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SUBCHAPTER I—SOLID WASTES (Continued)

PART 260—HAZARDOUS WASTE MANAGEMENT SYSTEM: GENERAL

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EFFECTIVE DATE NOTE: The reporting or recordkeeping provisions included in the final rule published at 47 FR 32274, July 26, 1982, will be submitted for approval to the Office of Management and Budget (OMB), and will not become effective until OMB approval has been obtained. EPA will publish a notice of the effective date of the reporting and recordkeeping provisions of this rule after it obtains OMB approval.

Subpart A—General

§ 260.1 Purpose, scope, and applicability.

(a) This part provides definitions of terms, general standards, and overview information applicable to parts 260 through 265 and 268 of this chapter.

(b) In this part: (1) Section 260.2 sets forth the rules that EPA will use in making information it receives available to the public and sets forth the requirements that generators, transporters, or owners or operators of treatment, storage, or disposal facilities must follow to assert claims of business confidentiality with respect to information that is submitted to EPA under parts 260 through 265 and 268 of this chapter.

(2) Section 260.3 establishes rules of grammatical construction for parts 260 through 265 and 268 of this chapter.

(3) Section 260.10 defines terms which are used in parts 260 through 265 and 268 of this chapter.

(4) Section 260.20 establishes procedures for petitioning EPA to amend, modify, or revoke any provision of parts 260 through 265 and 268 of this chapter and establishes procedures governing EPA's action on such petitions.

(5) Section 260.21 establishes procedures for petitioning EPA to approve testing methods as equivalent to those prescribed in parts 261, 264, or 265 of this chapter.

(6) Section 260.22 establishes procedures for petitioning EPA to amend subpart D of part 261 to exclude a waste from a particular facility.

[45 FR 33073, May 19, 1980, as amended at 51 FR 40636, Nov. 7, 1986]

§ 260.2 Availability of information; confidentiality of information.

(a) Any information provided to EPA under parts 260 through 265 and 268 of this chapter will be made available to the public to the extent and in the manner authorized by the Freedom of Information Act, 5 U.S.C. section 552, section 3007(b) of RCRA and EPA regulations implementing the Freedom of

Information Act and section 3007(b), part 2 of this chapter, as applicable.

(b) Any person who submits information to EPA in accordance with parts 260 through 266 and 268 of this chapter may assert a claim of business confidentiality covering part or all of that information by following the procedures set forth in § 2.203(b) of this chapter. Information covered by such a claim will be disclosed by EPA only to the extent, and by means of the procedures, set forth in part 2, subpart B, of this chapter except that information required by § 262.53(a) and § 262.83 that is submitted in a notification of intent to export a hazardous waste will be provided to the U.S. Department of State and the appropriate authorities in the transit and receiving or importing countries regardless of any claims of confidentiality. However, if no such claim accompanies the information when it is received by EPA, it may be made available to the public without further notice to the person submitting it.

[45 FR 33073, May 19, 1980, as amended at 51 FR 28682, Aug. 8, 1986; 51 FR 40636, Nov. 7, 1986; 61 FR 16309, Apr. 12, 1996]

§ 260.3 Use of number and gender.

As used in parts 260 through 265 and 268 of this chapter:

(a) Words in the masculine gender also include the feminine and neuter genders; and

(b) Words in the singular include the plural; and

(c) Words in the plural include the singular.

[45 FR 33073, May 19, 1980, as amended at 51 FR 40636, Nov. 7, 1986]

Subpart B—Definitions

§ 260.10 Definitions.

When used in parts 260 through 266, 268, and 270 through 273 of this chapter, the following terms have the meanings given below:

When used in parts 260 through 266 and 268 of this chapter, the following terms have the meanings given below:

Above ground tank means a device meeting the definition of ''tank'' in § 260.10 and that is situated in such a way that the entire surface area of the tank is completely above the plane of the adjacent surrounding surface and the entire surface area of the tank (including the tank bottom) is able to be visually inspected.

Act or *RCRA* means the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended, 42 U.S.C. section 6901 et seq.

Active life of a facility means the period from the initial receipt of hazardous waste at the facility until the Regional Administrator receives certification of final closure.

Active portion means that portion of a facility where treatment, storage, or disposal operations are being or have been conducted after the effective date of part 261 of this chapter and which is not a closed portion. (See also ''closed portion'' and ''inactive portion''.)

Administrator means the Administrator of the Environmental Protection Agency, or his designee.

Ancillary equipment means any device including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps, that is used to distribute, meter, or control the flow of hazardous waste from its point of generation to a storage or treatment tank(s), between hazardous waste storage and treatment tanks to a point of disposal onsite, or to a point of shipment for disposal off-site.

Aquifer means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of ground water to wells or springs.

Authorized representative means the person responsible for the overall operation of a facility or an operational unit (i.e., part of a facility), e.g., the plant manager, superintendent or person of equivalent responsibility.

Battery means a device consisting of one or more electrically connected electrochemical cells which is designed to receive, store, and deliver electric energy. An electrochemical cell is a system consisting of an anode, cathode, and an electrolyte, plus such connections (electrical and mechanical) as may be needed to allow the cell to deliver or receive electrical energy. The term battery also includes an intact,

unbroken battery from which the electrolyte has been removed.

Boiler means an enclosed device using controlled flame combustion and having the following characteristics:

(1)(i) The unit must have physical provisions for recovering and exporting thermal energy in the form of steam, heated fluids, or heated gases; and

(ii) The unit's combustion chamber and primary energy recovery sections(s) must be of integral design. To be of integral design, the combustion chamber and the primary energy recovery section(s) (such as waterwalls and superheaters) must be physically formed into one manufactured or assembled unit. A unit in which the combustion chamber and the primary energy recovery section(s) are joined only by ducts or connections carrying flue gas is not integrally designed; however, secondary energy recovery equipment (such as economizers or air preheaters) need not be physically formed into the same unit as the combustion chamber and the primary energy recovery section. The following units are not precluded from being boilers solely because they are not of integral design: process heaters (units that transfer energy directly to a process stream), and fluidized bed combustion units; and

(iii) While in operation, the unit must maintain a thermal energy recovery efficiency of at least 60 percent, calculated in terms of the recovered energy compared with the thermal value of the fuel; and

(iv) The unit must export and utilize at least 75 percent of the recovered energy, calculated on an annual basis. In this calculation, no credit shall be given for recovered heat used internally in the same unit. (Examples of internal use are the preheating of fuel or combustion air, and the driving of induced or forced draft fans or feedwater pumps); or

(2) The unit is one which the Regional Administrator has determined, on a case-by-case basis, to be a boiler, after considering the standards in § 260.32.

Carbon regeneration unit means any enclosed thermal treatment device used to regenerate spent activated carbon.

Certification means a statement of professional opinion based upon knowledge and belief.

Closed portion means that portion of a facility which an owner or operator has closed in accordance with the approved facility closure plan and all applicable closure requirements. (See also ''active portion'' and ''inactive portion''.)

Component means either the tank or ancillary equipment of a tank system.

Confined aquifer means an aquifer bounded above and below by impermeable beds or by beds of distinctly lower permeability than that of the aquifer itself; an aquifer containing confined ground water.

Container means any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled.

Containment building means a hazardous waste management unit that is used to store or treat hazardous waste under the provisions of subpart DD of parts 264 or 265 of this chapter.

Contingency plan means a document setting out an organized, planned, and coordinated course of action to be followed in case of a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

Corrective action management unit or *CAMU* means an area within a facility that is designated by the Regional Administrator under part 264 subpart S, for the purpose of implementing corrective action requirements under § 264.101 and RCRA section 3008(h). A CAMU shall only be used for the management of remediation wastes pursuant to implementing such corrective action requirements at the facility.

