

ENVIRONMENTAL PROTECTION AGENCY**40 CFR Parts 260, 264, and 270**

[SW-FRL-3062-8]

Hazardous Waste Management System; Standards for Owners and Operators of Miscellaneous Units**AGENCY:** Environmental Protection Agency.**ACTION:** Notice of proposed rulemaking.

SUMMARY: The Resource Conservation and Recovery Act (RCRA) authorizes the Environmental Protection Agency (EPA) to issue standards applicable to owners and operators of hazardous waste management facilities. Over the past several years, the Agency has promulgated standards for specific types of treatment, storage, and disposal units including containers, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, underground injection wells, and research, development, and demonstration facilities. However, some hazardous waste management technologies are not covered by the existing permitting standards. Owners and operators of facilities utilizing these technologies cannot obtain the RCRA permits necessary to operate these miscellaneous units.

To fill this gap, the Agency is today proposing a new set of standards, under Subpart X of Part 264, that is applicable to owners and operators of new and existing hazardous waste management units not covered under the existing regulations. This will enable the Agency, and the States that adopt equivalent authorities, to issue permits to miscellaneous waste management units.

DATES: The Agency will accept comments on these proposed rules on or before December 22, 1986.

ADDRESS: Send original comments plus two copies to: Docket Clerk, Office of Solid Waste (WH-562), U.S. Environmental Protection Agency, 401 M Street SW., Washington, DC 20460. Comments should be identified as follows: F-86-SPXP-FFFFF.

The public docket for this proposed rule is located at the U.S. Environmental Protection Agency, 401 M Street SW., Washington, DC 20460, and is available for viewing from 9:00 a.m. to 3:30 p.m., Monday through Friday, excluding holidays. Call Mia Zmud at 475-9327 or Kate Blow at 382-4675 for appointments.

FOR FURTHER INFORMATION CONTACT: For general information contact: RCRA/Superfund Hotline, Office of Solid Waste (WH-563C), U.S. Environmental

Protection Agency, 401 M Street SW., Washington, DC 20460, telephone (800) 424-9346, or (202) 382-3000.

For questions on the technical aspects of this proposed rule contact: Ossi Meyn, Land Disposal Branch, Waste Management Division, Office of Solid Waste (WH-565E), U.S. Environmental Protection Agency, 401 M Street SW., Washington, DC 20460, telephone (202) 382-4654.

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I. Authority

These proposed rules are issued under authority of sections 1006, 2002(a), and 3001 through 3013 of the Solid Waste Disposal Act (SWDA), as amended by

the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, 42 U.S.C. 6901 *et seq.*

II. Background**A. Development of the Hazardous Waste Regulatory Program**

Under section 3004 of RCRA, the Environmental Protection Agency (EPA) must establish such standards, applicable to owners and operators of hazardous waste management facilities, as may be necessary to protect human health and the environment. These standards establish the duties of and provide the basis for issuing permits to the owners and operators of hazardous waste treatment, storage, and disposal facilities under section 3005 of RCRA. The Agency has promulgated these regulations in stages. On May 19, 1980 (45 FR 33221), the Agency issued regulations establishing administrative requirements for certain types of hazardous waste management, general provisions for facility owners and operators, permitting procedures for hazardous waste management facilities, and procedures for state program authorization. On January 12, 1981 (46 FR 2802), the Agency issued regulations establishing technical standards and permitting requirements for certain storage and treatment facilities. On January 23, 1981 (46 FR 7678) and June 24, 1982 (47 FR 27516) the Agency issued technical standards for hazardous waste incinerators. On April 7, 1982 (47 FR 15032) and April 16, 1982 (47 FR 16544), the Agency issued regulations for demonstrating financial responsibility. On July 26, 1982 (47 FR 32274), the Agency promulgated technical and permitting standards for new and existing treatment, storage, and disposal facilities on land, including surface impoundments, waste piles, land treatment units, and landfills. On July 15, 1985 (50 FR 28702), the Agency amended its hazardous waste management rules to codify several statutory changes required by the Hazardous and Solid Waste Amendments of 1984 (HSWA). These changes included revisions to the technical requirements for land treatment, storage, and disposal facilities, revisions to the permitting requirements for all treatment, storage, and disposal facilities, and limitations on the placement of hazardous waste in salt dome formations, salt bed formations, underground mines, and caves. In addition, these amendments included new rules that allow for the permitting of certain research,

development, and demonstration (RD&D) facilities.

The Federal rules pertaining to the management of hazardous waste are codified in 40 CFR Parts 260 through 266, 270, 271, and 124. In brief, Part 260 contains definitions; Part 261 defines what is a hazardous waste; and Parts 262 and 263 contain generator and transporter requirements, respectively. The permitting provisions of the RCRA hazardous waste management program are structured as follows:

1. Part 264—Establishes permitting standards for facility performance, design, operation, and location. These requirements are applied through RCRA permits in the form of specific conditions. Once a permit is issued, an owner's or operator's compliance with the conditions of the permit during the permit's term will constitute compliance, for purposes of enforcement, with Subtitle C of RCRA.

2. Part 265—Establishes interim standards that apply to all existing facilities that have notified the Agency of their regulated activities, as required under section 3010 of RCRA. These "interim status" standards apply until the Agency has approved or disapproved issuance of a final RCRA permit or when it is terminated under the HSWA provision for loss of interim status. The provisions of Subpart G and H still apply, however, to facilities that have lost interim status. (49 FR 46094)

3. Part 270—Establishes definitions and basic requirements for all RCRA permits administered by the Agency. It spells out in detail who must apply for a permit; the information and data necessary in permit applications; the general conditions that must be incorporated into permits; the circumstances under which permits may be revised, reissued, and terminated; and the circumstances under which special forms of permits may be issued, among other requirements.

4. Part 271—Establishes the requirements for final authorization of State hazardous waste programs to be administered in lieu of the Agency's program, and the procedures for the Agency approval, revision, and withdrawal of a State program. It includes specific requirements regarding permits and permit applications as administered under approved State programs.

5. Part 124—Establishes the procedures to be followed in making permit decisions under several Agency permitting programs including the RCRA hazardous waste program. It specifies provisions for public participation; consolidated review and issuance of two or more permits for the same facility

or activity; compilation of administrative records; the effective dates of permits; and appeals from permit decisions and stays of contested conditions, among others.

B. Need for the Proposed Subpart X

Current promulgated regulations in 40 CFR Part 264 and other Parts regulate many types of hazardous waste management units. These include: Containers, tanks, surface impoundments, waste piles, land treatment units, landfills, and incinerators under specific subparts of Parts 264 and 265; research development, and demonstration (RD&D) facilities under Part 270; and underground injection wells in the Underground Injection Control (UIC) Program under the Safe Drinking Water Act in 40 CFR Part 146.

The Agency is aware, however, that certain hazardous waste management practices and certain technologies (including those that may be developed in the future) do not fit the description of any of the units covered by the existing regulations. For example, thermal treatment of hazardous waste in units other than incinerators, boilers, or industrial furnaces may not be permitted because such units are not now covered by Parts 264, 265, or 266. This means that existing units of these types, currently regulated under Part 265, may not receive a RCRA permit. Perhaps more significantly, new units may not be constructed. The Agency has received a number of requests for standards to allow the construction of new hazardous waste management units not now covered by Part 264.

Although the Agency has issued regulations for the major hazardous waste management technologies and practices, there are gaps in the coverage of the regulations. Subpart X will cover miscellaneous units and will essentially complete the coverage of hazardous waste management units. For existing units, the Agency believes that application of more specific Part 264 standards through a permit may provide better protection. Furthermore, some types of new units that cannot now be constructed may reduce risks to human health and the environment from the management of hazardous waste. Therefore, the Agency regards today's proposal as a step towards increasing the protection of human health and the environment, while also allowing flexibility for technological development and innovations.

C. Consideration of Comments Received on the July 26, 1982 Preamble Section (47 FR 32281)

In the preamble to the July 26, 1982 hazardous waste management regulations, the Agency outlined additional regulatory activities that the Agency was considering under 40 CFR Part 264 to improve the management of hazardous waste. A major activity discussed in that notice was the promulgation of standards for units not then covered by Part 264 regulations. At that time, the Agency solicited comments on the appropriate approach for standards for such units. The Agency also solicited comments on what types of facilities were in existence, or likely to come into existence, that were not then covered by Part 264 regulations.

