may request information to help determine if EPA should invoke the provisions of RCRA Section 3005(c)(3) to require control beyond that required in the standards. Most of this information (such as population distributions, facility location, wastes handled, and other specifics), will be available in other required RCRA information or in

existing EPA data bases, so EPA does not anticipate the need to request additional data very often.

B. Additions to 40 CFR Part 270

Based on the approach used in implementing interim status and final permit standards, EPA decided to specify particular permitting requirements in 40 CFR Part 270 to help reduce the burden associated with preparing, reviewing, and approving Part B RCRA permits. The regulations and associated records and reports are detailed enough for the proposed standards to require the Part B permit application to document compliance with the standards. However, EPA concluded that further specific documentation would be helpful to demonstrate compliance with the standards for process vents.

Documentation is needed when demonstrating compliance with the standards for process vents and other product accumulator vessels because these standards require the operator to design and operate the control device to achieve 95 percent emission reduction. Although documentation can only be done on a case-by-case basis, it would be helpful for TSDF owners or operators and permit review personnel to follow similar guidelines. Thus, in 40 CFR Part 270, EPA is proposing a requirement that the operators compare their control devices, design and operation against a textbook analysis. This analysis would be used to determine whether the operator's approach appears to comply reasonably with the requirements of the standard. The textbook currently under consideration is the EPA Air Pollution Training Institute's Control of Gaseous Air Pollutants. Based on this comparison, EPA can decide if the operator's design and operation achieves the standards for process vents/accumulator vessels.

C. Relation to Similar CAA Requirements

The proposed standards contain a provision to ensure that no duplicative recordkeeping and reporting are required for any TSDF governed by the proposed rule and by existing CAA regulations (i.e., 40 CFR Part 60 Subpart VV and Part 61 Subpart V). For such facilities, proposed Section 269.33(e) provides that the owner or operator may elect to continue keeping records and reports pursuant to CAA requirements in order to comply with the recordkeeping and reporting requirements of the proposed rule. For facilities covered by RCRA only, the owner or operator must comply with the requirements in the proposed rule at Section 270.22.

The recordkeeping and reporting requirements under the proposed rule and the CAA are identical except for the documents described by proposed Section 270.22(a)(2)(i)–(ii), (3). Section 269.33(e) of the proposed rule, applicable to a TSDF facility governed under CAA and RCRA, allows the owner or operator to keep only one set of records and reports regarding operation and maintenance. It should be noted, however, that additional reporting and recordkeeping requirements, which are contained at Section 270.22, for example, and are required to obtain a final RCRA permit, apply to all TSDF, even those that are governed under the CAA.

RCRA Section 1006(b) allows the Administrator to eliminate duplicative regulation under RCRA and other Federal laws including the CAA. EPA has decided not to alter the applicability of CAA regulations to TSDF affected by today's proposed rule. As discussed above, a duplicative recordkeeping or reporting burden is not imposed on any TSDF by today's proposal. Other provisions under RCRA [e.g., omnibus permitting, pursuant to RCRA 3005(c)(3)] and the CAA (e.g., determination of attainment of any applicable NAAQS) will continue to apply to TSDF already subject to both regulatory schemes.

Because the CAA standards were adapted for the accelerated rule, the recordkeeping and reporting requirements differ from existing requirements in RCRA standards. Leaking equipment is flagged with labels indicating its identification number, until repairs are achieved, except that valves are marked until repaired for 2 successive months. Records of leaks are kept for 2 years, rather than maintained for a 3-year inspection record.

Reporting requirements for air emissions include the leak detection schedule and twice-a-year reporting of leaks and unrepaired leaks [which are records kept at the facility under 40 CFR 264.15(b) (2) and 265.15(b) (2)]. In contrast, 40 CFR 264.56(j) and 265.56(j) require written reports within 15 days of events that demand use of a facility contingency plan, which will, however, usually show more significant releases than those detected during leak monitoring.

The EPA requests comments on the integration of these recordkeeping and reporting requirements in the RCRA program. As proposed, the reporting and recordkeeping requirements of 40 CFR Part 270 apply to air emissions, along with the circumstances that implement use of the contingency plan.

VII. Relation to Other RCRA Regulatory Provisions

Today's proposal relates to other RCRA regulatory exemptions and these exemptions merit discussion. These provisions are discussed below in turn.

A. Product Storage Exemption

Paragraph 261.4(c) of the RCRA regulations exempts from regulation hazardous wastes that are generated in process-related equipment such as product or raw material storage tanks, or product or raw material pipelines. The exemption applies until the waste is physically removed from the unit in which it was generated.

This exemption would not be affected by today's proposal. Thus, such units as product distillation columns generating organic hazardous waste still bottoms containing greater than 10 percent organics would not be subject to today's proposed regulation while they are in the distillation column unit. As EPA noted in promulgating the exemption, risks posed by these units are incidental to the risk posed by the contained product or raw material. (See 45 FR 72025, October 30, 1980, and 45 FR 80286, December 4, 1980.) In addition, direct regulation of these units under RCRA could interfere impermissibly with the act of production and, therefore, would be beyond the Agency's RCRA authority. (See 51 FR 25487, July 14, 1986, and 50 FR 617, 637–38, January 4, 1985.)

B. Totally Enclosed Treatment Facility Exemption

Under 40 CFR 264.1(g)(5) and 40 CFR 265.1(c)(9), totally enclosed treatment facilities are exempt from RCRA regulation. A "totally enclosed treatment facility" is a facility treating hazardous waste that is "directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or constituent thereof into the environment during treatment" (40 CFR 260.10).

Treatment facilities located off the site of generation are not directly connected to an industrial process. Thus, commercial waste treatment facilities with equipment affected by the proposed standards, such as solvent reclamation facilities, by definition ordinarily would not be totally enclosed. In addition, storage facilities, disposal facilities, and ancillary equipment not used for treating hazardous waste do not fall within the definition of a totally enclosed treatment facility.

The EPA believes that many onsite treatment facilities also are not totally enclosed. Process emissions from

recovery distillation columns and other treatment technologies generally are designed to release air emissions of the hazardous waste or constituent into the air environment. Therefore, by definition, these onsite technologies are generally not totally enclosed. [See 45 FR 33218, May 19, 1980 (no constituents released to air during treatment).] However, it is possible to construct a product accumulator vessel or distillation column that prevents the release of air emissions or is otherwise totally enclosed. Generally, EPA interprets "prevents" to include the use of effective controls such as those required by the proposed standard. In addition, the ancillary equipment affected by these proposed standards can be designed and operated/maintained to prevent releases. As a consequence, EPA believes that some onsite treatment would be totally enclosed. The EPA requests comments on this interpretation of the totally enclosed facility exemption and the number and type of onsite totally enclosed facilities with descriptions of the control devices and monitoring used to meet the totally enclosed treatment exemption.