Corrosion expert means a person who, by reason of his knowledge of the physical sciences and the principles of engineering and mathematics, acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control on buried or submerged metal piping systems and metal tanks. Such a person must be certified as being qualified by the National Association of Corrosion Engineers (NACE) or be a registered professional engineer who

has certification or licensing that includes education and experience in corrosion control on buried or submerged metal piping systems and metal tanks.

Designated facility means a hazardous waste treatment, storage, or disposal facility which (1) has received a permit (or interim status) in accordance with the requirements of parts 270 and 124 of this chapter, (2) has received a permit (or interim status) from a State authorized in accordance with part 271 of this chapter, or (3) is regulated under § 261.6(c)(2) or subpart F of part 266 of this chapter, and (4) that has been designated on the manifest by the generator pursuant to § 260.20. If a waste is destined to a facility in an authorized State which has not yet obtained authorization to regulate that particular waste as hazardous, then the designated facility must be a facility allowed by the receiving State to accept such waste.

Destination facility means a facility that treats, disposes of, or recycles a particular category of universal waste, except those management activities described in paragraphs (a) and (c) of §§ 273.13 and 273.33 of this chapter. A facility at which a particular category of universal waste is only accumulated, is not a destination facility for purposes of managing that category of universal waste.

Dike means an embankment or ridge of either natural or man-made materials used to prevent the movement of liquids, sludges, solids, or other materials.

Discharge or *hazardous waste discharge* means the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of hazardous waste into or on any land or water.

Disposal means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters.

Disposal facility means a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure. The term disposal facility does not include a corrective action management unit into which remediation wastes are placed.

Drip pad is an engineered structure consisting of a curbed, free-draining base, constructed of non-earthen materials and designed to convey preservative kick-back or drippage from treated wood, precipitation, and surface water run-on to an associated collection system at wood preserving plants.

Elementary neutralization unit means a device which:

(1) Is used for neutralizing wastes that are hazardous only because they exhibit the corrosivity characteristic defined in § 261.22 of this chapter, or they are listed in subpart D of part 261 of the chapter only for this reason; and

(2) Meets the definition of tank, tank system, container, transport vehicle, or vessel in § 260.10 of this chapter.

EPA hazardous waste number means the number assigned by EPA to each hazardous waste listed in part 261, subpart D, of this chapter and to each characteristic identified in part 261, subpart C, of this chapter.

EPA identification number means the number assigned by EPA to each generator, transporter, and treatment, storage, or disposal facility.

EPA region means the states and territories found in any one of the following ten regions:

Region I—Maine, Vermont, New Hampshire, Massachusetts, Connecticut, and Rhode Island.

Region II—New York, New Jersey, Commonwealth of Puerto Rico, and the U.S. Virgin Islands.

Region III—Pennsylvania, Delaware, Maryland, West Virginia, Virginia, and the District of Columbia.

Region IV—Kentucky, Tennessee, North Carolina, Mississippi, Alabama, Georgia, South Carolina, and Florida.

Region V—Minnesota, Wisconsin, Illinois, Michigan, Indiana and Ohio.

Region VI—New Mexico, Oklahoma, Arkansas, Louisiana, and Texas.

Region VII—Nebraska, Kansas, Missouri, and Iowa.

Region VIII—Montana, Wyoming, North Dakota, South Dakota, Utah, and Colorado.

Region IX—California, Nevada, Arizona, Hawaii, Guam, American Samoa, Commonwealth of the Northern Mariana Islands.

Region X—Washington, Oregon, Idaho, and Alaska.

Equivalent method means any testing or analytical method approved by the Administrator under §§ 260.20 and 260.21.

Existing hazardous waste management (HWM) facility or *existing facility* means a facility which was in operation or for which construction commenced on or before November 19, 1980. A facility has commenced construction if:

(1) The owner or operator has obtained the Federal, State and local approvals or permits necessary to begin physical construction; and either

(2)(i) A continuous on-site, physical construction program has begun; or

(ii) The owner or operator has entered into contractual obligations—which cannot be cancelled or modified without substantial loss—for physical construction of the facility to be completed within a reasonable time.

Existing portion means that land surface area of an existing waste management unit, included in the original Part A permit application, on which wastes have been placed prior to the issuance of a permit.

Existing tank system or *existing component* means a tank system or component that is used for the storage or treatment of hazardous waste and that is in operation, or for which installation has commenced on or prior to July 14, 1986. Installation will be considered to have commenced if the owner or operator has obtained all Federal, State, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system and if either (1) a continuous on-site physical construction or installation program has begun, or (2) the owner or operator has entered into contractual obligations—which cannot be canceled or modified without substantial loss—for physical construction of the site or installation of the tank system to be completed within a reasonable time.

Explosives or munitions emergency means a situation involving the suspected or detected presence of unexploded ordnance (UXO), damaged or deteriorated explosives or munitions, an improvised explosive device (IED), other potentially explosive material or device, or other potentially harmful military chemical munitions or device, that creates an actual or potential imminent threat to human health, including safety, or the environment, including property, as determined by an explosives or munitions emergency response specialist. Such situations may require immediate and expeditious action by an explosives or munitions emergency response specialist to control, mitigate, or eliminate the threat.

Explosives or munitions emergency response means all immediate response activities by an explosives and munitions emergency response specialist to control, mitigate, or eliminate the actual or potential threat encountered during an explosives or munitions emergency. An explosives or munitions emergency response may include in-place render-safe procedures, treatment or destruction of the explosives or munitions and/or transporting those items to another location to be rendered safe, treated, or destroyed. Any reasonable delay in the completion of an explosives or munitions emergency response caused by a necessary, unforeseen, or uncontrollable circumstance will not terminate the explosives or munitions emergency. Explosives and munitions emergency responses can occur on either public or private lands and are not limited to responses at RCRA facilities.

Explosives or munitions emergency response specialist means an individual trained in chemical or conventional munitions or explosives handling, transportation, render-safe procedures, or destruction techniques. Explosives or munitions emergency response specialists include Department of Defense (DOD) emergency explosive ordnance disposal (EOD), technical escort unit (TEU), and DOD-certified civilian or contractor personnel; and other Federal, State, or local government, or civilian personnel similarly trained in explosives or munitions emergency responses.

Facility means:

(1) All contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several

treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments, or combinations of them).

(2) For the purpose of implementing corrective action under § 264.101, all contiguous property under the control of the owner or operator seeking a permit under subtitle C of RCRA. This definition also applies to facilities implementing corrective action under RCRA Section 3008(h).

Federal agency means any department, agency, or other instrumentality of the Federal Government, any independent agency or establishment of the Federal Government including any Government corporation, and the Government Printing Office.

Federal, State and local approvals or permits necessary to begin physical construction means permits and approvals required under Federal, State or local hazardous waste control statutes, regulations or ordinances.

Final closure means the closure of all hazardous waste management units at the facility in accordance with all applicable closure requirements so that hazardous waste management activities under parts 264 and 265 of this chapter are no longer conducted at the facility unless subject to the provisions in § 262.34.

Food-chain crops means tobacco, crops grown for human consumption, and crops grown for feed for animals whose products are consumed by humans.

Free liquids means liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.

Freeboard means the vertical distance between the top of a tank or surface impoundment dike, and the surface of the waste contained therein.

Generator means any person, by site, whose act or process produces hazardous waste identified or listed in part 261 of this chapter or whose act first causes a hazardous waste to become subject to regulation.

Ground water means water below the land surface in a zone of saturation.

Hazardous waste means a hazardous waste as defined in § 261.3 of this chapter.

Hazardous waste constituent means a constituent that caused the Administrator to list the hazardous waste in part 261, subpart D, of this chapter, or a constituent listed in table 1 of § 261.24 of this chapter.

Hazardous waste management unit is a contiguous area of land on or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of hazardous waste management units include a surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system and a container storage area. A container alone does not constitute a unit; the unit includes containers and the land or pad upon which they are placed.

In operation refers to a facility which is treating, storing, or disposing of hazardous waste.