The Agency received a limited number of comments in regard to the July 26, 1982, preamble discussion. Several respondents indicated that regulations for miscellaneous units would not be necessary and suggested that such units could easily be handled by the Director of the hazardous waste management program on a case-by-case permitting basis using interim standards under 40 CFR Part 267. Although the Agency agrees that certain portions of Part 267 would be appropriate for regulating miscellaneous units, the Part 267 requirements are inappropriate because they were limited to four specific types of land disposal facilities (landfills, surface impoundments, land treatment units, and injection wells). In contrast to the Part 267 rules, Subpart X will not be limited to land disposal units.

In addition, the Part 267 standards were designed to be temporary to allow for the permitting under interim status of new land disposal facilities while final Part 264 standards were being developed. The Part 267 standards for surface impoundments, land treatment units, and landfills were superseded by the Part 264 standards on January 26, 1983, and the Part 267 standards applicable to Class I underground injection wells expired on February 13, 1983. At present, there are no facilities that are subject to the Part 267 standards.

Several respondents favored the development of a new subpart for units not covered under the existing subparts of Part 264, but urged the Agency to develop and implement hazardous waste standards on an industry-by-industry basis or on a waste-by-waste basis for miscellaneous waste management units. This approach would be similar to that used in developing

effluent guidelines under the Clean Water Act. The Agency considered the suggested approach but decided that development of industry-specific or waste-specific standards would be unnecessarily resource-intensive and could result in standards that did not cover all miscellaneous units. Further, the commenters' suggested approach would have been a departure from the general framework of the Agency's current hazardous waste regulatory program. However, at some future time the Agency may be able to make waste-specific and industry-specific modifications to the regulations, where appropriate.

D. Scope of Subpart X

The Agency is proposing to regulate units that are not in any way covered by a subpart under Part 264 or 146. For example, units that do not fit the definitions of any of the units covered by the standards of Part 264 or 146 would be regulated as miscellaneous units. Specifically, if a new type of unit was developed that did not fit the definition of tank, container, surface impoundment, waste pile, land treatment unit, landfill, incinerator, boiler, industrial furnace or underground injection well, it would be regulated under Subpart X. An example of such a unit may be a thermal treatment unit, such as a wet-air oxidation device, that is not an incinerator or other Part 264 unit. Another example may be a long-term retrievable storage unit that is not a waste pile, landfill, or other Part 264 unit. With one exception, the Agency is not considering altering the jurisdiction of any other subpart in Part 264 or 146 and they will remain unaffected. The exception relates to some types of units that may currently fall within the definition of the term "landfill" in § 260.10. Under existing regulations, "landfill" is a broad category including many units not covered under other subparts of Part 264 or 146. It includes some, but not all, miscellaneous units proposed to be covered by this rule. The Agency is considering amending the definition of "landfill" so that it excludes these miscellaneous units. Issues pertaining to the redefinition of the terms "landfill" are discussed in Section V below.

Subpart X will not supersede or replace any specific restrictions on activities contained in another subpart or provide a vehicle for escaping from those restrictions. For example, 40 CFR 264.175 provides that container storage areas must have a secondary containment system to drain and remove leakage. Persons who do not wish to install a secondary containment

system may not evade this requirement for a container storage facility by seeking a permit under Subpart X.

Likewise, miscellaneous units permitted under Subpart X that are also defined as "land disposal" under the land disposal restriction requirements of Part 268 (see proposed rule at 51 FR 1602) do not avoid the restrictions on land disposal of untreated or improperly treated hazardous waste. For example, although the use of an underground mine, cave, or formation for the placement of hazardous waste may, under some circumstances, be considered a miscellaneous unit, such a unit would also be subject to the Part 268 land disposal restrictions since it is defined as "land disposal" by RCRA. Therefore, any hazardous waste placed into a miscellaneous "land disposal" unit must be treated prior to land disposal in compliance with a treatment standard promulgated under Part 268 unless the owner or operator demonstrates, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the unit for as long as the waste remains hazardous. The remainder of this section describes units that are proposed to be covered under Subpart X and those that are not.

1. Units Proposed to Be Covered Under Subpart X

Because the Agency intends Subpart X to cover "miscellaneous" units, including future technologies, the Agency cannot provide a definitive list of the units that will be covered under the subpart. However, the Agency is aware of several types of units that may receive permits issued under Subpart X.

a. Disposal of Hazardous Waste Underground. Under certain circumstances, e.g., in underground mines under proper geologic conditions, persons may be able to safely and protectively dispose of containerized hazardous waste or bulk non-liquid hazardous waste. To the extent that these activities are underground injection in a well, they would be covered under RCRA by the UIC permit-by-rule (40 CFR 270.1(c)(1)(i)). Placement in underground mines that is not covered by a UIC permit could be subject to Subpart X standards.

b. Deactivated Missile Silos. Treatment, storage, and disposal of hazardous waste in deactivated missile silos that are not tanks, containers, underground injection wells, or landfills are not now covered under Part 264 standards. Such silos would, therefore, be considered miscellaneous units.

c. Thermal Treatment Units Other Than Incinerators. A number of

different types of thermal treatment units, including combustion and noncombustion types, are in operation today and have potential application to hazardous waste treatment. In addition to incinerators and boilers, units employing processes such as molten-salt pyrolysis, calcination, wet-air oxidation, and microwave destruction are classified as thermal treatment units. In the case of incinerators, the Agency has determined performance capabilities and has established regulations requiring specific levels of performance in Subpart O of Parts 264 and 265. Many noncombustion-type thermal treatment units are not covered under Part 264 regulations and have not yet been evaluated by the Agency to determine their technological capabilities. Many of these units have not yet operated on a commercial scale, but owners of some of these units are expected to seek RCRA hazardous waste facility permits in the future for commercial operation. The criteria of Subpart X would provide an appropriate basis for permitting existing and new units of these types.

d. Open Burning/Open Detonation of Explosive Wastes. Hazardous waste units that conduct open burning or open detonation of waste explosives (as defined in § 265.382) are other types of miscellaneous units covered by today's proposal. These units are neither typical thermal treatment units, nor are they incinerators. The Agency promulgated interim status standards applicable to open burning and open detonation units in Subpart P of Part 265 (§ 265.382) on May 19, 1980 (45 FR 33251). These standards consist primarily of an environmental performance standard and a table of minimum safe distances from the property of others that must be maintained when waste explosives are disposed of by open burning or open detonation. Because such units are not now covered by Part 264, permitting these units under Subpart X is appropriate.

e. Certain Chemical, Physical, and Biological Treatment Units. Hazardous waste management units that treat hazardous waste by chemical, physical, or biological methods in other than tanks, surface impoundments, and land treatment units during interim status are covered under Subpart Q of Part 265. However, there are no regulations under Part 264 to cover existing or new units in this category. The proposed new Subpart X regulations will, therefore, be used to regulate these units.

f. Disposal into or on Water. It is conceivable that an owner or operator may want to dispose of hazardous waste by placing such wastes into or on

surface water, but the Agency currently lacks RCRA standards for such activity. Placement of hazardous waste into or on water is likely to be an industrial wastewater point source discharge, subject to regulation under section 402 of the Clean Water Act and subject to permitting under that Act. As such, they are not "solid wastes" under 40 CFR 261.4 (and, therefore, they are not "hazardous wastes" regulated under the RCRA regulations). Ocean disposal of hazardous waste and related operations are covered by a RCRA permit-by-rule (40 CFR 270.1(c)(1)(iii)). However, there may be some water disposal activities that are not covered by the exclusion or the permit-by-rule. Subpart X could be appropriate for such activities, if they can be conducted in a manner that is protective of human health and the environment.

g. Research in Miscellaneous Units. Like other subparts of Part 264, Subpart X could also apply to research in miscellaneous units. At present, research and development on processes or units covered under Part 264 (e.g., research on an experimental process in a standard tank or in an innovative tank) may be permitted, assuming that the experimental process or tank design was not so different as to render Part 264 standards inapplicable. Alternatively, the process or unit could be eligible for a permit under the Agency's new research authority under 40 CFR 270.65. The Agency believes that persons who want to conduct research in a unit not now covered by Part 264 standards, but who do not wish to be bound by the limitations of a permit issued under § 270.65 (e.g., a shorter permit term), may find Subpart X an attractive alternative.