C. Eliminating the Exemption for the Act of Reclamation

Today's proposal would regulate the activity of reclamation at certain types of RCRA facilities for the first time. This exemption dates from May 19, 1980 (45 FR 33084), and was continued when the Agency amended its regulations relating to hazardous waste recycling [40 CFR 261.6(c)(1), August 20, 1985]. The basis for this exemption was the Agency's initial uncertainty as to an appropriate regulatory regime for the act of any type of recycling (45 FR 33084). As the Agency began studying these questions, EPA began revoking the exemption by promulgating standards for various types of recycling activities, beginning with those most closely resembling classic types of hazardous waste management [see 40 CFR 266.23, January 4, 1985 (uses constituting disposal, analogous to land disposal); 40 CFR 266.31, November 29, 1985 (prohibition on burning hazardous waste fuel in nonindustrial boilers, analogous to incineration)].

Today's proposal marks a further step in this process. After studying the environmental problems associated with reclamation of organic-rich hazardous wastes, EPA believes there is a substantial problem requiring redress. Further, after studying various means of controlling air emissions from reclamation units and associated conveyance systems, the Agency believes that the controls proposed today provide an appropriate and protective regulatory regime. Consequently, the existing regulatory exemption for the process of reclamation is no longer appropriate. Accordingly, EPA is proposing to amend 40 CFR 261.6 to allow covering reclamation of hazardous wastes affected by today's proposal. It should be recognized, however, that today's proposed rule only applies at facilities otherwise needing a permit. Therefore, not all reclamation units will necessarily be affected by this rule.

Today's proposal does not consider whether to extend coverage of air emission controls to waste-handling generators with onsite recycling or recovery operations for waste solvents who do not store the spent solvents. The EPA believes that most generators with onsite recycling perform this operation in tanks and are exempt from regulation based on the provisions of 40 CFR 262.34, which allows accumulation of hazardous wastes onsite for 90 days or less without requiring a TSDF permit. Although EPA has the statutory authority to require controls for these operations, EPA has not completed a technical and administrative assessment at this time. The EPA is concerned about the impact of regulating commercial recyclers more than regulating generators with onsite recycling. The extent of this discontinuity is unclear: however, EPA has some reason to believe that it is insignificant. Generators with onsite recycling of solvents generally are covered under air emission standards associated with Sections 111 and 112 of the CAA. Although CAA standards would cover all onsite recycling of benzene and newly constructed onsite recycling of many organic solvent chemicals (many of which are affected by today's proposal), EPA does not know how many existing onsite recycling operations would remain unaffected by either CAA or RCRA standards for air emissions. Therefore, EPA is requesting data on the number of onsite recycling operations and any comments on the impact of regulating commercial recyclers and not generators with onsite recycling. The EPA will study this issue and decide on an appropriate strategy for public review and comment as more information becomes available.

D. Wastewater Treatment Tank Exemption

Paragraphs 264.1(g)(6) and 265.1(c)(9) exempt wastewater treatment tanks and elementary neutralization units (defined in 40 CFR 260.10) from Subtitle C regulation. Today's action does not affect the scope of that exemption. Thus, recovery devices such as steam strippers treating organic-rich hazardous wastes that would otherwise qualify for the wastewater treatment exemption are not covered by today's rule. The Agency believes there are few or no such units because wastewater streams are invariably more dilute than 10 percent organics. Because so few units would be covered, EPA does not regard the present proposal as the appropriate instrument to examine the scope of the wastewater treatment exemption. The Agency is considering the question in other contexts, including the comprehensive Section 3004(n) standards now under development.

E. Application of Air Emission Standards to Equipment that Meets the Definition of a Generator's Accumulation Tank

Section 262.34 of the RCRA regulations states that generator tanks that accumulate hazardous wastes for 90 days or less are not subject to interim status or final permit standards, provided they comply with most of the substantive standards for tanks storing hazardous wastes. Certain of the product accumulator vessels affected by today's proposed rule would be 90-day accumulation tanks, namely those that store or treat (51 FR 25422, July 14, 1986) hazardous wastes, are emptied every 90 days (51 FR 25427, July 14, 1986), and otherwise meet the substantive tank standards enumerated in 40 CFR 262.34(a) (1) and (4).

The Agency expects that there will be comparatively few of these tanks affected by today's proposed rule because most distillation columns and other recovery-type tanks are not operated on a continuous basis and thus are not physically emptied within a 90-day timeframe. (As explained, such tanks would be subject to today's regulation if the facility needed a RCRA permit for some independent reason.) However, certain columns involved in batch operations may be so emptied and meet other conditions as well and so qualify as accumulation tanks. For these tanks, the question is whether they should meet today's proposed air emissions standards as part of the conditioned exemption from permitting an interim status.

The EPA has tentatively determined not to apply the proposed air emission standards to these tanks at the present time. The EPA is concerned that many of the batch columns involved are extremely small, so that the technical controls proposed today might not be appropriate. In addition, these columns

may be located at small quantity generator or small business facilities, and the Agency needs more time to study the impacts of imposing controls on these types of entities.

The EPA specifically requests data on the following pertinent issues:

- Physical dimensions of these columns.
- Types of facilities having such columns.
- Types and volumes of hazardous wastes treated by these columns.

The EPA should note that it is currently reassessing the exemption from permitting an interim status for accumulation tanks (51 FR 25487). Today's proposal does not represent any departure from the issues raised in that advance notice of proposed rulemaking.

F. Applicability of Other Standards for Tanks and Tank Systems

Today's proposal for controlling air emissions would apply standards to product accumulator vessels and associated ancillary equipment, as well as eliminate (for air emissions) the exemption for the act of recycling contained in 40 CFR 261.6(c). This equipment meets the definitions of "tank" and "tank system" found in 40 CFR 260.10 (e.g., distillation columns are stationary devices containing an accumulation of hazardous waste; and they are constructed of nonearthen materials and would be self-supporting if waste is removed).