Inactive portion means that portion of a facility which is not operated after the effective date of part 261 of this chapter. (See also ''active portion'' and ''closed portion''.)

Incinerator means any enclosed device that:

(1) Uses controlled flame combustion and neither meets the criteria for classification as a boiler, sludge dryer, or carbon regeneration unit, nor is listed as an industrial furnace; or

(2) Meets the definition of infrared incinerator or plasma arc incinerator.

Incompatible waste means a hazardous waste which is unsuitable for:

(1) Placement in a particular device or facility because it may cause corrosion or decay of containment materials (e.g., container inner liners or tank walls); or

(2) Commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes, or gases, or flammable fumes or gases.

(See part 265, appendix V, of this chapter for examples.)

Individual generation site means the contiguous site at or on which one or more hazardous wastes are generated. An individual generation site, such as a

large manufacturing plant, may have one or more sources of hazardous waste but is considered a single or individual generation site if the site or property is contiguous.

Industrial furnace means any of the following enclosed devices that are integral components of manufacturing processes and that use thermal treatment to accomplish recovery of materials or energy:

(1) Cement kilns

(2) Lime kilns

(3) Aggregate kilns

(4) Phosphate kilns

(5) Coke ovens

(6) Blast furnaces

(7) Smelting, melting and refining furnaces (including pyrometallurgical devices such as cupolas, reverberator furnaces, sintering machine, roasters, and foundry furnaces)

(8) Titanium dioxide chloride process oxidation reactors

(9) Methane reforming furnaces

(10) Pulping liquor recovery furnaces

(11) Combustion devices used in the recovery of sulfur values from spent sulfuric acid

(12) Halogen acid furnaces (HAFs) for the production of acid from halogenated hazardous waste generated by chemical production facilities where the furnace is located on the site of a chemical production facility, the acid product has a halogen acid content of at least 3%, the acid product is used in a manufacturing process, and, except for hazardous waste burned as fuel, hazardous waste fed to the furnace has a minimum halogen content of 20% as-generated.

(13) Such other devices as the Administrator may, after notice and comment, add to this list on the basis of one or more of the following factors:

(i) The design and use of the device primarily to accomplish recovery of material products;

(ii) The use of the device to burn or reduce raw materials to make a material product;

(iii) The use of the device to burn or reduce secondary materials as effective substitutes for raw materials, in processes using raw materials as principal feedstocks;

(iv) The use of the device to burn or reduce secondary materials as ingredients in an industrial process to make a material product;

(v) The use of the device in common industrial practice to produce a material product; and

(vi) Other factors, as appropriate.

Infrared incinerator means any enclosed device that uses electric powered resistance heaters as a source of radiant heat followed by an afterburner using controlled flame combustion and which is not listed as an industrial furnace.

Inground tank means a device meeting the definition of ''tank'' in § 260.10 whereby a portion of the tank wall is situated to any degree within the ground, thereby preventing visual inspection of that external surface area of the tank that is in the ground.

Injection well means a well into which fluids are injected. (See also ''underground injection''.)

Inner liner means a continuous layer of material placed inside a tank or container which protects the construction materials of the tank or container from the contained waste or reagents used to treat the waste.

Installation inspector means a person who, by reason of his knowledge of the physical sciences and the principles of engineering, acquired by a professional education and related practical experience, is qualified to supervise the installation of tank systems.

International shipment means the transportation of hazardous waste into or out of the jurisdiction of the United States.

Landfill means a disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a pile, a land treatment facility, a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground mine, a cave, or a corrective action management unit.

Landfill cell means a discrete volume of a hazardous waste landfill which uses a liner to provide isolation of wastes from adjacent cells or wastes. Examples of landfill cells are trenches and pits.

Land treatment facility means a facility or part of a facility at which hazardous waste is applied onto or incorporated into the soil surface; such facilities are disposal facilities if the waste will remain after closure.

Leachate means any liquid, including any suspended components in the liquid, that has percolated through or drained from hazardous waste.

Leak-detection system means a system capable of detecting the failure of either the primary or secondary containment structure or the presence of a release of hazardous waste or accumulated liquid in the secondary containment structure. Such a system must employ operational controls (e.g., daily visual inspections for releases into the secondary containment system of aboveground tanks) or consist of an interstitial monitoring device designed to detect continuously and automatically the failure of the primary or secondary containment structure or the presence of a release of hazardous waste into the secondary containment structure.

Liner means a continuous layer of natural or man-made materials, beneath or on the sides of a surface impoundment, landfill, or landfill cell, which restricts the downward or lateral escape of hazardous waste, hazardous waste constituents, or leachate.

Management or *hazardous waste management* means the systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery, and disposal of hazardous waste.

Manifest means the shipping document EPA form 8700–22 and, if necessary, EPA form 8700–22A, originated and signed by the generator in accordance with the instructions included in the appendix to part 262.

Manifest document number means the U.S. EPA twelve digit identification number assigned to the generator plus a unique five digit document number assigned to the Manifest by the generator for recording and reporting purposes.

Military munitions means all ammunition products and components produced or used by or for the U.S. Department of Defense or the U.S. Armed Services for national defense and security, including military munitions under the control of the Department of Defense, the U.S. Coast Guard, the U.S. Department of Energy (DOE), and National Guard personnel. The term military munitions includes: confined gaseous, liquid, and solid propellants, explosives, pyrotechnics, chemical and riot control agents, smokes, and incendiaries used by DOD components, including bulk explosives and chemical warfare agents, chemical munitions, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, demolition charges, and devices and components thereof. Military munitions do not include wholly inert items, improvised explosive devices, and nuclear weapons, nuclear devices, and nuclear components thereof. However, the term does include non-nuclear components of nuclear devices, managed under DOE's nuclear weapons program after all required sanitization operations under the Atomic Energy Act of 1954, as amended, have been completed.

Mining overburden returned to the mine site means any material overlying an economic mineral deposit which is removed to gain access to that deposit and is then used for reclamation of a surface mine.

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, pile, land treatment unit, landfill, incinerator, boiler, industrial furnace, underground injection well with appropriate technical standards under 40 CFR part 146, containment building, corrective action management unit, or unit eligible for research, development, and demonstration permit under § 270.65.

Movement means that hazardous waste transported to a facility in an individual vehicle.

New hazardous waste management facility or *new facility* means a facility which began operation, or for which construction commenced after October 21, 1976. (See also ''Existing hazardous waste management facility''.)

New tank system or *new tank component* means a tank system or component that will be used for the storage or treatment of hazardous waste and for which installation has commenced after July 14, 1986; except, however, for purposes of § 264.193(g)(2) and § 265.193(g)(2), a new tank system is one for which construction commences after July 14, 1986. (See also ''existing tank system.'')

On ground tank means a device meeting the definition of ''tank'' in § 260.10 and that is situated in such a way that the bottom of the tank is on the same level as the adjacent surrounding surface so that the external tank bottom cannot be visually inspected.

On-site means the same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing as opposed to going along, the right-of-way. Non-contiguous properties owned by the same person but connected by a right-of-way which he controls and to which the public does not have access, is also considered on-site property.

Open burning means the combustion of any material without the following characteristics:

(1) Control of combustion air to maintain adequate temperature for efficient combustion,

(2) Containment of the combustion-reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and

(3) Control of emission of the gaseous combustion products.

(See also ''incineration'' and ''thermal treatment''.)

Operator means the person responsible for the overall operation of a facility.

Owner means the person who owns a facility or part of a facility.

Partial closure means the closure of a hazardous waste management unit in accordance with the applicable closure requirements of parts 264 and 265 of this chapter at a facility that contains other active hazardous waste management units. For example, partial closure may include the closure of a tank (including its associated piping and underlying containment systems), landfill cell, surface impoundment, waste pile, or other hazardous waste management unit, while other units of the same facility continue to operate.