2. Units Not Covered Under Subpart X or Units for Which Subpart X Permits Will Not Be Issued

a. Treatment, Storage, and Disposal in Units Currently Regulated Under Parts 264 and 146. Under today's proposal, treatment, storage, or disposal in units now regulated under Part 264 or 146 could not be permitted under Subpart X. Instead, these units must be permitted using the standards established under the applicable subparts of Part 264 or 146. For example, placement of hazardous waste in a tank or surface impoundment for treatment is covered under Subpart J or K, respectively, and must be permitted using those standards. In the future, however, the Agency may consider and apply, using the authority of section 3005(c)(3), the criteria for protection of human health and the environment contained in Subpart X in addition to the Subparts J

and K requirements when issuing a permit for the treatment of hazardous waste in a tank or surface impoundment; that is, in issuing a Subpart J or K permit, the Regional Administrator (or State Director) may impose permit conditions on treatment activities based on the criteria for protection of human health and the environment proposed today. Similarly, the Agency may use its section 3005(c)(3) authority to apply these criteria in issuing permits for other types of treatment facilities.

b. Open Burning of Non-Explosive Hazardous Waste. Although, by its terms, Subpart X applies to all units not covered under Part 264, including open burning and open detonation of non-explosive hazardous waste, the Agency believes that open burning of such waste cannot be conducted in a manner that is protective of human health and the environment. The Agency made this finding in 1980 in promulgating the general ban on open burning of non-explosive hazardous waste (40 CFR 265.382), and has no new information to suggest that its conclusion should be revised. The Agency, therefore, intends to deny any permit applications it receives under Subpart X for such activities.

c. Units Excluded from Permitting Under Parts 264 and 270. Certain units are specifically excluded from permitting under the Part 264 and Part 270 standards. For example, publicly owned treatment works and ocean disposal activities are not permitted under Part 264 standards as they are covered by permits-by-rule (see 40 CFR 264.1 (c) and (e)). Another example is operation of a waste water treatment unit (40 CFR 264.1(g)(6)). These units continue to be excluded from Part 264 standards and would not be subject to other subparts of Part 264, including Subpart X.

The Agency requests comment on the scope of Subpart X and the types of activities and units that should be permitted under Subpart X.

III. Alternative Approaches Considered

In developing Subpart X for miscellaneous waste management units, the Agency examined six alternative regulatory approaches. These included design and operating standards, technical performance standards, containment standards, facility-specific risk assessment, environmental performance standards, and a combination of these alternatives.

A. Design and Operating Standards

Design and operating standards would require installation of specific equipment

or use of particular processes. A major advantage of specific design and operating requirements is that they clearly define for the regulated community what is required for a specific type of waste management unit. However, this approach for Subpart X would require significant Agency time and resources and might omit newly developing technologies. To some extent, design and operating requirements tend to restrict and stifle technological advances and innovations. Because of these disadvantages, the Agency has decided not to propose specific design and operating standards for Subpart X. However, as the Agency's understanding of the technology, efficiency, and safety of each of the various classes of hazardous waste management units improves, and as some methods become widely utilized and accepted, the Agency may examine the possibility of using specific design or operating requirements for certain classes of these units.

B. Technical Performance Standards

This regulatory approach would involve the establishment of specific engineering objectives and allow the permit applicant to develop a design or set of practices to achieve the objective. This approach would allow somewhat greater permitting flexibility and require fewer Agency resources than design and operating standards, however, it is likely that some new technologies could not be permitted under this approach because of the specificity of the engineering objectives.

C. Containment Standards

Another approach the Agency considered was the development of performance standards that would require containment of hazardous waste within certain boundaries. A regulation based upon containment could specify a period of time within which hazardous constituents could not be released from a waste management unit into the surrounding environment. The goal of this standard is the containment of hazardous wastes within a confined area for a finite time. While such an approach may prevent environmental contamination under some hydrogeological conditions, the Agency is concerned that it may only delay contamination in others. In addition, total containment in all media may not always be necessary to protect human health and the environment. The use of this regulatory approach would be difficult, because of the variety of waste management units to be regulated under the proposed subpart; the problems of

defining surface and subsurface boundaries in a general rule that is applicable to all miscellaneous units (e.g., some thermal treatment units and deep mine excavations); and controversy over appropriate time periods. Therefore, the Agency is not proposing to use containment standards, alone; however, some permits issued under today's proposal may indeed be based on containment and include containment design and operation features such as liners, barriers, or a combination of containment features and geological siting considerations.

D. Facility-specific Risk Assessment

The Agency's evolving policy is to assess more explicitly the risks involved in its decisions—both regulatory and permitting. The Agency believes that the unique character and small number of miscellaneous units makes them excellent candidates for facility-specific risk assessments. Miscellaneous units may pose unique combinations of wastes, location, and technology that are not addressed by our existing regulations.

Under this regulatory approach the permit applicant would be required to perform fate and transport analyses and human health and environmental risk assessments based on the RCRA goal of protecting human health and the environment. The permit writer would determine the design and operating standards necessary to address the major risks identified at the site-specific unit.

Since the cost of such a risk analysis could be extremely high, the Agency is seeking detailed comments on the appropriate extensiveness of such an analysis. Approaches to risk analysis could be similar to the Exposure Assessments required under section 3019 of RCRA, to the demonstrations required for Alternate Concentration Limits (ACL) under Subpart F of Part 264, or the petition process for variances from land disposal bans, as proposed in the *Federal Register* on January 14, 1986 (51 FR 1759).

E. Environmental Performance Standards

Such performance standards seek to set either numerical health and environmental standards or non-numerical performance requirements. These standards may take the form of numerical exposure specifications (such as the allowable concentration of a chemical at the points of human exposure), pollutant limits in environmental media (that is, concentrations of chemicals permitted to be released to the environment), or

general objectives or goals to serve as a guide for protecting human health and the environment.

F. Combination of Approaches

This approach would combine the appropriate elements of all five previously discussed alternatives, and apply them on a case-by-case basis. The miscellaneous units would be located, designed, constructed, operated, maintained, and closed in a manner that would assure protection of human health and the environment through the prevention of any releases that may have adverse effects on ground-water quality, surface-water quality, air quality, and on the surface or subsurface environment in the area surrounding the miscellaneous unit.

In the permitting process, selected features of design and operating, technical performance, containment, and environmental performance standards, as well as the risk-based approach, may be specified so that the overall objective of the protection of human health and the environment is satisfied. For example, for some units, liners may be specified in addition to limits on the concentrations of chemicals to be released to the environment on the basis of risk. Appropriate models may be used in some cases for such determinations.

IV. The Agency's Proposed Approach

After evaluating various alternatives, the Agency has decided to propose regulations for miscellaneous units based upon the last approach described above: A combination of the above-discussed regulatory alternatives. Such standards would provide performance objectives for protecting human health and the environment and guide evaluation of permit applications. The performance objectives require permit applicants to evaluate potential environmental impacts of their facility, and demonstrate that the ground water, surface water, air, and the surface and subsurface environments will not be contaminated to the point of causing adverse effects on human health or the environment. As understanding of a particular hazardous waste management technology improves, the Agency may refine its regulations by issuing specific design and operating standards for a particular type of a unit. For example, the Agency may develop certain operating requirements for open burning and open detonation units, if the knowledge and experience with these units can be developed into unit-specific standards.

In addition, in the permit development and review process, specific design,

operation, monitoring, or performance requirements may be included in the permit. Applicability of these requirements will be determined on a case-by-case basis and the rationale for their applicability will be provided in each permit. In certain cases, the design and operation of a Subpart X unit may resemble that of a specific type of unit now regulated under RCRA (e.g., an incinerator). To the extent that they are applicable, the requirements under the existing unit-specific subpart (e.g., Part 264, Subpart O, Incinerators) will be applied to the unit through the permit.

The regulatory scheme proposed by the Agency offers several distinct advantages. First, it allows the Agency to address a full range of environmental issues raised by a particular waste management situation without waiting to establish specific design and operating conditions or other standards. By identifying a set of general environmental objectives and specific factors to be considered, the Agency allows development of permits that are responsive to various ground-water, surface-water, and air quality concerns as well as complex natural processes in the surface and subsurface environments that may arise at each site. Second, general standards allow more flexibility in addressing the range of potential human health and environmental effects presented by various types of waste management units than an approach that relies on specific design and operating standards. A particular design or operating requirement may be inappropriate due to the special nature of a miscellaneous waste management unit. More importantly, such requirements may not be stringent enough in some cases to protect human health and the environment or may result in unnecessary over-control in other cases. Environmental performance standards allow the permit-issuing authority to tailor each permit to the particular circumstances and risks presented by a particular miscellaneous waste management unit, based on the nature of the technology and waste material, and site location or hydrogeologic characteristics.