The question is thus presented whether these tanks and tank systems should be covered by the same standards as other hazardous waste tanks and tank systems. The fact that there has been at least one instance of ground water contamination directly attributable to a leaking distillation column distilling spent solvents heightens the Agency's concern. (See Florida Ground Water Contamination Sites, Florida Department of Environmental Regulation, September 1982: Spent solvent contamination of wells at Pratt and Whitney Aircraft, West Palm Beach.) The EPA is currently studying whether there is any difference in design or other structural features or waste-handling practices that would make imposition of the normally applicable tank standards inappropriate. The EPA solicits comment on this point. The EPA also requests information on the number of tanks potentially affected, on the types and nature of the tank systems of which they are part, and on the types of controls already in place for the tanks and tank systems (e.g., do most distillation columns already have secondary containment). The EPA emphasizes that it may decide to require the tanks otherwise affected by today's proposal to meet the normally applicable standards as part of its final rule.

G. Impacts on Small Quantity Generators

Under RCRA Section 3001(d), in drafting regulations affecting generators of greater than 100 kilograms (kg) and less than 1,000 kg a month of hazardous waste, EPA must weigh the impacts of regulation against the need to protect human health and the environment (although any regulations must adequately protect human health and the environment). See generally 50 FR 31283–286, August 1, 1985; 51 FR 10146, March 24, 1986. The EPA does not believe the present proposal affects such small quantity generators. Today's proposed rules apply only to facilities already required to obtain an RCRA permit. The EPA knows of no such small quantity generator facilities. In addition, as noted above, EPA is not proposing to apply the standards to any generators' 90-day accumulation tanks. Consequently, EPA sees no impacts on small quantity generators as a result of today's proposal.

VIII. State Authorization

A. Applicability of Rules in Authorized States

Under Section 3006 of RCRA, EPA may authorize qualified States to administer and enforce the RCRA program within the State. (See 40 CFR Part 271 for the standards and requirements for authorization.) Following authorization, EPA retains enforcement authority under Sections 3008, 7003, and 3013 of RCRA, although authorized States have primary enforcement responsibility.

Prior to the HSWA, a State with final authorization administered its hazardous waste program entirely in lieu of EPA administering the Federal program in that State. The Federal requirements no longer applied in the authorized State, and EPA could not issue permits for any facilities in the State that the State was authorized to permit. When new, more stringent Federal requirements were promulgated or enacted, the State was obliged to enact equivalent authority within specified timeframes. New Federal requirements did not take effect in an authorized State until the State adopted the requirements as State law.

In contrast, under the newly enacted Section 3006(g) of RCRA, 42 U.S.C. 6926(g), new requirements and prohibitions imposed by the HSWA take effect in authorized States at the same time that they take effect in nonauthorized States. The EPA is directed to carry out those requirements and prohibitions in authorized States, including the issuance of permits, until the State is granted authorization to do so. Although States must still adopt HSWA-related provisions as State law to retain final authorization, the HSWA applies in authorized States in the interim.

Today's proposed rule would be promulgated pursuant to Section 3004(n) of RCRA, with provisions added by HSWA. Thus, it would be added to Table 1 in 40 CFR 271.1(j), which identifies the Federal program requirements that are promulgated pursuant to HSWA and that take effect in all States, regardless of their authorization status. States may apply for either interim or final authorization for the HSWA provisions identified in Table 1, as discussed in the following section of this preamble.

B. Effect on State Authorization

As noted above, EPA will implement today's proposed rule, when promulgated, in authorized States until they modify their programs to adopt these rules and the modification is approved by EPA. Because the rule will be promulgated pursuant to HSWA, a State submitting a program modification may apply to receive either interim or final authorization under RCRA Section 3006(g)(2) or 3006(b), respectively, on the basis of requirements that are substantially equivalent or equivalent to EPA's. The procedures and schedule for State program modifications under RCRA Section 3006(b) are described in 40 CFR 271.21. The same procedures should be followed for RCRA Section 3006(g)(2).

Applying 40 CFR 271.21(e)(2), States that have final authorization must modify their programs within a year of promulgation of EPA's regulations if only regulatory changes are necessary, or within 2 years of promulgation if statutory changes are necessary. These deadlines can be extended in exceptional cases [40 CFR 271.21(e)(3)].

States with authorized RCRA programs may already have requirements similar to those in today's proposed rule. These State regulations have not been assessed against the Federal regulations being proposed today to determine whether they meet the tests for authorization. Thus, a State is not authorized to carry out these requirements in lieu of EPA until the State program modification is approved. States with existing rules may continue to administer and enforce their

standards as a matter of State law. In implementing the Federal program, EPA will work with States under cooperative agreements to minimize duplication of efforts.

States that submit official applications for final authorization in fewer than 12 months after promulgation of EPA's regulations may be approved without including standards equivalent to those promulgated. Once authorized, however, a State must modify its program to include standards that are substantially equivalent or equivalent to EPA's within the time periods discussed above.

IX. Impacts of Proposed Standards

A. Introduction

To evaluate the need for the requirements to reduce emissions, EPA developed order-of-magnitude estimates of the air emissions from and control costs for WSTF and TSDF. These estimates were derived using available information and judgment to develop best estimates of parameters needed to characterize emissions, operating parameters of WSTF and TSDF with fluids containing organic concentrations greater than 10 percent, and health risks. Because insufficient information was available to characterize the composition of the organic wastes beyond the total VO content, the uncontrolled emission rate could not be quantified precisely. Thus, to provide a broad overview of potential impacts of air standards, estimates were developed of the maximum emission rate expected for highly volatile solvents and of a likely small emission rate from a WSTF and from a TSDF with waste streams containing 10 percent or more organics. The emission rates for a single WSTF were projected based on a January 1986 nationwide estimate [assuming 436 million gal (i.e., the sum of the 428 million gal currently distilled and 8.3 million gallons potentially requiring treatment)] for waste solvents treated by distillation processes. The emission rates for a single affected TSDF were projected based on 1,300 TSDF affected nationally, reflecting a range of 269 to 2,300 potentially affected TSDF. Control costs and health effects also were estimated for the expected emission rates and were projected to a nationwide basis.

Although these estimates were developed from the best available information, they must be viewed with considerable uncertainty because there is a paucity of information on operations of WSTF and other affected TSDF. The EPA believes these estimates will serve to guide discussion on the problem and to solicit additional information.