Person means an individual, trust, firm, joint stock company, Federal Agency, corporation (including a government corporation), partnership, association, State, municipality, commission, political subdivision of a State, or any interstate body.

Personnel or *facility personnel* means all persons who work, at, or oversee the operations of, a hazardous waste facility, and whose actions or failure to act may result in noncompliance with the requirements of part 264 or 265 of this chapter.

Pesticide means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant, or desiccant, other than any article that:

(1) Is a new animal drug under FFDCA section 201(w), or

(2) Is an animal drug that has been determined by regulation of the Secretary of Health and Human Services not to be a new animal drug, or

(3) Is an animal feed under FFDCA section 201(x) that bears or contains any substances described by paragraph (1) or (2) of this definition.

Pile means any non-containerized accumulation of solid, nonflowing hazardous waste that is used for treatment or storage and that is not a containment building.

Plasma arc incinerator means any enclosed device using a high intensity electrical discharge or arc as a source of heat followed by an afterburner using controlled flame combustion and which is not listed as an industrial furnace.

Point source means any discernible, confined, and discrete conveyance, including, but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

Publicly owned treatment works or *POTW* means any device or system

used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a ''State'' or ''municipality'' (as defined by section 502(4) of the CWA). This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment.

Qualified Ground-Water Scientist means a scientist or engineer who has received a baccalaureate or post-graduate degree in the natural sciences or engineering, and has sufficient training and experience in ground-water hydrology and related fields as may be demonstrated by state registration, professional certifications, or completion of accredited university courses that enable that individual to make sound professional judgements regarding ground-water monitoring and contaminant fate and transport.

Regional Administrator means the Regional Administrator for the EPA Region in which the facility is located, or his designee.

Remediation waste means all solid and hazardous wastes, and all media (including groundwater, surface water, soils, and sediments) and debris, which contain listed hazardous wastes or which themselves exhibit a hazardous waste characteristic, that are managed for the purpose of implementing corrective action requirements under § 264.101 and RCRA section 3008(h). For a given facility, remediation wastes may originate only from within the facility boundary, but may include waste managed in implementing RCRA sections 3004(v) or 3008(h) for releases beyond the facility boundary.

Replacement unit means a landfill, surface impoundment, or waste pile unit (1) from which all or substantially all of the waste is removed, and (2) that is subsequently reused to treat, store, or dispose of hazardous waste. ''Replacement unit'' does not apply to a unit from which waste is removed during closure, if the subsequent reuse solely involves the disposal of waste from that unit and other closing units or corrective action areas at the facility, in accordance with an approved closure plan or EPA or State approved corrective action.

Representative sample means a sample of a universe or whole (e.g., waste pile, lagoon, ground water) which can be expected to exhibit the average properties of the universe or whole.

Run-off means any rainwater, leachate, or other liquid that drains over land from any part of a facility.

Run-on means any rainwater, leachate, or other liquid that drains over land onto any part of a facility.

Saturated zone or *zone of saturation* means that part of the earth's crust in which all voids are filled with water.

Sludge means any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.

Sludge dryer means any enclosed thermal treatment device that is used to dehydrate sludge and that has a maximum total thermal input, excluding the heating value of the sludge itself, of 2,500 Btu/lb of sludge treated on a wet-weight basis.

Small Quantity Generator means a generator who generates less than 1000 kg of hazardous waste in a calendar month.

Solid waste means a solid waste as defined in § 261.2 of this chapter.

Sorbent means a material that is used to soak up free liquids by either adsorption or absorption, or both. *Sorb* means to either adsorb or absorb, or both.

State means any of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

Storage means the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere.

Sump means any pit or reservoir that meets the definition of tank and those troughs/trenches connected to it that serve to collect hazardous waste for transport to hazardous waste storage, treatment, or disposal facilities; except that as used in the landfill, surface impoundment, and waste pile rules,

''sump'' means any lined pit or reservoir that serves to collect liquids drained from a leachate collection and removal system or leak detection system for subsequent removal from the system.

Surface impoundment or *impoundment* means a facility or part of a facility which is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials), which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.

Tank means a stationary device, designed to contain an accumulation of hazardous waste which is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide structural support.

Tank system means a hazardous waste storage or treatment tank and its associated ancillary equipment and containment system.

Thermal treatment means the treatment of hazardous waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the hazardous waste. Examples of thermal treatment processes are incineration, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge. (See also ''incinerator'' and ''open burning''.)

Thermostat means a temperature control device that contains metallic mercury in an ampule attached to a bimetal sensing element, and mercury-containing ampules that have been removed from these temperature control devices in compliance with the requirements of 40 CFR 273.13(c)(2) or 273.33(c)(2).

Totally enclosed treatment facility means a facility for the treatment of hazardous waste which 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 any constituent thereof into the environment during treatment. An example is a pipe in which waste acid is neutralized.

Transfer facility means any transportation related facility including loading docks, parking areas, storage areas and other similar areas where shipments of hazardous waste are held during the normal course of transportation.

Transport vehicle means a motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body (trailer, railroad freight car, etc.) is a separate transport vehicle.

Transportation means the movement of hazardous waste by air, rail, highway, or water.

Transporter means a person engaged in the offsite transportation of hazardous waste by air, rail, highway, or water.

Treatability Study means a study in which a hazardous waste is subjected to a treatment process to determine: (1) Whether the waste is amenable to the treatment process, (2) what pretreatment (if any) is required, (3) the optimal process conditions needed to achieve the desired treatment, (4) the efficiency of a treatment process for a specific waste or wastes, or (5) the characteristics and volumes of residuals from a particular treatment process. Also included in this definition for the purpose of the § 261.4 (e) and (f) exemptions are liner compatibility, corrosion, and other material compatibility studies and toxicological and health effects studies. A ''treatability study'' is not a means to commercially treat or dispose of hazardous waste.

Treatment means any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.

Treatment zone means a soil area of the unsaturated zone of a land treatment unit within which hazardous constituents are degraded, transformed, or immobilized.

Underground injection means the subsurface emplacement of fluids through a bored, drilled or driven well; or through a dug well, where the depth of the dug well is greater than the largest surface dimension. (See also ''injection well''.)

Underground tank means a device meeting the definition of ''tank'' in § 260.10 whose entire surface area is totally below the surface of and covered by the ground.

Unfit-for use tank system means a tank system that has been determined through an integrity assessment or other inspection to be no longer capable of storing or treating hazardous waste without posing a threat of release of hazardous waste to the environment.

Unsaturated zone or *zone of aeration* means the zone between the land surface and the water table.

United States means the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

Universal Waste means any of the following hazardous wastes that are managed under the universal waste requirements of 40 CFR part 273:

(1) Batteries as described in 40 CFR 273.2;

(2) Pesticides as described in 40 CFR 273.3; and

(3) Thermostats as described in 40 CFR 273.4.

Universal Waste Handler:

(1) Means:

(i) A generator (as defined in this section) of universal waste; or

(ii) The owner or operator of a facility, including all contiguous property, that receives universal waste from other universal waste handlers, accumulates universal waste, and sends universal waste to another universal waste handler, to a destination facility, or to a foreign destination.

(2) Does not mean:

(i) A person who treats (except under the provisions of 40 CFR 273.13 (a) or (c), or 273.33 (a) or (c)), disposes of, or recycles universal waste; or

(ii) A person engaged in the off-site transportation of universal waste by air, rail, highway, or water, including a universal waste transfer facility.

Universal Waste Transporter means a person engaged in the off-site transportation of universal waste by air, rail, highway, or water.

Uppermost aquifer means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

Used oil means any oil that has been refined from crude oil, or any synthetic oil, that has been used and as a result of such use in contaminated by physical or chemical impurities.

Vessel includes every description of watercraft, used or capable of being used as a means of transportation on the water.