In evaluating all relevant health and environmental impacts from a miscellaneous unit, the Agency will be able to ensure that the activities at the unit will protect human health and the environment. It is possible that the Agency may conclude that the management of hazardous waste in a particular unit will not adequately protect human health and the environment. In that case, the Agency

will issue a notice of intent to deny a Subpart X permit, explaining the reasons in detail. Permit procedures, including procedures for denying a permit, are covered by 40 CFR Part 124.

The major disadvantage of the proposed approach is that the bulk of the design, construction, operation, monitoring, and closure specifications will be developed and specified through the permit process. As discussed above, the Agency will review and adopt or modify relevant requirements from Subparts I through O of Part 264, as appropriate. As permitting or research experience and knowledge is gained, the Agency also plans to develop guidances for specific types of facilities (e.g., the Agency plans to issue guidance on open burning and open detonation of certain wastes, and on emplacement of wastes in certain massive geologic formations such as salt domes).

When units are permitted under Subpart X of Part 264, the Agency also proposes to require compliance with Subparts A through H, except Subpart F, for all units. Each applicant will be required to address the requirements of general facility standards, preparedness and prevention, contingency plan and emergency procedures, the manifest system, recordkeeping and reporting, closure and post-closure, and financial requirements. Comprehensive ground-water monitoring under Subpart F may not be necessary for all types of Subpart X units. Applicants should address the potential for ground-water contamination. Where such contamination is possible, the applicant must comply with the requirements of Subpart F. The applicant must demonstrate that the hazardous waste management unit's location, design, construction, operation, monitoring, maintenance, and closure enable the unit to meet the performance standards. In this way, the permit applicant will demonstrate that the unit will be protective of human health and the environment. In addition, the Director has discretion to determine which other subparts are generally applicable to a particular miscellaneous unit (e.g., Subpart J for tank-like units).

The Agency is developing other regulations that will affect permitting under Subpart X and other Subparts of Part 264. These include the land disposal ban regulations under section 3004 (b) through (m) (discussed earlier) and the corrective action requirements of section 3004 (u) and (v) of HSWA. The corrective action requirements apply to permitting Subpart X units by law. Because the corrective action requirements are broadly applicable and

because miscellaneous units do not appear to present unique factors for implementation of these new regulations, the Agency expects that corrective action requirements will apply to Subpart X units and facilities in the same manner that they apply to other units and facilities.

The Agency seeks comments on the proposed permit procedure and on the type of information that applicants must submit. The Agency also seeks comments on the type of guidance that would be beneficial to the permit applicant and the permit writer. The Regional Administrator would be responsible for issuing the permit. The Agency would establish a special headquarters group to review initially the small number of highly technical applications likely to result. The review group would include specialists from headquarters, EPA laboratories, Regions, and States. The review process provides for a close consultation with the Regions and the States. There would also be special training courses for the permit writers in the Regions and States. The Agency believes that this is the most efficient way to use its own scarce, specialized personnel.

V. Amendments to Part 260: Definitions

The Agency is proposing the addition of one definition, "miscellaneous unit", and requesting comments on the revision of the existing definition of "landfill" in § 260.10.

The Agency uses the term "miscellaneous unit" in the proposed regulation to refer to hazardous waste management units used to treat, store, or dispose of hazardous waste that do not fit the current definitions of container, tank, surface impoundment, waste pile, land treatment unit, landfill, incinerator, boiler, industrial furnace, or underground injection well.

The Agency is also requesting comments on its proposal to clarify the definition of a landfill. The Agency is today proposing to amend the definition of landfill but is not today publishing a new proposed definition as regulatory language. As explained below, the amendment of the definition will be complicated, and the Agency is inviting comment on how the definition may be changed to reflect the ideas and goals discussed in this section. In section 264.10, the definition of a landfill constitutes a catch-all category for certain units that do not fit within the definition of other land disposal units. Landfill "means a disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a land treatment facility, a surface impoundment, or an injection well." (40

CFR 260.10). Because the Agency intends Subpart X to apply to miscellaneous units and not Subpart N, the Agency is today proposing to redefine "landfills" to apply to a discrete category of units. Miscellaneous units will therefore, become the "catch-all category".

Redefining landfill is complicated by the fact that Parts 264 and 265 have different applicability. Like Part 264, Part 265 provides standards for certain units that are relatively narrowly defined (e.g., tanks, containers, surface impoundments, and incinerators). However, Part 265 also contains standards for three categories of units that cover a wide variety of hazardous waste technologies. Thermal treatment standards (Subpart P of Part 265) cover units that thermally treat hazardous waste in devices other than incinerators. Subpart Q of Part 265 covers chemical, physical, or biological treatment in units other than tanks, surface impoundments, and land treatment facilities. Subpart N of Part 265 covers landfills (a broad term). Subparts N, P, and Q, therefore, serve as catch-all categories for Part 265. By contrast, Part 264 does not contain Subparts equivalent to P and Q; only Subpart N (Part 264) is a broad category, due to the definition of landfill. Therefore, one goal of the redefinition of landfill is to ensure that in Part 264, Subpart X and not Subpart N will apply to units that are now covered in Part 265 by Subparts P and Q. In other words, when an interim status unit now covered by Subparts P and Q is to receive a Part 264 permit, it should be governed by the permitting standards of Subpart X, and not by those that apply to landfills.

A second, complementary goal in redefining "landfill" is to ensure that landfills, as generally conceived, remain covered by Subpart N of Part 264 and are not inadvertently subjected to Subpart X standards. Landfills must remain subject to the standards of Subpart N for two practical reasons. First, the Agency promulgated the Subpart N standards specifically for landfills and believes that these standards are most appropriate for these units. Second, a change in the applicable standards would create significant and unnecessary administrative burdens for those persons who are in the process of writing a permit or who are preparing a permit application, or those persons who have already received a landfill permit.

Today, the Agency is proposing to redefine "landfill," consistent with the goals outlined above, in order to identify more precisely the types of waste management practices included within

this category. Instead of proposing specific regulatory language, the Agency is presenting several elements that would limit the existing definition of "landfill." Any or all of these alternatives could be added to the existing definition in order to make it more specific.

First, landfills generally use earthen materials for support. This characteristic distinguishes landfills from tanks, which are constructed primarily of non-earthen materials.

Second, landfills are used for disposal, rather than for treatment. Landfills should be distinguished from other, specialized types of waste management processes that are defined primarily by the type of treatment they provide, such as thermal treatment. The Agency realizes that the term "primarily" is not precise and could require that case-by-case judgments be made as to whether a particular unit should be viewed as a landfill.

However, it would not be accurate to state that landfills are used only for disposal and not for treatment, in as much as the broad definition of "treatment" includes many activities that could take place in a landfill.

Third, landfills are used primarily to contain the waste placed in them. This distinguishes landfills from land treatment units and other treatment technologies (such as open burning) in which the wastes are not usually contained in a unit. However, one concern the Agency has regarding the concept of "containment" is that an owner or operator who wishes to avoid the technical requirements for landfills in Subpart N and section 3004(o)(1) of RCRA (such as double liner and leachate collection systems) could attempt to qualify under Subpart X merely by claiming that the unit did not, in fact, "contain" the waste. The Agency invites comment on how the provision could be drafted to avoid this result.

Finally, the Agency could expressly exclude from the definition of "landfill" any practices that should not be included as landfills, such as thermal treatment, or chemical or biological treatment. The Agency recognizes that some of these processes can occur in landfills. Therefore, because waste management practices at landfills are not uniform, it is difficult to develop a generic definition that is specific enough to exclude these units yet general enough to include the practices that commonly occur at landfills. A list of such practices would clearly eliminate some questions about the scope of the definition.

The Agency requests comments on the advantages and disadvantages of the

alternatives discussed above, and on any other language that could serve to further refine the definition of "landfill". In addition, there may be cases where a unit appears to have most or all of the characteristics of a conventional landfill (or surface impoundment, tank, etc.) but there is some question about whether it fits within the technical definition. How should the Agency determine whether such a unit is covered by the other definitions, or is more appropriately classified as a miscellaneous unit. For example, should there be a presumption that a unit that arguably fits within the definition of "landfill" should be regulated as such? This would put the burden on the owner or operator to demonstrate that a particular process should not be regulated as a landfill. Or should the Agency allow such units to be regulated under Subpart X but draw heavily on the relevant subparts (such as Subpart N for landfills) when establishing standards for these units?