The facility and nationwide estimates of air impacts and control costs are presented below with expected lower values and with upper bound estimates indicated in parentheses to provide an indication of the potential variation in impacts of the proposed air standards. The health impact estimates (which focus on cancer risks and do not include other plausible health effects) are presented as overall nationwide estimates that consolidate the effects of variations in populations (rural and urban population densities), meteorology, and expected emission rates. Accordingly, the impacts of any individual TSDF may differ from the impacts presented in the preamble.

B. Air Impacts

It is estimated that the proposed standard will reduce VO emissions to the atmosphere from WSTF and other TSDF by approximately 85 and 75 percent, respectively, from the uncontrolled level at plants with typical emission rates (93 percent for WSTF facilities with maximum emission rates). For the model WSTF used in the impact analysis' this control represents an emission reduction from at least 27 Mg/yr (based on a range of 27 to 155 Mg/yr) to about 4 Mg/yr (based on a range of 4 to 11 Mg/yr). Because about 100 model WSTF would be needed to treat the estimated 436 million gal of waste solvents recycled annually, nationwide emissions would be reduced from a minimum level of 2,550 Mg/yr (maximum level of 14,700 Mg/yr) before control to a minimum level of 400 Mg/yr (a maximum level of 1,000 Mg/yr) after control. Nationwide fugitive emissions from other TSDF would be reduced from about 17,800 Mg/yr to about 4,500 Mg/yr. Together, the standards proposed for WSTF and TSDF are expected to reduce nationwide emissions from about 26,460 Mg/yr to about 5,460 Mg/yr after control—an overall reduction of nearly 80 percent.

The magnitude of the estimated emission reductions for TSDF and WSTF are uncertain because of differences in volatility of solvents, uncertainties in waste stream composition, and difficulties in developing emission factors for operations that vary widely. However, this overall reduction in VO emissions will assist in the attainment of the National Ambient Air Quality Standard for Ozone by reduction in ozone precursors, and it will reduce the risks to human health and the environment from hazardous waste management.

C. Health Impacts

A health impact analysis was conducted to assess the magnitude of cancer risk from exposure to air emissions from WSTF with extrapolated results applied to TSDF. Although cancer risks are not the only health impacts associated with air emissions from WSTF and TSDF, they are the most available measure of direct health effects associated with chronic low-level exposures to organic solvents. It should be noted that uncertainties associated with possible additive effects, synergism, antagonism, and heightened susceptibilities cannot be overemphasized. The health impacts were estimated using a representative range of unit risk factors (e.g., 2×10^{-7} to 2×10^{-5} cases per microgram per cubic meter per person) to estimate the magnitude of risks posed by WSTF at both typical and maximum emissions rates. The nationwide maximum individual lifetime risk was assumed to be the highest individual risk calculated for the model cases analyzed. The Human Exposure Model (HEM) was used to predict nationwide health effects of exposure to suspected carcinogens in the VO emissions from WSTF. It is considered a reasonable indicator for this screening evaluation. The HEM has been used successfully in many EPA risk assessments, but it does add an additional element of uncertainty because of the inherent assumptions of the model. However, a more detailed risk assessment cannot be performed until further information and data are available. Consequently, the nationwide annual incidence was calculated as the average annual incidence considering the projected number of WSTF and the range in emission rates, geographic location, and urban/rural sites expected for WSTF. This scoping analysis showed that the standard will reduce the maximum individual lifetime risk of cancer from WSTF operating at the upper bound emission rate from about 3.7×10^{-3} to 2.6×10^{-4}. The nationwide annual incidence of cancer in the population living within 50 km of uncontrolled WSTF is estimated to be about 0.34 case/yr assuming the midpoint of the unit risk factor range. The proposed standard will reduce this nationwide incidence rate to about 0.028 case/yr. The proposed standard for TSDF would reduce annual incidence from about 0.65 case/yr to about 0.13 case/yr. Nationwide annual incidence from TSDF and WSTF together would be reduced from about 1 case/yr to about 0.16 case/yr.

Because of the assumptions that were made in estimating emissions and in calculating these maximum lifetime risk and annual incidence estimates, there is considerable uncertainty associated with these risk estimates. These uncertainties are the result of the uncertainties in the emission estimates and to a number of simplifying assumptions made in the health risk analysis and in extrapolation of the estimates to a nationwide basis. In particular, there are uncertainties regarding the appropriate magnitude of the individual pollutant unit risk factors for this analysis. This sort of uncertainty is exacerbated because unit risk factors have been developed for only a few of the Appendix VII compounds that might be emitted by WSTF and TSDF. There are also uncertainties concerning possible additive effects of multiple pollutants, synergistic or antagonistic health effects, and heightened susceptibilities to some cancers by some population subgroups. Although exposure to ozone may be related to a variety of both health and environmental effects, it is unclear how ozone-related impacts will be quantified until some ongoing analyses are completed. These factors make it difficult to determine the absolute magnitude of the risk to human health.

D. Cost Impacts

Upper and lower bound estimates of control costs for a model WSTF were developed for process emission control using add-on control devices (such as secondary condensers, incinerators, or flares) and for fugitive emission control. These estimates were extrapolated to a nationwide basis assuming that approximately 100 model WSTF would be controlled and two basic combinations of control devices would be used. Depending on the process control device assumed in the estimation, the nationwide capital cost for the standard is estimated to range from approximately $2.9 million to $16.6 million, and the 1986 annualized cost is estimated to range from approximately $1.3 million/yr to $11 million/yr without recovery credit, or from $100,000/yr to $10.6 million/yr with the assumption of a recovery credit. (The average capital cost/model plant is estimated to range from $30,200 to $174,500, and the annualized costs without recovery credit range from $13,600/yr to $115,000/yr per model plant.) These cost estimates are based on assumptions that may represent significant overestimates of control costs compared to what actually may be experienced, particularly if the facilities use existing boilers or furnaces to control process-vent VO emissions. Consequently, it is expected that the actual cost of the standard will be closer to the lower, which reflects use of secondary condensers, than the upper cost estimate, which reflects use of add-on combustion control devices.

Annual net costs are estimated at about $7,400/yr for the TSDF model facility, considering recovery credits. Assuming a midpoint estimate of 1,300 facilities, the estimated nationwide annual cost of control under the proposed standards is about $9.6 million/yr. Combined nationwide net annual and capital costs for TSDF and WSTF are estimated at $9.7 million/yr and $35.3 million/yr, respectively.