Wastewater treatment unit means a device which:

(1) Is part of a wastewater treatment facility that is subject to regulation under either section 402 or 307(b) of the Clean Water Act; and

(2) Receives and treats or stores an influent wastewater that is a hazardous waste as defined in § 261.3 of this chapter, or that generates and accumulates a wastewater treatment sludge that is a hazardous waste as defined in § 261.3 of this chapter, or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in § 261.3 of this Chapter; and

(3) Meets the definition of tank or tank system in § 260.10 of this chapter.

Water (bulk shipment) means the bulk transportation of hazardous waste which is loaded or carried on board a vessel without containers or labels.

Well means any shaft or pit dug or bored into the earth, generally of a cylindrical form, and often walled with bricks or tubing to prevent the earth from caving in.

Well injection: (See ''underground injection''.)

Zone of engineering control means an area under the control of the owner/operator that, upon detection of a hazardous waste release, can be readily cleaned up prior to the release of hazardous waste or hazardous constituents to ground water or surface water.

[45 FR 33073, May 19, 1980]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 260.10, see the List of CFR Sections Affected in the Finding Aids section of this volume.

EFFECTIVE DATE NOTE: At 62 FR 6650, Feb. 12, 1997, § 260.10 was amended by adding the definitions for ''Explosives or munitions emergency'', ''Explosives or munitions emergency response'', ''Explosives or munitions emergency response specialist'', and ''Military munitions'', effective Aug. 12, 1997.

§ 260.11 References.

(a) When used in parts 260 through 270 of this chapter, the following publications are incorporated by reference:

(1) ''ASTM Standard Test Methods for Flash Point of Liquids by Setaflash Closed Tester,'' ASTM Standard D–3278–78, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

(2) ''ASTM Standard Test Methods for Flash Point by Pensky-Martens Closed Tester,'' ASTM Standard D–93–79 or D–93–80. D–93–80 is available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

(3) ''ASTM Standard Method for Analysis of Reformed Gas by Gas Chromatography,'' ASTM Standard D–1946–82, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

(4) ''ASTM Standard Test Method for Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-Precision Method),'' ASTM Standard D 2382–83, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

(5) ''ASTM Standard Practices for General Techniques of Ultraviolet-Visible Quantitative Analysis,'' ASTM Standard E 169–87 available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

(6) ''ASTM Standard Practices for General Techniques of Infrared Quantitative Analysis,'' ASTM Standard E 168–88, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

(7) ''ASTM Standard Practice for Packed Column Gas Chromatography,'' ASTM Standard E 260–85, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

(8) ''ASTM Standard Test Method for Aromatics in Light Naphthas and Aviation Gasolines by Gas Chromatography,'' ASTM Standard D 2267–88, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

(9) ''APTI Course 415: Control of Gaseous Emissions,'' EPA Publication EPA–450/2–81–005, December 1981, available from National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.

(10) ''Flammable and Combustible Liquids Code'' (1977 or 1981), available from the National Fire Protection Association, 470 Atlantic Avenue, Boston, MA 02210.

(11) ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' EPA Publication SW–846 [Third Edition (November 1986), as amended by Updates I (July 1992), II (September 1994), IIA (August 1993), IIB (January 1995), and III (December 1996)]. The Third Edition of SW–846 and Updates I, II, IIA, IIB, and III (document number 955–001–00000–1) are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, (202) 512–1800. Copies of the Third Edition and its updates are also available from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161, (703) 487–4650. Copies may be inspected at the Library, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

(12) ''Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised'', October 1992, EPA Publication No. EPA–450/R–92–019, Environmental Protection Agency, Research Triangle Park, NC.

(13) ''ASTM Standard Test Methods for Preparing Refuse-Derived Fuel (RDF) Samples for Analyses of Metals,'' ASTM Standard E926–88, Test Method C—Bomb, Acid Digestion Method, available from American Society for Testing Materials, 1916 Race Street, Philadelphia, PA 19103.

(14) ''API Publication 2517, Third Edition'', February 1989, ''Evaporative Loss from External Floating-Roof Tanks,'' available from the American Petroleum Institute, 1220 L Street, Northwest, Washington, DC 20005.

(15) ''ASTM Standard Test Method for Vapor Pressure—Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope,'' ASTM Standard D 2879–92, available from American Society for Testing and Materials (ASTM), 1916 Race Street, Philadelphia, PA 19103.

(b) The references listed in paragraph (a) of this section are also available for inspection at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC. These incorporations by reference were approved by the Director of the Federal Register. These materials are incorporated as they exist on the date of approval and a notice of any change in

these materials will be published in the FEDERAL REGISTER.

[46 FR 35247, July 7, 1981, as amended at 50 FR 18374, Apr. 30, 1985; 52 FR 8073, Mar. 16, 1987; 52 FR 41295, Oct. 27, 1987; 54 FR 40266, Sept. 29, 1989; 55 FR 8949, Mar. 9, 1990; 55 FR 25493, June 21, 1990; 56 FR 7206, Feb. 21, 1991; 58 FR 38883, July 20, 1993; 58 FR 46049, Aug. 31, 1993; 59 FR 468, Jan. 4, 1994; 59 FR 28484, June 2, 1994; 59 FR 62926, Dec. 6, 1994; 60 FR 17004, Apr. 4, 1995; 62 FR 32462, June 13, 1997]

Subpart C—Rulemaking Petitions

§ 260.20 General.

(a) Any person may petition the Administrator to modify or revoke any provision in parts 260 through 266, 268 and 273 of this chapter. This section sets forth general requirements which apply to all such petitions. Section 260.21 sets forth additional requirements for petitions to add a testing or analytical method to part 261, 264 or 265 of this chapter. Section 260.22 sets forth additional requirements for petitions to exclude a waste or waste-derived material at a particular facility from § 261.3 of this chapter or the lists of hazardous wastes in subpart D of part 261 of this chapter. Section 260.23 sets forth additional requirements for petitions to amend part 273 of this chapter to include additional hazardous wastes or categories of hazardous waste as universal waste.

(b) Each petition must be submitted to the Administrator by certified mail and must include:

(1) The petitioner's name and address;

(2) A statement of the petitioner's interest in the proposed action;

(3) A description of the proposed action, including (where appropriate) suggested regulatory language; and

(4) A statement of the need and justification for the proposed action, including any supporting tests, studies, or other information.

(c) The Administrator will make a tentative decision to grant or deny a petition and will publish notice of such tentative decision, either in the form of an advanced notice of proposed rulemaking, a proposed rule, or a tentative determination to deny the petition, in the FEDERAL REGISTER for written public comment.

(d) Upon the written request of any interested person, the Administrator may, at his discretion, hold an informal public hearing to consider oral comments on the tentative decision. A person requesting a hearing must state the issues to be raised and explain why written comments would not suffice to communicate the person's views. The Administrator may in any case decide on his own motion to hold an informal public hearing.

(e) After evaluating all public comments the Administrator will make a final decision by publishing in the FEDERAL REGISTER a regulatory amendment or a denial of the petition.

[45 FR 33073, May 19, 1980, as amended at 51 FR 40636, Nov. 7, 1986; 57 FR 38564, Aug. 25, 1992; 60 FR 25540, May 11, 1995]

§ 260.21 Petitions for equivalent testing or analytical methods.

(a) Any person seeking to add a testing or analytical method to part 261, 264, or 265 of this chapter may petition for a regulatory amendment under this section and § 260.20. To be successful, the person must demonstrate to the satisfaction of the Administrator that the proposed method is equal to or superior to the corresponding method prescribed in part 261, 264, or 265 of this chapter, in terms of its sensitivity, accuracy, and precision (i.e., reproducibility).

(b) Each petition must include, in addition to the information required by § 260.20(b):

(1) A full description of the proposed method, including all procedural steps and equipment used in the method;

(2) A description of the types of wastes or waste matrices for which the proposed method may be used;

(3) Comparative results obtained from using the proposed method with those obtained from using the relevant or corresponding methods prescribed in part 261, 264, or 265 of this chapter;

(4) An assessment of any factors which may interfere with, or limit the use of, the proposed method; and

(5) A description of the quality control procedures necessary to ensure the sensitivity, accuracy and precision of the proposed method.