The Agency also requests comments on whether the new definition of "landfill" should be applicable only to Part 264. Currently, as noted above, Subparts P and Q of Part 265 establish standards for many of the processes that would be classified as miscellaneous units under Part 264. Arguably, then, a new definition of "landfill" is not needed for purposes of Part 265. However, if the new definition of landfill is applied to interim status landfills, the Agency requests comments on whether any interim status units that are "landfills" under the current definition and are regulated as landfills under Part 265 would continue to be regulated as landfills and not under Subpart P or Q or be excluded from Part 265 regulation altogether.

VI. Amendments to Part 264: The Proposed Subpart X Regulation For Miscellaneous Units

The regulations proposed today under 40 CFR Part 264 apply to miscellaneous waste management units that are used to treat, store, or dispose of hazardous waste. Conforming changes to accommodate the addition of Subpart X are proposed for Part 264, Subparts B, E, G, and H. These changes merely serve to make the general requirements of Part 264 applicable to miscellaneous units.

The Agency intends the general facility requirements of Part 264, Subparts A through E, G, and H, to apply to miscellaneous units. These subparts now apply to the conventional types of hazardous waste management units already regulated under Part 264 that are covered under Subparts I through O. This approach contrasts with that of Part 264, Subpart F, Ground-

water Protection Requirements. Subpart F now applies to only certain types of hazardous waste management units ("regulated units") that have a potential for migration of waste to ground water. The Agency will require miscellaneous units to comply with Subpart F (or sections of Subpart F) only when necessary to protect human health and the environment. In the case of miscellaneous units, Subpart F will apply to units that have a potential for contamination of ground water. This approach is implemented through the new § 264.602, which is explained below.

It should be noted that the term "Director" has been substituted for "Regional Administrator". Director means the Regional Administrator or the State Director in an authorized State, as the context requires. This change conforms to the terminology selected for use in other recent amendments to the hazardous waste management regulations.

The proposed standards for miscellaneous units are discussed below, section-by-section.

A. Section 264.600—Applicability

This section limits the applicability of the regulations of Subpart X to owners and operators of miscellaneous hazardous waste management units. By use of the term "miscellaneous", this section incorporates the definition of miscellaneous unit from § 260.10.

B. Section 264.601—Environmental Performance Standards

The most important features of the proposed regulations for new and existing miscellaneous waste management units are the environmental performance standards set forth in § 264.601. Section 3004 of RCRA requires that standards applicable to owners and operators of treatment, storage, and disposal facilities be those "necessary to protect human health and the environment." In § 264.601, the Agency has translated this overall goal into a set of objectives providing a guide for owners and operators of miscellaneous units and for permit writers. Under § 264.601, miscellaneous units managing hazardous waste must protect ground water, surface water, and air quality and limit surface and subsurface migration. These objectives represent the principal areas of human health and environmental concern, and are appropriate for guiding permit decisions.

The Agency does not view § 264.601 as a set of specifications that will directly apply to all owners and

operators of miscellaneous units. Rather, § 264.601 provides a general set of objectives that will guide the permit applicant (owner/operator), the Agency, and the public in evaluating the acceptability of each unit and the adequacy of the unit design and operation to mitigate risk. The permit applicant is expected to propose the specifications for location, design, construction, operation, monitoring, maintenance, closure, and, where appropriate, post-closure care. Detailed analysis of each factor in § 264.601 may not be necessary in a permit application, depending on its relevance to the type of unit under consideration. All of the factors identified in § 264.601, however, should be considered and their relevance addressed in the application. Based on the information about the environmental impacts, specific conditions beyond those suggested by the applicant may be included by the Agency in the permit. Once issued, the permit governs where a unit is to be located and how it is to be designed, constructed, operated, monitored, maintained, and closed. Each of the three groups of objectives are discussed in more detail below.

1. Ground Water and Subsurface Migration. Contamination of ground water and the subsurface environment is a major concern under RCRA. Section 264.601(a), therefore, provides for the prevention of any releases that may have adverse effects on ground-water quality and the subsurface environment due to the migration of contaminants. The regulation lists nine factors to be considered in assessing the potential for adverse effects on ground-water quality and the subsurface environment.

The first factor includes the volume and physical and chemical characteristics of the waste itself. The volume and concentration of the waste placed in the unit determines the maximum amount and concentration of waste that may enter the ground water. Physical and chemical characteristics determine (1) the toxicity of the waste; (2) the ability of the waste to be contained, immobilized, degraded, or attenuated or to migrate in various soils and materials; and (3) the probability of undesirable reactions taking place among wastes or between wastes and liners or other containment structures.

The second, third, and fourth factors are the hydrogeological characteristics of the unit and surrounding land, the regional land-use patterns, and the quantity and direction of ground-water flow, respectively. These three factors affect the movement of waste constituents in the environment and,

thus, are of crucial importance in assessing the impact on human health and the environment. The hydrogeological factors determine the changes in water quality in the site area due to human activities. Land-use patterns can change hydrogeologic characteristics, which determine migration to and distribution of wastes in ground water.

The fifth factor is proximity to and withdrawal rates of current and potential ground-water users. While drinking water is probably the most critical use, agricultural and industrial uses of ground water are also of concern. Clearly, water that is contaminated by hazardous waste leachate may be harmful regardless of the particular application. Current and potential uses should be considered, in addition to information on State ground-water planning and regulatory efforts. Additionally, any changes in ground-water withdrawal rates or patterns can alter the rates of ground-water movement, which influence the rates of migration of contaminants to exposure points.

The sixth factor focuses on the existing ground-water quality and sources of contamination other than the miscellaneous unit. This factor is relevant for predicting future ground-water uses and the incremental risk of the new unit.

The seventh and eighth factors are the potential for impacts on human health and damage to animals, plants, and physical structures caused by exposure to waste constituents, respectively. Potential adverse impacts on humans, plants, and animals depend on many factors including the concentration, quantity, toxicity, and transport of the waste constituents.

The ninth factor is movement of waste constituents in the subsurface. Subsurface migration of wastes is a type of environmental degradation apart from contamination of ground water. The Love Canal incident provides a classic example. There, waste constituents migrated from a landfill into the basements of nearby homes. Direct human exposure resulted from physical contact with waste and inhalation of volatile contaminants. The potential adverse effects of subsurface migration of waste constituents must be considered in addition to any direct effects on surface water and ground water. The same factors that influence ground-water protection are significant when considering subsurface migration.

Both the saturated and unsaturated zones must be considered in evaluating the potential for subsurface migration.

This requires knowledge of the characteristics of the waste in the unit and the hydrogeology of the surrounding area. The patterns of land use in the area, including proximity to residential buildings, are particularly important here, as illustrated in the example above. In particular, the potential for migration of waste constituents into subsurface physical structures must be considered. This requirement is included in factor nine.

Also considered in factor nine is the migration of wastes to the soil root zone of food-chain crops and other vegetation. With such migration, phytotoxicity may occur, as in the case with heavy metals at high concentrations. More importantly, roots may absorb certain hazardous constituents that the plant may uptake and pass into the human food chain.

2. Surface Water and Surface Soils. The surface water ecosystem is easily polluted and difficult to cleanse. Improper disposal of hazardous wastes can have immediate, far-reaching, and long-term effects on both surface waters and surface soils. Therefore, § 264.601(b) addresses the prevention of any release that may have adverse effects on surface waters and surface soils. Many of the same factors that influence ground-water protection and minimize risk from subsurface migration of waste constituents are significant for the protection of surface water and surface soils. Therefore, the sections listed in § 264.601(b) are similar to those in § 264.601(a).

The volume and the characteristics of the waste in the units is the first factor to be evaluated. The volume of waste and its chemical and physical properties determines the potential for contamination of surface water and surface soils.

The effectiveness of containment structures should be considered in the second factor because surface waters and surface soils may be contaminated by ground-water migration and by overland flow of waste constituents. Precipitation run-on and run-off controls and subsurface structures should be considered, including liners, dikes, diversion ditches, and cut-off walls.

The third, fourth, fifth, and sixth factors require considerations of the hydrogeology and climate of the area, including evaluation of the topography, rainfall patterns, characteristics of ground-water flow, and the proximity of a unit to surface waters. These factors determine the distribution and degree of surface water and surface soil contamination.

The seventh, eighth, and ninth factors pertain to patterns of surface water and land use, existing surface water and surface soil quality, other sources of contamination, and water quality standards. Information on patterns of use, present quality, and other contamination will provide insight into the likelihood of health or environmental impacts. Water quality standards provide numerical and narrative criteria, tied to particular uses of water bodies, that should guide the Agency, permit applicants, and the public in evaluating the acceptability of managing waste in a particular unit.