X. Request for Further Information

As discussed in Section IX of this preamble, order-of-magnitude estimates of air emissions, health risks, and control costs were developed for WSTF. These estimates were developed using the best available information but contain considerable uncertainties because the available information was not comprehensive. To refine these assessments of potential impacts and benefits of emission control, EPA is specifically requesting comments in several areas.

The EPA requests comments, including data, on factors that may affect the feasibility of complying with the proposed standards for WSTF and TSDF or of achieving the proposed emission reductions. In particular, EPA requests that commenters submit data on emission rates, including information on composition and content of the wastes being processed; factors affecting emissions, including the effect of batch operations on process and fugitive emission rates; the number of WSTF and TSDF currently controlling process and fugitive emissions; and the number of process vents, accumulator vessels, and other tanks affected by the proposed standards. The EPA requests information that would help reduce the uncertainty with the number of TSDF, including recyclers, covered by the standards, and data on the number of offsite recyclers who recycle without prior storage. The EPA requests comments on the number of totally enclosed treatment units currently excluded from coverage under RCRA. The EPA also requests comments on the public health and environmental effects of VO emissions from these WSTF operations and TSDF operations in general. The EPA also requests comments on the approach based on using VO as measured by total organics in comparison to an approach based on using specific chemical constituents in regulating the air pollution affected by today's proposed standards. If commenters believe a particular standard is unsuitable for their equipment they should document why the standard should not apply in light of the standards' widespread applicability to other types of VO-emitting equipment and industries.

The EPA derived the cost-related operating conditions for WSTF and TSDF based on an analysis of control costs from operating conditions observed in the petroleum and chemical industries. Because there are many similarities in operating conditions for these industries, EPA believes the assumed conditions should be representative of WSTF and TSDF operations recognizing, however, that uncertainties exist in the assumed conditions. Consequently, EPA requests information on: (1) Capital and annual costs for controlling process emissions, including information on annual operating hours, capacity, waste stream(s) treated, and product recovery credits; (2) the effect of batch operations on control costs, including the basis for the cost comparison: and (3) costs for inspection and maintenance programs used to control fugitive emissions.

The EPA is proposing that compliance with the standards for control devices, such as condensers, be demonstrated through documenting the design and monitoring the operation of these devices. This approach is the one utilized in the CAA standards, which are used as the basis for the proposed standards. The EPA believes this is a reasonable approach because studies of these devices used in many industries and applications indicate that their design can be documented with sufficient and precise detail to allow the EPA to decide whether the device has been designed to achieve the proposed standards. The engineering involved in designing these devices is straightforward and well understood by practicing professionals in the air pollution control field. The monitoring of these devices, in contrast to performing emission tests, to determine proper operation of these devices is also straightforward and understood by practicing professionals in the air pollution control field. The monitoring of these devices is done to ensure that they are operated within their design and therefore that they achieve the intended results of the standards. The EPA is requesting comments on this approach and the decision to use design and monitoring requirements rather than performance testing as the basis for determining compliance with these standards.

In order to estimate the potential cost, economic, and risk impacts associated with requiring waste solvent recovery units to comply with the 40 CFR Part 61 Subpart J hazardous waste tank regulations, the Agency must characterize the solvent recovery unit and facility population. At this time, the Agency has limited data available to conduct such impact analyses. As a result, the Agency today requests comments that provide the specific information necessary to decide whether the waste solvent recovery units should comply with the 40 CFR Part 61 Subpart J requirements.

The EPA's Office of Solid Waste (OSW) has conducted a 1986 TSDF screening survey that, once final, will provide a current estimate of the number of TSDF with waste solvent recovery operations. However, the survey will not provide information on the number of waste solvent recovery units per TSDF. Other needed waste solvent recovery unit characteristics include design capacity, dimensions, length of ancillary piping, types of ancillary equipment such as pumps, material of construction, age, and waste solvent throughput (e.g., gal/day. gal/mo). In addition to waste solvent recovery unit characteristics, EPA needs waste solvent characteristic data. Such information includes waste constituents and constituent concentrations. Moreover, the Agency needs information on the facilities that have waste solvent recovery operations such as the number of waste solvent recovery units per facility, types of industries, number of employees, net income, or sales.

If EPA does not receive adequate information from public comments, the Agency must rely on waste solvent recovery or distillation unit characteristic information from a 1981 TSDF survey. These survey data provide such information for a sample of about 11 waste solvent recovery or distillation units. The 1981 survey data include information on design capacity, material of construction, and age. Other important factors such as extent of ancillary equipment or waste characteristics must be estimated using best professional judgment. Because the Agency prefers to base the decision of how to regulate waste solvent recovery tanks on the most current, thorough, and reliable data, EPA is today requesting detailed information on the potentially regulated waste solvent recovery unit and facility population.

The EPA is proposing in today's notice to add a new part to 40 CFR. The EPA had the option of adding the proposed standards to 40 CFR Parts 264 and 265, or possibly Part 266. However, because the proposed standards cover several units regulated under 40 CFR Parts 264 and 265 and, therefore, would have been added to several subparts within these parts, EPA decided to add a separate part that concerned air emission standards. In addition, EPA is considering which program office should implement the air emission standards. If EPA Regional or State air program offices implement RCRA air emission standards, then a separate part would allow these offices to implement the standards without first learning the entire RCRA regulatory framework. The EPA requests comments on adding a new 40 CFR Part 269 to contain air emission standards under RCRA.

The EPA will base the final standards on the evaluation used as the basis for the proposed standards and consideration of comments on and data concerning the proposed standards. In particular, the final standards will reflect appropriate reconsideration of the proposed standards based on revisions to the analysis resulting from significant comments on the feasibility, the effectiveness, and costs of process and fugitive emission controls. Comments on the regulatory approach used to establish the proposed standards and to cover recyclable materials and TSDF in general also are requested.

XI. Administrative Requirements

A. Public Hearing

The Agency will hold a public hearing on March 23, 1987. The hearing will be held at EPA's Office of Administration Auditorium, Research Triangle Park, North Carolina, beginning at 10:00 a.m. Anyone wishing to make a statement at the hearing should notify, in writing, Ms. Geraldine Wyer, Public Participation Officer, Office of Solid Waste (WH-562), U.S. Environmental Protection Agency, 401 M Street SW, Washington, DC 20460.

Oral and written statements may be submitted at the public hearing. Persons who wish to make oral presentations must restrict them to 15 minutes and are encouraged to have written copies of their complete comments for inclusion in the public record.