(c) After receiving a petition for an equivalent method, the Administrator

may request any additional information on the proposed method which he may reasonably require to evaluate the method.

(d) If the Administrator amends the regulations to permit use of a new testing method, the method will be incorporated in ''Test Methods for the Evaluation of Solid Waste: Physical/Chemical Methods,'' SW–846, U.S. Environmental Protection Agency, Office of Solid Waste, Washington, DC 20460.

[45 FR 33073, May 19, 1980, as amended at 49 FR 47391, Dec. 4, 1984]

§260.22 Petitions to amend part 261 to exclude a waste produced at a particular facility.

(a) Any person seeking to exclude a waste at a particular generating facility from the lists in subpart D of part 261 may petition for a regulatory amendment under this section and §260.20. To be successful:

(1) The petitioner must demonstrate to the satisfaction of the Administrator that the waste produced by a particular generating facility does not meet any of the criteria under which the waste was listed as a hazardous or an actutely hazardous waste; and

(2) Based on a complete application, the Administrator must determine, where he has a reasonable basis to believe that factors (including additional constituents) other than those for which the waste was listed could cause the waste to be a hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste. A waste which is so excluded, however, still may be a hazardous waste by operation of subpart C of part 261.

(b) The procedures in this Section and §260.20 may also be used to petition the Administrator for a regulatory amendment to exclude from §261.3(a)(2)(ii) or (c), a waste which is described in these Sections and is either a waste listed in subpart D, or is derived from a waste listed in subpart D. This exclusion may only be issued for a particular generating, storage, treatment, or disposal facility. The petitioner must make the same demonstration as required by paragraph (a) of this section. Where the waste is a mixture of solid waste and one or more listed hazardous wastes or is derived from one or more hazardous wastes, his demonstration must be made with respect to the waste mixture as a whole; analyses must be conducted for not only those constituents for which the listed waste contained in the mixture was listed as hazardous, but also for factors (including additional constituents) that could cause the waste mixture to be a hazardous waste. A waste which is so excluded may still be a hazardous waste by operation of subpart C of part 261.

(c) If the waste is listed with codes ''I'', ''C'', ''R'', or ''E'', in subpart D,

(1) The petitioner must show that the waste does not exhibit the relevant characteristic for which the waste was listed as defined in §261.21, §261.22, §261.23, or §261.24 using any applicable methods prescribed therein. The petitioner also must show that the waste does not exhibit any of the other characteristics defined in §261.21, §261.22, §261.23, or §261.24 using any applicable methods prescribed therein;

(2) Based on a complete application, the Administrator must determine, where he has a reasonable basis to believe that factors (including additional constituents) other than those for which the waste was listed could cause the waste to be hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste. A waste which is so excluded, however, still may be a hazardous waste by operation of subpart C of part 261.

(d) If the waste is listed with code ''T'' in subpart D,

(1) The petitioner must demonstrate that the waste:

(i) Does not contain the constituent or constituents (as defined in Appendix VII of part 261 of this chapter) that caused the Administrator to list the waste, using the appropriate test methods prescribed in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' EPA Publication SW–846, as incorporated by reference in §260.11; or

(ii) Although containing one or more of the hazrdous constituents (as defined in appendix VII of part 261) that caused the Administrator to list the waste, does not meet the criterion of §261.11(a)(3) when considering the factors used by the Administrator in

§ 261.11(a)(3) (i) through (xi) under which the waste was listed as hazardous; and

(2) Based on a complete application, the Administrator must determine, where he has a reasonable basis to believe that factors (including additional constituents) other than those for which the waste was listed could cause the waste to be a hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste; and

(3) The petitioner must demonstrate that the waste does not exhibit any of the characteristics defined in § 261.21, § 261.22, § 261.23, and § 261.24 using any applicable methods prescribed therein;

(4) A waste which is so excluded, however, still may be a hazardous waste by operation of subpart C of part 261.

(e) If the waste is listed with the code ''H'' in subpart D,

(1) The petitioner must demonstrate that the waste does not meet the criterion of § 261.11(a)(2); and

(2) Based on a complete application, the Administrator must determine, where he has a reasonable basis to believe that additional factors (including additional constituents) other than those for which the waste was listed could cause the waste to be a hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste; and

(3) The petitioner must demonstrate that the waste does not exhibit any of the characteristics defined in § 261.21, § 261.22, § 261.23, and § 261.24 using any applicable methods prescribed therein;

(4) A waste which is so excluded, however, still may be a hazardous waste by operation of subpart C of part 261.

(f) [Reserved for listing radioactive wastes.]

(g) [Reserved for listing infectious wastes.]

(h) Demonstration samples must consist of enough representative samples, but in no case less than four samples, taken over a period of time sufficient to represent the variability or the uniformity of the waste.

(i) Each petition must include, in addition to the information required by § 260.20(b):

(1) The name and address of the laboratory facility performing the sampling or tests of the waste;

(2) The names and qualifications of the persons sampling and testing the waste;

(3) The dates of sampling and testing;

(4) The location of the generating facility;

(5) A description of the manufacturing processes or other operations and feed materials producing the waste and an assessment of whether such processes, operations, or feed materials can or might produce a waste that is not covered by the demonstration;

(6) A description of the waste and an estimate of the average and maximum monthly and annual quantities of waste covered by the demonstration;

(7) Pertinent data on and discussion of the factors delineated in the respective criterion for listing a hazardous waste, where the demonstration is based on the factors in § 261.11(a)(3);

(8) A description of the methodologies and equipment used to obtain the representative samples;

(9) A description of the sample handling and preparation techniques, including techniques used for extraction, containerization and preservation of the samples;

(10) A description of the tests performed (including results);

(11) The names and model numbers of the instruments used in performing the tests; and

(12) The following statement signed by the generator of the waste or his authorized representative:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this demonstration and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(j) After receiving a petition for an exclusion, the Administrator may request any additional information which he may reasonably require to evaluate the petition.

(k) An exclusion will only apply to the waste generated at the individual

facility covered by the demonstration and will not apply to waste from any other facility.

(l) The Administrator may exclude only part of the waste for which the demonstration is submitted where he has reason to believe that variability of the waste justifies a partial exclusion.

[45 FR 33073, May 19, 1980, as amended at 50 FR 28742, July 15, 1985; 54 FR 27116, June 27, 1989; 58 FR 46049, Aug. 31, 1994]

EDITORIAL NOTE: For information on the availability of a guidance manual for petitions to delist hazardous wastes, see 50 FR 21607, May 28, 1985.

§260.23 Petitions to amend 40 CFR part 273 to include additional hazardous wastes.

(a) Any person seeking to add a hazardous waste or a category of hazardous waste to the universal waste regulations of part 273 of this chapter may petition for a regulatory amendment under this section, 40 CFR 260.20, and subpart G of 40 CFR part 273.

(b) To be successful, the petitioner must demonstrate to the satisfaction of the Administrator that regulation under the universal waste regulations of 40 CFR part 273: Is appropriate for the waste or category of waste; will improve management practices for the waste or category of waste; and will improve implementation of the hazardous waste program. The petition must include the information required by 40 CFR 260.20(b). The petition should also address as many of the factors listed in 40 CFR 273.81 as are appropriate for the waste or category of waste addressed in the petition.

(c) The Administrator will grant or deny a petition using the factors listed in 40 CFR 273.81. The decision will be based on the weight of evidence showing that regulation under 40 CFR part 273 is appropriate for the waste or category of waste, will improve management practices for the waste or category of waste, and will improve implementation of the hazardous waste program.

(d) The Administrator may request additional information needed to evaluate the merits of the petition.

[60 FR 25540, May 11, 1995]

§260.30 Variances from classification as a solid waste.