Impacts on human health, animals, plants, and physical structures by waste constituents that enter surface waters must also be analyzed and addressed in the tenth and eleventh factors.

3. *Air.* Some waste management units may present a significant potential for adverse effects on air quality. Section 264.601(c) requires the prevention of any releases that may have adverse effects on air quality and lists various factors important in protecting air quality.

The first factor considers the volume and characteristics of the waste in the unit, and the potential to react or evaporate to form gaseous, aerosol, or particulate products that enter the atmosphere.

The second factor considers the effectiveness of systems and structures to prevent gaseous, aerosol, or particulate emissions.

The third factor considers the operating parameters of the unit that make air emissions likely and create a potential for toxic or explosive gases, aerosols, or particulates to be produced.

The fourth and fifth factors take into account the atmospheric, meteorologic, and topographic conditions of the site location, the existing air quality, and sources of contamination near the site.

The sixth and seventh factors assess the potential adverse impacts on human health, plants, animals, and physical structures. Of special concern is the inhalation of hazardous constituents by humans exposed to air emissions from these units.

C. Section 264.602—Monitoring, Analysis, Inspection, Response, and Reporting

Each miscellaneous waste management unit must have a monitoring program that includes, where appropriate, a ground-water, surface water, soils, and air quality monitoring system. (Alternatives to ambient air monitoring and analysis may include analysis of waste, emission measurements, and periodic monitoring with portable detectors.) A monitoring

program must include procedures for sampling, analysis and evaluation of data, suitable response procedures, and a regular inspection schedule. This requirement is intended to ensure that the permit specifies all monitoring, inspection, and response activities and the frequency at which these activities are to be conducted. Including these specifications in the permit will enable the owner or operator to monitor in order to prevent violation of permit requirements and prevent damage, and will enable the oversight agency, through inspections and enforcement, to assess whether the unit is in compliance with the permit and, therefore, with the requirements of § 264.601.

Since each miscellaneous unit covered by this section may be distinctive in its design, operation, and location, the Agency is leaving the specifications, as well as the extent, of the monitoring, inspection, and response program to the evaluation of the permitting official. At a minimum, the monitoring program for a miscellaneous unit should be capable of determining the unit's impacts on ground water in the uppermost aquifer, surface water, and air quality, and the extent of surface and subsurface contaminant migration, to the extent monitoring in each media is necessary, to ensure compliance with § 264.601. The program should consider the following: (1) Depth and location of monitoring wells necessary to obtain representative samples of constituents in various media, (2) constituents to be monitored and the frequency of monitoring, (3) procedures to maintain the integrity of monitoring devices, (4) sample collection and preservation procedures, (5) analytical methods used for sampling and analysis, (6) appropriate procedures for the evaluation of data from the monitoring program, and (7) appropriate response procedures for cases where the monitoring program indicates that the unit is not in compliance with § 264.601.

The monitoring, inspection, and response program under a Subpart X permit will include requirements linking inspections and monitoring of the unit to the appropriate response. The Agency will consider the Part 264 Subpart F standards for ground-water monitoring, protection, and corrective action as guidelines for establishing a ground-water program at appropriate Subpart X units.

The owner or operator of each miscellaneous waste management unit covered by this section shall comply with biennial reporting requirements specified under § 264.75. These requirements are the same as those in effect for all hazardous waste treatment,

storage, and disposal facilities that are specifically regulated under Part 264.

D. Section 264.603—Post-closure Care

Owners and operators of miscellaneous units permitted under Subpart X that dispose of hazardous wastes must, in addition to complying with the post-closure standards of Subpart G of Part 264, continue to meet the environmental performance standards of § 264.601 that applied in the operating period during the post-closure care period. This requirement is included to ensure that units used for disposal are maintained properly after closure. This requirement would also be applicable to treatment and storage units that cannot completely remove or decontaminate soils or ground water at closure. Maintaining the unit during this period must be based upon procedures that are specified in a written post-closure plan, as required in § 264.118. Where appropriate, the post-closure plan is to include monitoring, response, and maintenance procedures.

VII. Amendments to Part 270: Permit Requirements

A. General Permit Requirements

Application and review requirements for permitting hazardous waste management facilities under RCRA are contained in Part 270. All owners and operators of units that treat, store, or dispose of hazardous waste in miscellaneous units must obtain permits under the Part 270 regulations. Subpart X applicants must comply with the general application requirements, including the Part A permit requirements, the Part B general application requirements of § 270.10, and the Part B specific information requirements. Part 270 regulations specify what information owners and operators of facilities must submit in their permit applications to demonstrate compliance with the Part 264 standards (both the general standards in Subparts A through H, except F, and the specific standards in Subpart X). The general information requirements in Part 270 apply to all owners and operators of miscellaneous units.

B. Specific Information Requirements for Miscellaneous Units

The specific information requirements for miscellaneous units proposed to be included in § 270.23 are intended to clarify and define the type of unit that is being permitted. The applicant must describe the unit, its physical characteristics, materials of construction, and dimensions. The bulk of the application is expected to contain

detailed plans and engineering reports describing how the unit will be located, designed, constructed, operated, maintained, monitored, inspected and closed to comply with the requirements of §§ 264.601 and 264.602. The plan should include a detailed process development-type plan. For certain treatment units, such as an enclosed thermal treatment process, the applicant may be required to perform trial burns, similar to the type of testing required of incinerators, to demonstrate the effectiveness of the treatment process. Where releases to air, surface water, or ground water are possible, the applicant is expected to provide detailed hydrologic, geologic, and meteorologic assessments and maps for the region surrounding the site. Applications for disposal units must contain a description of the plans to comply with post-closure requirements of § 264.603.

Information on the potential pathways of exposure of humans or environmental receptors to hazardous waste or hazardous constituents and on the potential magnitude and nature of such exposures must be contained in the permit application. In addition, for any treatment unit, any reports on demonstrations of the effectiveness of the treatment based on laboratory, bench-scale, pilot-scale, or field data should be submitted.

If the unit to be permitted involves a waste treatment process or technology that is to be demonstrated at a bench-scale or a pilotscale before constructing and operating the unit at full-scale, there are several options available to the permit applicant. If the demonstration is short-term and will be conducted in a unit that is not land-based, a Research, Development, and Demonstration permit may be appropriate. If the demonstration may be long-term (i.e., may eventually be used as a commercial-scale treatment process), or the unit is land-based, a permit may be obtained under Subpart X.

If a multi-stage demonstration project is to be permitted under Subpart X, there are two possible permitting strategies that are available. A single permit that covers the entire demonstration could be written. Alternatively, a series of permits could be issued corresponding to the various stages of development of the process. Each permit would terminate with the completion of the relevant stage, and a new permit issued for the succeeding stage, based upon an evaluation of the results of the concluded stage. The exact permitting strategy to be used would be determined by the permit writer, based

upon the type of treatment process and the demonstration.

A detailed description of the unit should include more information than is required for units regulated by other Subparts of Part 264 because the nature of each miscellaneous unit can vary a great deal. Additional information may be required on how a unit's design, construction, location, operation, maintenance, inspection, and closure characteristics are developed to meet the requirements of the environmental performance standards. (See proposed § 270.23 (e).)

C. Conforming Changes

Conforming changes are being proposed in other sections of Part 270 to accommodate the new Subpart X regulations. The Agency is not proposing to make changes to the Part 124 permit processing procedures. Issuance of permits for miscellaneous units would be subject to Part 124 in the same manner as other hazardous waste permits.

VIII. Solicitation of Public Comments

The Agency solicits comments on today's proposed regulations and the supporting rationale provided in the preamble. In addition to the overall approach of Subpart X, the areas on which the Agency specifically requests comments are as follows:

1. What types of units not addressed in Subparts I through O of Part 264 are currently in existence, or likely to be developed in the future? Which of these units are not appropriately addressed under the proposed Subpart X rules?
2. Are some types of miscellaneous units suitable for coverage under a special set of design and operating standards? If so, what special standards should apply and why?
3. Are the environmental performance standards of § 264.601 adequate to evaluate the protection of human health and the environment? Should all of these standards apply to all types of miscellaneous units?

IX. Applicability to State Hazardous Waste Management Programs

A. Applicability of Rules in Authorized States

Under section 3006 of RCRA, the Agency 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, the Agency retains enforcement authority under sections 3008, 7003, and 3013 of RCRA,

although authorized States have primary enforcement responsibility.

Prior to HSWA, a State with final authorization administered its own hazardous waste program rather than the Agency administering the Federal program in that State. The Federal requirements no longer applied in the authorized State, and the Agency 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 time frames. New Federal requirements did not take effect in an authorized State until the State adopted the requirements as State law.