B. Docket

The docket is an organized and complete file of all the information submitted to or otherwise considered by EPA in the development of this proposed rulemaking. The principal purposes of the docket are: (1) to allow interested parties to identify and locate documents so they can effectively participate in the rulemaking process and (2) to serve as the record in case of judicial review.

Additional information on the basis for the emissions, contract cost, and health risk estimates is presented in "RCRA TSDF Air Emission Standards—Background Technical Memoranda for Proposed Standards" EPA-450/3-86-009). Other technical information considered in the development of the estimates also is presented in Docket F-86-AESP. The docket is available for public inspection between 9:00 a.m. and 4:00 p.m., Monday through Friday, excluding holidays, in room S-212 U.S. Environmental Agency, 401 M Street, SW, Washington, DC 20460.

C. External Participation

Development of the basic background information included consultation with appropriate advisory committees, independent experts, and Federal departments and agencies. The EPA will welcome comments on all aspects of the proposed regulation, including economic and technological issues.

D. Office of Management and Budget Reviews

1. Impacts of Reporting and Recordkeeping Requirements

The proposed standard includes provisions that require semiannual reports of leak detection and repair efforts within a process unit. The EPA believes that the required reporting and recordkeeping requirements are necessary to assist EPA in (1) identifying sources, (2) determining initial compliance, and (3) enforcing the standards.

The Paperwork Reduction Act (PRA) of 1980 (P. L. 96-511) requires that the Office of Management and Budget (OMB) approve reporting and recordkeeping requirements that qualify as an "information collection request" (ICR). To accommodate OMB review, EPA uses 3-year periods in its impact analysis procedures for estimating the labor-hour burden of reporting and recordkeeping requirements.

The average annual burden on WSTF and TSDF to comply with the reporting and recordkeeping requirements of the proposed standards over the first 3 years after the effective date is estimated to be about 230 person-years. This amounts to about 6.5 person-hours per week per affected WSTF and TSDF. Most of this burden is already included in the annualized cost of the proposed standards.

2. Paperwork Reduction Act

The information collection requirements in this proposed rule have been submitted for approval to the OMB under the PRA of 1980, 44 U.S.C. 3501 et seq. Comments on these requirements should be submitted to the Office of Information and Regulatory Affairs of OMB, marked "Attention: Desk Officer for EPA," as well as to EPA. The final rule will respond to any OMB or public comments on the information collection requirements.

3. Executive Order 12291 Review

Under Executive Order (E.O.) 12291, EPA must judge whether a regulation is "major" and therefore subject to the requirement of a Regulatory Impact Analysis (RIA). This proposed regulation is not major because it would result in none of the adverse economic effects set forth in Section 1 of E.O. 12291 as grounds for finding a regulation to be major. The industry-wide annualized costs in the 5th year after the standards would go into effect would be less than $10 million, which is less than the $100 million established as the first criterion for a major regulation in E.O. 12291. Price increases associated with the proposed standards would not be considered a "major increase in costs or prices" specified as the second criterion in E.O. 12291. The proposed standards, effect on the industry would not result in any significant adverse effects on competition, investment, productivity, employment, innovation, or the ability of U.S. firms to compete with foreign firms (the third criterion in E.O. 12291).

This proposed regulation was submitted to OMB for review as required by E.O. 12291. Any written comments from OMB to EPA and any EPA responses to those comments will be included in Docket F-86-AESP. This docket is available for public inspection at the address indicated under the **ADDRESSES** section in this notice.

4. Regulatory Flexibility Act Compliance

Pursuant to the Regulatory Flexibility Act (U.S.C. 601 et seq.), whenever an Agency is required to publish a general notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis (RFA) that describes the impact of the rules on small entities (i.e., small business, small organizations, and small governmental jurisdictions). No RFA is required, however, if the head of the Agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. The EPA considered the impacts on small businesses for this proposed rulemaking.

The EPA has established guidelines for determining whether an RFA is required to accompany a rulemaking package. The guidelines state that if at least 20 percent of the universe of "small entities" is affected by the rule, then an RFA is required. In addition, EPA criteria should be applied to evaluate if a regulation will have a "significant impact" on small entities. If any one of the following four criteria is met, the regulation should be assumed to have a "significant impact":

(1) Annual compliance costs will increase the relevant production costs for small entities by more than 5 percent.

(2) The ratio of compliance costs to sales will be 10 percent higher for small entities than for large entities.

(3) Capital costs of compliance will represent a significant portion of the capital available to small entities, taking into account internal cash flow plus external financing capabilities.

(4) The costs of the regulation will likely result in closures of small entities.

In considering whether an RFA was required, EPA first considered whether small entities would be affected by the rule. The only entities affected by the rule are those required to have a permit for treatment, storage and disposal of a hazardous waste. Few, if any, of these facilities are "small entities." Thus, EPA has concluded that the proposed rule would not have a substantial impact on small entities and, therefore, did not prepare an RFA.

Pursuant to the provisions of 5 U.S.C. 605(b), I hereby certify that this rule, if promulgated, will not have a significant economic impact on a substantial number of small business entities because the economic impact of the proposed rule is not significant.

XII. List of Subjects in 40 CFR Parts 261, 264, 265, 269, 270, and 271

Administrative practice and procedure, Air pollution control, Confidential business information, Hazardous materials, Hazardous materials transportation, Hazardous waste, Incorporation by reference, Intergovernmental relations, Packaging and containers, Recycling, Reporting and recordkeeping requirements, Security measures, Surety bonds, Treatment, storage, and disposal facilities, Waste treatment and disposal, Water pollution control, Water supply.

Dated: January 13, 1987.

Lee M. Thomas,

Administrator.

For the reasons set out in the preamble, Chapter I, Title 40, of the Code of Federal Regulations, is proposed to be amended as follows.

PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

1. The authority citation for Part 261 continues to read as follows:

Authority: Sections 1006, 2002(a), 3001, 3002, and 3017, of the Solid Waste Disposal Act of 1970, as amended by the Resource Conservation and Recovery Act of 1976 as amended [42 U.S.C. 6905, 6912, 6921, 6922, and 6937.

2. Section 261.6 would be amended as follows:

a. By revising the parenthetical text at the end of paragraph (c)(1) to read as follows:

* * * * *

(c)(1) * * * (The recycling process itself is exempt from regulation except as provided in 261.6(d)].