In accordance with the standards and criteria in §260.31 and the procedures in §260.33, the Administrator may determine on a case-by-case basis that the following recycled materials are not solid wastes:

(a) Materials that are accumulated speculatively without sufficient amounts being recycled (as defined in §261.1(c)(8) of this chapter);

(b) Materials that are reclaimed and then reused within the original production process in which they were generated; and

(c) Materials that have been reclaimed but must be reclaimed further before the materials are completely recovered.

[50 FR 661, Jan. 4, 1985; 50 FR 14219, Apr. 11, 1985, as amended at 59 FR 48041, Sept. 19, 1994]

§260.31 Standards and criteria for variances from classification as a solid waste.

(a) The Administrator may grant requests for a variance from classifying as a solid waste those materials that are accumulated speculatively without sufficient amounts being recycled if the applicant demonstrates that sufficient amounts of the material will be recycled or transferred for recycling in the following year. If a variance is granted, it is valid only for the following year, but can be renewed, on an annual basis, by filing a new application. The Administrator's decision will be based on the following criteria:

(1) The manner in which the material is expected to be recycled, when the material is expected to be recycled, and whether this expected disposition is likely to occur (for example, because of past practice, market factors, the nature of the material, or contractual arrangements for recycling);

(2) The reason that the applicant has accumulated the material for one or more years without recycling 75 percent of the volume accumulated at the beginning of the year;

(3) The quantity of material already accumulated and the quantity expected to be generated and accumulated before the material is recycled;

(4) The extent to which the material is handled to minimize loss;

(5) Other relevant factors.

(b) The Administrator may grant requests for a variance from classifying as a solid waste those materials that are reclaimed and then reused as feedstock within the original production process in which the materials were generated if the reclamation operation is an essential part of the production process. This determination will be based on the following criteria:

(1) How economically viable the production process would be if it were to use virgin materials, rather than reclaimed materials;

(2) The prevalence of the practice on an industry-wide basis;

(3) The extent to which the material is handled before reclamation to minimize loss;

(4) The time periods between generating the material and its reclamation, and between reclamation and return to the original primary production process;

(5) The location of the reclamation operation in relation to the production process;

(6) Whether the reclaimed material is used for the purpose for which it was originally produced when it is returned to the original process, and whether it is returned to the process in substantially its original form;

(7) Whether the person who generates the material also reclaims it;

(8) Other relevant factors.

(c) The Regional Administrator may grant requests for a variance from classifying as a solid waste those materials that have been reclaimed but must be reclaimed further before recovery is completed if, after initial reclamation, the resulting material is commodity-like (even though it is not yet a commercial product, and has to be reclaimed further). This determination will be based on the following factors:

(1) The degree of processing the material has undergone and the degree of further processing that is required;

(2) The value of the material after it has been reclaimed;

(3) The degree to which the reclaimed material is like an analogous raw material;

(4) The extent to which an end market for the reclaimed material is guaranteed;

(5) The extent to which the reclaimed material is handled to minimize loss;

(6) Other relevant factors.

[50 FR 662, Jan. 4, 1985, as amended at 59 FR 48041, Sept. 19, 1994]

§ 260.32 Variance to be classified as a boiler.

In accordance with the standards and criteria in § 260.10 (definition of ''boiler''), and the procedures in § 260.33, the Administrator may determine on a case-by-case basis that certain enclosed devices using controlled flame combustion are boilers, even though they do not otherwise meet the definition of boiler contained in § 260.10, after considering the following criteria:

(a) The extent to which the unit has provisions for recovering and exporting thermal energy in the form of steam, heated fluids, or heated gases; and

(b) The extent to which the combustion chamber and energy recovery equipment are of integral design; and

(c) The efficiency of energy recovery, calculated in terms of the recovered energy compared with the thermal value of the fuel; and

(d) The extent to which exported energy is utilized; and

(e) The extent to which the device is in common and customary use as a ''boiler'' functioning primarily to produce steam, heated fluids, or heated gases; and

(f) Other factors, as appropriate.

[50 FR 662, Jan. 4, 1985, as amended at 59 FR 48041, Sept. 19, 1994]

§ 260.33 Procedures for variances from classification as a solid waste or to be classified as a boiler.

The Administrator will use the following procedures in evaluating applications for variances from classification as a solid waste or applications to classify particular enclosed controlled flame combustion devices as boilers:

(a) The applicant must apply to the Administrator for the variance. The application must address the relevant criteria contained in § 260.31 or § 260.32.

(b) The Administrator will evaluate the application and issue a draft notice

tentatively granting or denying the application. Notification of this tentative decision will be provided by newspaper advertisement or radio broadcast in the locality where the recycler is located. The Administrator will accept comment on the tentative decision for 30 days, and may also hold a public hearing upon request or at his discretion. The Administrator will issue a final decision after receipt of comments and after the hearing (if any).

[59 FR 48041, Sept. 19, 1994]

§260.40 Additional regulation of certain hazardous waste recycling activities on a case-by-case basis.

(a) The Regional Administrator may decide on a case-by-case basis that persons accumulating or storing the recyclable materials described in §261.6(a)(2)(iv) of this chapter should be regulated under §261.6 (b) and (c) of this chapter. The basis for this decision is that the materials are being accumulated or stored in a manner that does not protect human health and the environment because the materials or their toxic constituents have not been adequately contained, or because the materials being accumulated or stored together are incompatible. In making this decision, the Regional Administrator will consider the following factors:

(1) The types of materials accumulated or stored and the amounts accumulated or stored;

(2) The method of accumulation or storage;

(3) The length of time the materials have been accumulated or stored before being reclaimed;

(4) Whether any contaminants are being released into the environment, or are likely to be so released; and

(5) Other relevant factors.

(b) [Reserved]

The procedures for this decision are set forth in §260.41 of this chapter.

[50 FR 662, Jan. 4, 1985]

§260.41 Procedures for case-by-case regulation of hazardous waste recycling activities.

The Regional Administrator will use the following procedures when determining whether to regulate hazardous waste recycling activities described in §261.6(a)(2)(iv) under the provisions of §261.6 (b) and (c), rather than under the provisions of subpart F of part 266 of this chapter.

(a) If a generator is accumulating the waste, the Regional Administrator will issue a notice setting forth the factual basis for the decision and stating that the person must comply with the applicable requirements of subparts A, C, D, and E of part 262 of this chapter. The notice will become final within 30 days, unless the person served requests a public hearing to challenge the decision. Upon receiving such a request, the Regional Administrator will hold a public hearing. The Regional Administrator will provide notice of the hearing to the public and allow public participation at the hearing. The Regional Administrator will issue a final order after the hearing stating whether or not compliance with part 262 is required. The order becomes effective 30 days after service of the decision unless the Regional Administrator specifies a later date or unless review by the Administrator is requested. The order may be appealed to the Administrator by any person who participated in the public hearing. The Administrator may choose to grant or to deny the appeal. Final Agency action occurs when a final order is issued and Agency review procedures are exhausted.

(b) If the person is accumulating the recyclable material as a storage facility, the notice will state that the person must obtain a permit in accordance with all applicable provisions of parts 270 and 124 of this chapter. The owner or operator of the facility must apply for a permit within no less than 60 days and no more than six months of notice, as specified in the notice. If the owner or operator of the facility wishes to challenge the Regional Administrator's decision, he may do so in his permit application, in a public hearing held on the draft permit, or in comments filed on the draft permit or on the notice of intent to deny the permit. The fact sheet accompanying the permit will specify the reasons for the Agency's determination. The question of whether the Regional Administrator's decision

was proper will remain open for consideration during the public comment period discussed under §124.11 of this chapter and in any subsequent hearing.

[50 FR 663, Jan. 4, 1985]'

APPENDIX I TO PART 260—OVERVIEW OF SUBTITLE C REGULATIONS

The Agency believes that there are many people who suspect, but are not sure, that their activities are subject to control under the RCRA Subtitle C rules. This appendix is written for these people. It is designed to help those who are unfamiliar with the hazardous waste control program to determine with which, if any, of the regulations they should comply.