In contrast, under section 3006(g) of RCRA, 42 U.S.C. 692(g), new requirements and prohibitions imposed by HSWA take effect in authorized States at the same time that they take effect in non-authorized States. The Agency 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. While States must still adopt HSWA-related provisions as State law to retain final authorization, HSWA applies in authorized States in the interim.

B. Effect on State Authorizations

Today's announcement proposes standards that are not effective in authorized States since the requirements are not being imposed pursuant to HSWA. Thus, the requirements will be applicable only in those States that do not have interim or final authorization. In authorized States, the requirements will not be applicable until the State revises its program to adopt equivalent requirements under State Law.

The Agency is in the process of promulgating amendments to the requirements for State hazardous waste programs. The final rule specifies deadlines for State program modifications and makes other changes to the existing regulations to implement the state authorization provisions of HSWA.

40 CFR 271.21(e)(2) requires that States that have final authorization must modify their programs to include equivalent standards within a year of promulgation of these standards if only regulatory changes are necessary, or within two years of promulgation if statutory changes are necessary. Under proposed changes to this regulation, the State program must be modified by July 1 of each year to reflect all changes to the Federal program occurring during

the 12 months preceding the previous July 1. These deadlines can be extended in certain cases (40 CFR 271.21(e)(3)). Once the Agency approves the modification, the State requirements become RCRA Subtitle C requirements.

States with authorized RCRA programs may already have requirements similar to those in today's 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 the Agency until the State program modification is submitted for Agency approval. Of course, States with existing standards may continue to administer and enforce their standards as a matter of State law.

States that submit official applications for final authorization less than 12 months after promulgation of these standards may be approved without including equivalent standards. However, once authorized, a State must modify its program to include equivalent standards within the time period discussed above. The process and schedule for revision of State programs is described in 40 CFR 271.21.

The Agency is precluded from issuing permits to new units in States authorized to implement RCRA in lieu of the Agency. However, 40 CFR 264.1(f)(2) provides an exception to this preclusion: the Agency may issue permits in authorized States if the unit was not regulated under RCRA at the time of the State's authorization and if standards for permitting the unit were promulgated after the State received final authorization. Thus, according to this provision, the Agency may issue a permit to a new facility under Subpart X in an authorized State. However, the Agency's permitting authority would cease once the State modified its program, in accordance with § 271.21(e), to reflect the Federal Subpart X standards.

If a unit has been operating in an authorized State under State interim status (granted as a result of a protective filing, for example), that facility would continue to operate under interim status until the State is authorized to implement Subpart X. In this instance, the Agency could not issue permits under Subpart X in the State.

X. Regulatory Analyses

A. Executive Order 12291: Regulatory Impact Analysis

Under Executive Order 12291, the Agency must judge whether a regulation is "major" and, thus, subject to the

requirement of a Regulatory Impact Analysis. The notice published today is not major because: the rule will not result in an effect on the economy of \$100 million or more, will not result in increased costs or prices, will not have significant adverse effects on competition, employment, investment, productivity, and innovation, and will not significantly disrupt domestic or export markets. Therefore, the Agency does not expect today's rule to be subject to a Regulatory Impact Analysis under the Executive Order.

The proposed regulation was submitted to the Office of Management and Budget for review as required by Executive Order 12291.

B. Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) requires each Federal agency to consider the effects of their regulations on small entities, and examine alternatives that may reduce these effects. With respect to today's proposal, there is no means of anticipating exactly how many miscellaneous units, if any, will be owned and operated by small entities. In general, the Agency believes that the large amounts of capital required and technical complexity necessary to establish safe and secure miscellaneous units will mean that larger entities will predominate.

Consequently, the Agency certifies that this regulation will not have a significant impact on a substantial number of small entities.

C. Paperwork Reduction Act

The information collection requirements in this proposed rule have been submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et seq.* Anyone interested in commenting on the information collection requirements should submit comments to the Office of Information and Regulatory Affairs; OMB; 726 Jackson Place NW., Washington, DC 20503 marked "Attention: Desk Officer for EPA." The final rule will respond to any OMB or public comments on the information collection requirements.

XI. List of Subjects

40 CFR Part 260

Administrative practice and procedure, Confidential business information, Hazardous materials, Waste treatment and disposal.

40 CFR Part 264

Hazardous materials, Packaging and containers, Reporting requirements, Security measures, Surety bonds, Waste treatment and disposal.

40 CFR Part 270

Administrative practice and procedure, Reporting and recordkeeping requirements, Hazardous materials, Waste treatment and disposal, Water pollution control, Water supply, Confidential business information.

Dated: October 29, 1986.

Lee M. Thomas,
Administrator.

For the reasons set out in the preamble, Parts 260, 264, and 270 of Chapter I of Title 40 of the Code of Federal Regulations are proposed to be amended as follows:

PART 260—HAZARDOUS WASTE MANAGEMENT SYSTEM: GENERAL

1. The authority citation for Part 260 continues to read as follows:

Authority: Secs. 1006, 2002(a), 3001 through 3007, 3010, 3014, 3015, 3017, 3018, 3019, and 7004 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), 6921 through 6927, 6930, 6934, 6935, 6937, 6938, 6939, and 6974].

2. Section 260.10 is amended by adding the following definition in alphabetical order to read as follows:

§ 260.10 Definitions.

* * * * *

"Miscellaneous unit" means a hazardous waste management unit where hazardous waste is treated, stored, or disposed of and that is not a container, tank, surface impoundment, waste pile, land treatment unit, landfill, incinerator, boiler, industrial furnace, or underground injection well.

* * * * *

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

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

Authority: Secs. 1006, 2002(a), 3004, and 3005 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), 6924, and 6925].

4. Section 264.10 is amended by revising paragraph (b) to read as follows:

§ 264.10 Applicability.

(b) Section 264.18(b) applies only to facilities subject to regulation under Subparts I through O and Subpart X of this part.

5. Section 264.15 is amended by revising the last sentence of paragraph (b)(4) to read as follows:

§ 264.15 General inspection requirements.

(4) At a minimum, the inspection schedule must include the terms and frequencies called for in §§ 264.174, 264.194, 264.226, 264.253, 264.254, 264.303, 264.347, and 264.602, where applicable.

6. Section 264.18 is amended by revising the introductory text of paragraph (b)(1)(ii) to read as follows:

§ 264.18 Location standards.

(ii) For existing surface impoundments, waste piles, land treatment units, landfills, and open burning/open detonation units, no adverse effects on human health or the environment will result if washout occurs, considering:

7. Section 264.73 is amended by revising paragraph (b)(6) to read as follows:

§ 264.73 Operating record.

(6) Monitoring, testing, or analytical data where required by Subpart F and §§ 264.226, 264.253, 264.254, 264.276, 264.278, 264.280, 264.303, 264.309, 264.347, and 264.602;

8. Section 264.90 is amended by adding a new paragraph (d) to read as follows:

§ 264.90 Applicability.

(d) Regulations in this Subpart may apply to miscellaneous units when necessary to comply with §§ 264.601 through 264.603.

9. Section 264.111 is amended by revising paragraph (c) to read as follows:

§ 264.111 Closure performance standard.

(c) Complies with the closure requirements of this Subpart including, but not limited to, the requirements of §§ 264.178, 264.197, 264.228, 264.258,

264.280, 264.310, 264.351, and 264.601 through 264.603.

10. Section 264.112 is amended by revising paragraph (a)(2) to read as follows:

§ 264.112 Closure plan; amendment of plan.

(2) The Regional Administrator's approval of the plan must ensure that the approved closure plan is consistent with §§ 264.111 through 264.115 and the applicable requirements of §§ 264.90 *et seq.*, 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, and 264.601. Until final closure is completed and certified in accordance with § 264.115, a copy of the approved plan and all approved revisions must be furnished to the Regional Administrator upon request, including request by mail.

11. Section 264.114 is amended by revising the first sentence to read as follows:

§ 264.114 Disposal or decontamination of equipment, structures, and soils.

During the partial and final closure periods, all contaminated equipment, structures, and soils must be properly disposed of or decontaminated unless otherwise specified in §§ 264.228, 264.258, 264.280, or 264.310, or under the authority of § 264.601 and § 264.603.

12. Section 264.117 is amended by revising paragraphs (a)(1)(i) and (a)(1)(ii) to read as follows:

§ 264.117 Post-closure care and use of property.