* * * * *

b. By adding new paragraph (c)(2)(iii) and new paragraph (d) to read as follows:

* * * * *

(c) * * *

(2) * * *

(iii) Section 261.6(d) of this chapter.

(d) Owners or operators of facilities that store and treat recyclable materials are subject to the requirements of 40 CFR Part 269 Subpart A and C, except as provided in paragraph (a) of this section, if they must obtain a permit under Part 270 of this chapter for a reason independent of Part 269 of this chapter, and if they own or operate equipment in VHAP service (as defined in Subpart C of Part 269).

PART 264—STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

1. The authority citation for Part 264 continues to read as follows:

Authority: Sections 1006, 2002(a), 3004, and 3005 of the Solid Waste Disposal Act of 1970, as amended by the Resource Conservation and Recovery Act of 1976 as amended [42 U.S.C. 6905, 6912(a), 6924, and 6925).

2. Section 264.1 is amended by adding paragraph (h) as follows:

§ 264.1 Purpose, scope, and applicability.

* * * * *

(h) The regulations of Part 269 apply to owners and operators for all

hazardous waste facilities, except as provided in § 264.1(b) and in Part 269.

PART 265—INTERIM STATUS STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

1. The authority citation for Part 265 continues to read as follows:

Authority: Sections 1006, 2002(a), 3004, 3005, and 3015 of the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6095, 6912(a), 6924, 6925, and 6935).

2. Section 265.1 is amended by adding paragraph (d) as follows:

§ 265.1 Purpose, scope and applicability.

* * * * *

(d) The regulations of Part 269 apply to owners and operators of all hazardous waste facilities, except as provided in § 265.1 and in 40 CFR Part 269.

PART 269—AIR EMISSION STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

1. Part 269 is added to read as follows:

PART 269—AIR EMISSION STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

Subpart A—General

Sec.
269.1 Purpose, scope, and applicability.
269.2 Incorporation by reference.

Subpart B—[Reserved]

Subpart C—Equipment leaks and accumulator vessels

269.30 Applicability.
269.31 Definitions.
269.32 Standards for facilities with final permit.
269.33 Standards for facilities during interim status.
269.34 Special requirements.

Authority: Sections 1006, 2002, 3001–3007, 3010, 3014, 3015, 3017, 3018, 3019, and 7004 of the Solid Waste Disposal Act of 1970, as amended by the Resource Conservation and Recovery Act of 1976 as amended [42 U.S.C. 6905, 6912, 6921–6927, 6930, 6934, 6935, 6937, 6938, 6939, and 6974].

Subpart A—General

§ 269.1 Purpose, scope, and applicability.

(a) The purpose of this part is to establish minimum national standards that define acceptable air pollution control management of hazardous wastes.

(b) The standards of this part apply to owners and operators of all facilities that treat, store and dispose of hazardous waste, except as specifically provided otherwise in this part or Parts 261, 262, 264, 265, and 270 of this chapter.

§ 269.2 Incorporation by reference.

The materials listed below are incorporated by reference in the corresponding sections noted. These incorporations by reference were approved by the Director of the **Federal Register** on the date listed. These materials are incorporated as they exist on the date of the approval, and a notice of any change in these materials will be published in the **Federal Register**. The materials are available for purchase at the corresponding address noted below, and all are available for inspection at the Office of the **Federal Register**, Room 8401, 1100 L Street NW., Washington, DC, and at the Library (MD–35), U.S. EPA, Research Triangle Park, North Carolina.

(a) The following materials are available for purchase from at least one of the following addresses: American Society for Testing and Materials (ASTM), 1916 Race Street, Philadelphia, Pennsylvania 19103; or the University Microfilms International, 300 North Zeeb Road, Ann Arbor, Michigan 48106.

(1) ASTM. E 169–63 (reapproved 1977), General Techniques of Ultraviolet Quantitative Analysis, IBR approved for § 269.34(a).

(2) ASTM E 158–67 (reapproved 1977), General Techniques of Infrared Quantitative Analysis, IBR approved for § 269.34(a).

(3) ASTM E 260–73. General Gas Chromatography Procedures. IBR approved for § 269.34(a).

(4) ASTM D 2267–68 (reapproved 1978), Aromatics in Light Naphthas and Aviation Gasoline by Gas Chromatography, IBR approved for § 269.34(a).

(b) The following materials are available for purchase from the following address: National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161.

(1) Control of Gaseous Air Pollutants, IBR approved for § 270.22(a).

(2) SW–846, Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, IBR approved for § 269.34(a).

Subpart B—[Reserved]

Subpart C—Equipment Leaks and Accumulator Vessels

§ 269.30 Applicability.

(a) The regulations in this subpart apply to owners or operators of facilities that treat, store, or dispose hazardous wastes except as provided in § 269.1, if they must obtain a permit under Part 270 for a reason independent of Part 269.

(b) The regulations in this subpart control and monitor air emissions associated with equipment, process vents, and accumulator vessels in volatile hazardous air pollutant (VHAP) service.

§ 269.31 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act; Parts 260, 261, 262, 263, 264, 265, or 266; and Subpart V of Part 61:

(a) "Equipment" means each valve, pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, flange, or product accumulator vessel in VHAP service, and any control devices or systems required by this subpart.

(b) "Process vent" means any open-ended pipe or stack that is vented to the atmosphere either directly or through a vacuum-producing system. A process vent is in VHAP service if the vapor is at least 10 percent by weight VHAP.

(c) "Product accumulator vessel" means any distillate receiver, condenser, bottoms receiver, surge control vessel, product separator, or hot well (i.e., container holding unvolatilized process stream) that is vented to the atmosphere either directly or through a vacuum-producing system. A product accumulator vessel is in VHAP service if the liquid or the vapor is at least 10 percent by weight VHAP.

(d) "Vented" means discharged through an opening, typically an openended pipe or stack, permitting the passage of liquids, gases, or fumes into the atmosphere. The passage of liquids, gases, or fumes is caused by mechanical means such as compressors or process-related means such as evaporation produced by heating and not by natural means such as diurnal temperature changes.

(e) "In VHAP service" means that a piece of equipment either contains or contacts an organic fluid (slurry, liquid, or gas or other emanation) associated with management of a hazardous waste, hazardous wastes, or their derivatives in concentrations greater than 10 percent by weight. "In VHAP service" is

determined according to the provisions of § 269.34(a). The provisions of § 269.34(a) also specify how to determine that a piece of equipment is not in VHAP service.

(f) "Surge control vessel" means any tank used to control or equalize the flow of process fluids within a process unit that is vented.

(g) "VHAP" means organic liquids or gases (1) that are either hazardous wastes or derivatives of these hazardous wastes and (2) that are associated with hazardous waste management.

§ 269.32 Standards for facilities with final permit.

(a) Owners and operators of facilities subject to the provisions of this subpart shall comply with the requirements of 40 CFR Part 61 Subpart V, except as provided in this subpart.

(b) Each process vent shall be equipped with a closed-vent system capable of capturing and transporting any emissions from the vent to a control device as described in § 61.242–11.

(c) The provisions of 40 CFR 61.244 Subpart V do not apply in this regulation.

§ 269.33 Standards for facilities during interim status.

(a) Owners and operators of facilities subject to the provisions of this subpart shall comply with the requirements of 40 CFR Part 61 Subpart V during interim status, except as provided in this subpart.

(b) Each process vent shall be equipped with a closed-vent system capable of capturing and transporting any emissions from the vent to a control device as described in § 61.242–11.

(c) The provisions of 40 CFR 61.242–11 Subpart V apply during interim status on the following basis:

(1) The owner and operator shall comply with this paragraph within 24 months after_____ (date of promulgation in **Federal Register**).

(2) The owner and operator shall complete construction of the control device and closed-vent system used to comply with this paragraph within 21 months after_____ (date of promulgation in **Federal Register**).

(3) The owner and operator shall commence construction of the control device and closed-vent system used to comply with this paragraph within 9 months after _____ (date of promulation in **Federal Register**).

(4) The owner and operator shall complete the design of the control device and closed-vent system used to comply with this paragraph within 6 months of the effective date.

(5) The owner or operator shall monitor the control device using the following parameters in conjunction with the requirements of § 61.242–11:

(i) For condensers, coolant fluid temperature and exhaust gas temperature.

(ii) For carbon adsorbers, carbon bed temperatures and exhaust gas organic-breakthrough.

(iii) For incinerators, exhaust gas temperature.

(iv) For flares, visible emissions and pilot flame detection.

(v) For any recovery system, annual material balances.

(d) The provisions of 40 CFR 61.244 Subpart V do not apply in this regulation.

(e) The owner or operator of any facility that is subject to this subpart and to regulations at 40 CFR Part 60 Subpart VV or 40 CFR Part 61 Subpart V may elect to demonstrate compliance with this subpart by documentation either pursuant to § 270.22 of this subpart, or pursuant to those provisions of 40 CFR Part 60 or 61, to the extent the documentation under the regulation at 40 CFR Part 60 or Part 61 duplicates the documentation required under this subpart.

§ 269.34 Special requirements.

(a)(1) Each piece of equipment within a facility that can conceivably be in VHAP service is presumed to be in VHAP service unless an owner or operator demonstrates that the piece of equipment is not in VHAP service. For a piece of equipment to be considered not in VHAP service, it must be determined that the percent organic content of the process fluid can be reasonably expected never to exceed 10 percent by weight. For purposes of determining the percent organic content of the process fluid that is contained in or contacts equipment, procedures that conform to the methods described in ASTM Method D–2267–68, E 169–63, E 168–67, E 260–73 or Method 9060 of SW–846 (incorporated by reference as specified in § 269.2) shall be used.

(2) An owner or operator may use engineering judgment rather than the procedures in paragraph (a)(1) of this section to demonstrate that the percent organic content of the process fluid does not exceed 10 percent by weight, provided that the engineering judgment demonstrates that the organic content clearly does not exceed 10 percent by weight. When an owner or operator and the Administrator do not agree on whether a piece of equipment is not in VHAP service, however, the procedures in paragraph (a)(1) of this section shall be used to resolve the disagreement.

(3) If an owner or operator determines that a piece of equipment is in VHAP service, the determination can be revised only after following the procedures in paragraph (a)(1) of this section.

(4) Samples used in determining the percent organic content shall be representative of the process fluid that is contained in or contacts the equipment.

PART 270—EPA ADMINISTERED PERMIT PROGRAMS: THE HAZARDOUS WASTE PERMIT PROGRAM

1. The authority citation for Part 270 continues to read as follows:

Authority: Sections 1006, 2002, 3005, 3007, 3019, and 7004 of the Solid Waste Disposal Act of 1970, as amended by the Resource Conservation and Recovery Act of 1976 as amended [42 U.S.C. 6905, 6912, 6921–6927, 6930, 6934, 6935, 6937, 6938, 6939, and 6974].

2. Section 270.22 is added as follows:

§ 270.22 Specific Part B information requirements for air emission standards under Part 269.

Except as otherwise provided in § 269.1, owners or operators of facilities affected by the requirements of Part 269 must provide the following information:

(a) For Subpart C of Part 269,

(1) Documentation that demonstrates compliance with the provisions of 40 CFR Part 61 Subpart V, excluding § 61.242–11. This documentation shall contain the reports and records required under §§ 61.245, 61.246, and 61.247. The Administrator may request further documentation before deciding if compliance with the interim status standards has been demonstrated.

(2) Documentation that demonstrates compliance with § 61.242–11. In addition to the reports and records required under §§ 61.245 and 61.246, the documentation shall include the following information:

(i) A listing of the background information material used in preparing the documentation.

(ii) An analysis based on appropriate sections of "Control of Gaseous Air Pollutants" [incorporated by reference as specified in § 269.2], which presents the basic information.

(3) Based on review of the documentation provided in paragraphs (a) (1) and (2) of this section, the Administrator may request further information and analysis before deciding to issue the permit.

PART 271—REQUIREMENTS FOR AUTHORIZATION OF STATE HAZARDOUS WASTE PROGRAMS

1. The authority citation for Part 271 continues to read as follows:

Authority: Sections 1006, 2002(a), and 3006 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912(a), and 692.6).

2. It is proposed to amend § 271.1(j) by adding the following entry to Table 1 in chronological order by date of publication:

§ 271.1 Purpose and Scope.

* * * * *

TABLE 1. REGULATIONS IMPLEMENTING THE HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984

Date of publication in the FEDERAL REGISTER	Title of regulation
* * * * *	
[Insert promulgation date].....	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities.
* * * * *	

[FR Doc. 87-2079 Filed 2-4-87; 8:45 am]

BILLING CODE 6560-50-M