(i) Monitoring and reporting in accordance with the requirements of Subparts F, K, L, M, N, and X of this part; and

(ii) Maintenance and monitoring of waste containment systems in accordance with the requirements of Subparts F, K, L, M, N, and X of this part.

13. Section 264.118 is amended by revising paragraphs (b)(1) and (b)(2)(i) and (b)(2)(ii) to read as follows:

§ 264.118 Post-closure plan; amendment of plan.

(1) A description of the planned monitoring activities and frequencies at which they will be performed to comply with Subparts F, K, L, M, N, and X of this part during the post-closure care period; and

(2) (i) The integrity of the cap and final cover or other containment systems in accordance with the requirements of Subparts K, L, M, N, and X of this part; and
(ii) The function of the monitoring equipment in accordance with the requirements of Subparts F, K, L, M, N, and X of this part; and

14. Section 264.142 is amended by revising the introductory text of paragraph (a) to read as follows:

§ 264.142 Cost estimate for closure.

(a) The owner or operator must have a detailed written estimate, in current dollars, of the cost of closing the facility in accordance with the requirements in §§ 264.111 through 264.115 and applicable closure requirements in §§ 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, and 264.601 through 264.603.

15. Section 264.144 is amended by revising the introductory text of paragraph (a) to read as follows:

§ 264.144 Cost estimate for post-closure care.

(a) The owner or operator of a disposal surface impoundment, disposal miscellaneous unit, land treatment unit, or landfill unit, or of a surface impoundment or waste pile required under §§ 264.228 and 264.258 to prepare a contingent closure and post-closure plan, must have a detailed written estimate, in current dollars, of the annual cost of post-closure monitoring and maintenance of the facility in accordance with the applicable post-closure regulations in §§ 264.117 through 264.120, 264.228, 264.258, 264.280, 264.310, and 264.603.

16. Section 264.147 is amended by revising the first sentence of paragraph (b) to read as follows:

§ 264.147 Liability requirements.

(b) Coverage for nonsudden accidental occurrences. An owner or operator of a surface impoundment, landfill, land treatment facility, or miscellaneous disposal unit which is used to manage hazardous waste, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facility or group of facilities.

17. Part 264 is amended by adding Subpart X consisting of §§ 264.600 through 264.999 to read as follows:

Subpart X—Miscellaneous Units

- Sec.
- 264.600 Applicability.
- 264.601 Environmental performance standards.
- 264.602 Monitoring, analysis, inspection, response, and reporting.
- 264.603 Post-closure care.
- 264.604 through 264.999 [Reserved]

Subpart X—Miscellaneous Units

§ 264.600 Applicability.

The requirements in this subpart apply to owners and operators of facilities that treat, store, or dispose of hazardous waste in miscellaneous units, except as § 264.1 provides otherwise.

§ 264.601 Environmental performance standards.

A miscellaneous unit must be located, designed, constructed, operated, maintained, and closed in a manner that will ensure protection of human health and the environment. Permits for miscellaneous units are to contain such terms and provisions as necessary to protect human health and the environment, including, but not limited to, as appropriate, design and operating requirements, detection and monitoring requirements, and requirements for responses to releases of hazardous waste or hazardous constituents from the unit. Protection of human health and the environment includes, but is not limited to:

(a) Prevention of any releases that may have adverse effects on ground-water quality or that may have adverse effects due to migration of waste constituents in the subsurface environment considering:

- (1) The volume and physical and chemical characteristics of the waste in the unit, including its potential for migration through soil, liners, or other containing structures;
- (2) The hydrologic and geologic characteristics of the unit and the surrounding area;
- (3) The patterns of land use in the region;
- (4) The quantity and directions of ground-water flow;
- (5) The proximity to and withdrawal rates of current and potential ground-water users;
- (6) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground water;
- (7) The potential for health risks caused by human exposure to waste constituents;

(8) The potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;

(9) The potential for deposition or migration of waste constituents into subsurface physical structures, and into the root zone of food-chain crops and other vegetation;

(b) Prevention of any release that may have adverse effects on surface water quality or that may have adverse effects due to migration of waste constituents onto the soil surface considering:

- (1) The volume and physical and chemical characteristics of the waste in the unit;
- (2) The effectiveness and reliability of containing, confining, and collecting systems and structures in preventing migration;
- (3) The hydrological characteristics of the unit and the surrounding area, including the topography of the land around the unit;
- (4) The patterns of precipitation in the region;
- (5) The quantity, quality, and directions of ground-water flow;
- (6) The proximity of the unit to surface waters;
- (7) The current and potential uses of nearby surface waters and any water quality standards established for those surface waters;
- (8) The existing quality of surface water and surface soils, including other sources of contamination and their cumulative impact on surface water and surface soils;
- (9) The patterns of land use in the region;
- (10) The potential for health risks caused by human exposure to waste constituents;
- (11) The potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and

(c) Prevention of any releases that may have adverse effects on air quality considering:

- (1) The volume and physical and chemical characteristics of the waste in the unit, including its potential for the emission of gases, aerosols, and particulates, and their dispersal;
- (2) The effectiveness and reliability of systems and structures to reduce or prevent emissions of hazardous constituents to the air;
- (3) The operating characteristics of the unit;
- (4) The atmospheric, meteorologic, and topographic characteristics of the unit and the surrounding area;

(5) The existing quality of the air, including other sources of contamination and their cumulative impact on the air;

(6) The potential for health risks caused by human exposure to waste constituents;

(7) The potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents.

§ 264.602 Monitoring, analysis, inspection, response, and reporting.

Monitoring, testing, analytical data, inspections, response, and reporting procedures and frequencies must ensure compliance with §§ 264.601, 264.15, 264.33, 264.75, 264.76, and 264.77.

§ 264.603 Post-closure care.

A miscellaneous unit that is a disposal unit must be maintained in a manner that complies with § 264.601 during the post-closure care period. In addition, if a treatment and storage unit has contaminated soils or ground water that cannot be completely removed or decontaminated during closure, then that unit must also meet the requirements of § 264.601 during post-closure care. The post-closure plan under § 264.118 must specify the procedures that will be used to satisfy this requirement.

§§ 264.604 through 264.999 [Reserved]

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

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

Authority: Secs. 1006, 2002, 3005, 3007, 3019, and 7004 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, 6925, 6927, 6939, and 6974).

19. Part 270 is amended by adding to the Table of Contents a listing in Subpart B for § 270.23 as follows:

Subpart B—Permit Application

* * * * *

270.23 Specific Part 8 information requirements for miscellaneous units.

20. Section 270.14 is amended by revising paragraphs (b)(5) and (b)(13) to read as follows:

§ 270.14 Contents of Part B: General requirements.

- * * * * *
- (b) * * *
- (5) A copy of the general inspection schedule required by § 264.15(b). Include, where applicable, as part of the inspection schedule, specific

requirements in §§ 264.174, 264.194, 264.226, 264.254, 264.273, 264.303, and 264.602.

* * * * *

(13) A copy of the closure plan and, where applicable, the post-closure plan required by §§ 264.112 and 264.118. Include, where applicable, as part of the plans, specific requirements in §§ 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, 264.601, and 264.603.

* * * * *

21. Part 270 is amended by adding a new § 270.23 to read as follows:

§ 270.23 Specific Part B information requirements for miscellaneous units.

Except as otherwise provided in § 264.600, owners and operators of facilities that treat, store, or dispose of hazardous waste in miscellaneous units

must provide the following additional information:

(a) A detailed description of the unit being used or proposed for use, including the following:

(1) Physical characteristics, materials of construction, and dimensions of the unit;

(2) Detailed plans and engineering reports describing how the unit will be located, designed, constructed, operated, maintained, monitored, inspected, and closed to comply with the requirements of §§ 264.601 and 264.602;

(3) For disposal units, a detailed description of the plans to comply with the post-closure requirements of § 264.603.

(b) Detailed hydrologic, geologic, and meteorologic assessments and land-use maps for the region surrounding the site that address and assure compliance of

the unit with each factor in the environmental performance standards of § 264.601.

(c) Information on the potential pathways of exposure of humans or environmental receptors to hazardous waste or hazardous constituents and on the potential magnitude and nature of such exposures.

(d) For any treatment unit, a report on a demonstration of the effectiveness of the treatment based on laboratory or field data.

(e) Any additional information determined by the Director to be necessary for evaluation of compliance of the unit with the environmental performance standards of § 264.601.

[FR Doc. 86-25195 Filed 11-6-86; 8:45 am]

BILLING CODE 6560-50-M