Definition of Solid Waste

The first question which such a person should ask himself is: ''Is the material I handle a solid waste?'' If the answer to this question is ''No'', then the material is not subject to control under RCRA and, therefore, the person need not worry about whether he should comply with the Subtitle C rules.

Section 261.2 of this chapter provides a definition of ''solid waste'' which expands the statutory definition of that term given in section 1004(27) of RCRA. This definition is diagrammed in Figure 1 below.

Figure 1 explains that all materials are either: (1) Garbage refuse, or sludge; (2) solid, liquid, semi-solid or contained gaseous material; or (3) something else. No materials in the third category are solid waste. All materials in the first category are solid waste. Materials in the second category are solid waste unless they are one of the five exclusions specified in §261.4(a).

Definition of Hazardous Waste

If a person has determined that his material is a ''solid waste'', the next question he should ask is: ''Is the solid waste I handle a hazardous waste?''

Hazardous waste is defined in §261.3 of this chapter. Section 261.3 provides that, in general, a solid waste is a hazardous waste if: (1) It is, or contains, a hazardous waste listed in subpart D of part 261 of this chapter, or (2) the waste exhibits any of the characteristics defined in subpart C of part 261. However, parts 260 and 261 also contain provisions which exclude (§§261.4(b), 260.20, and 260.22) certain solid wastes from the definition of ''hazardous waste'', even though they are listed in subpart D or exhibit one or more of the characteristics defined in subpart C. Figure 2 depicts the interplay of these special provisions with the definition of ''hazardous waste''. It presents a series of questions which a person should ask himself concerning his waste. After doing so, the person should be able to determine if the solid waste he handles is a hazardous waste.

Hazardous Waste Regulations

If this is the case, the person should look at Figure 3. Figure 3 depicts the special provisions specified in the final part 261 rules for hazardous waste which:

1. Is generated by a small quantity generator
2. Is or is intended to be legitimately and beneficially used, re-used, recycled, or reclaimed
3. Is a sludge; is listed in part 261, subpart D; or is a mixture containing a waste listed in part 261, subpart D.

For each of these Groups, Figure 3 indicates with which subtitle C regulations (if any) the person handling these wastes must comply. Figure 3 also explains that, if a person handles hazardous waste which is not included in any one of the above three categories, his waste is subject to the subtitle C regulations diagrammed in Figure 4.

Figure 4 is a flowchart which identifies the three categories of activities regulated under the subtitle C rules, and the corresponding set of rules with which people in each of these categories must comply. It points out that all people who handle hazardous waste are either: (1) Generators of hazardous waste, (2) transporters of hazardous waste, (3) owners or operators of hazardous waste treatment, storage, or disposal facilities, or (4) a combination of the above. Figure 4 indicates that all of these people must notify EPA of their hazardous waste activities in accordance with the Section 3010 Notification Procedures (see 45 FR 12746 *et seq.*), and obtain an EPA identification number.

It should be noted that people handling wastes listed in subpart D of part 261 who have filed, or who intend to file an application to exempt their waste from regulation under the subtitle C rules, must also comply with the notification requirements of section 3010.

If a person generates hazardous waste, Figure 4 indicates that he must comply with the part 262 rules. If he transports it, he must comply with the part 263 rules. The standards in both these parts are designed to ensure, among other things, proper recordkeeping and reporting, the use of a manifest system to track shipments of hazardous waste, the use of proper labels and containers, and the delivery of the waste to a permitted treatment, storage, or disposal facility.

If a person owns or operates a facility which treats, stores, or disposes of hazardous waste, the standards with which he must comply depend on a number of factors. First of all, if the owner or operator of a *storage* facility is also the person who generates the waste, and the waste is stored at the facility

for less than 90 days for subsequent shipment off-site, then the person must comply with §262.34 of the part 262 rules.

All other owners or operators of treatment, storage, or disposal facilities must comply with either the part 264 or the part 265 rules. To determine with which of these sets of rules an owner or operator must comply, he must find out whether his facility qualifies for interim status. To qualify, the owner or operator must: (1) Have been treating, storing, or disposing of the hazardous waste, or commenced facility construction on or before October 21, 1976, (2) comply with the section 3010 notification requirements, and (3) apply for a permit under part 270 of this chapter.

If the owner or operator has done all of the above, he qualifies for interim status, and he must comply with the part 265 rules. These rules contain administrative requirements, monitoring and closure standards, and an abbreviated set of technical and closure and post-closure cost estimate requirements. The owner or operator must comply with these standards until final administrative disposition of his permit application is made. If a permit is issued to the owner or operator, he must then comply with the permit which will be based on the part 264 rules.

If the owner or operator has not carried out the above three requirements, he does not qualify for interim status. Until he is issued a permit for his facility, the owner or operator must stop waste management operations (if any) at the facility, and send his hazardous waste (if any) to a facility whose owner or operator has interim status or to a storage facility following the part 262 rules.

In order to apply for a permit, the owner or operator must comply with the procedures specified in part 270 of this chapter.

It should be noted that the Agency will be periodically revising the rules depicted in Figures 3 and 4. All persons are encouraged to write to EPA to verify that the regulations which they are reading are up-to-date. To obtain this verification, contact: Solid Waste Information, U.S. Environmental Protection Agency, 26 West St. Clair Street, Cincinnati, Ohio 45268 (513) 684–5362.

FIGURE 1

DEFINITION OF A SOLID WASTE

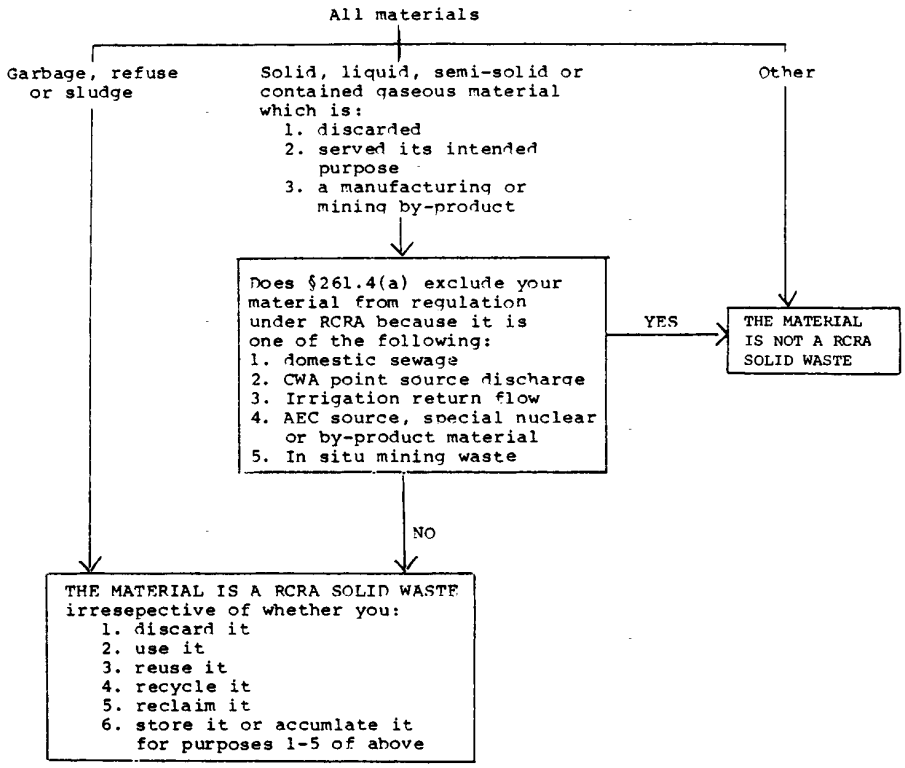


FIGURE 2

DEFINITION OF A HAZARDOUS WASTE

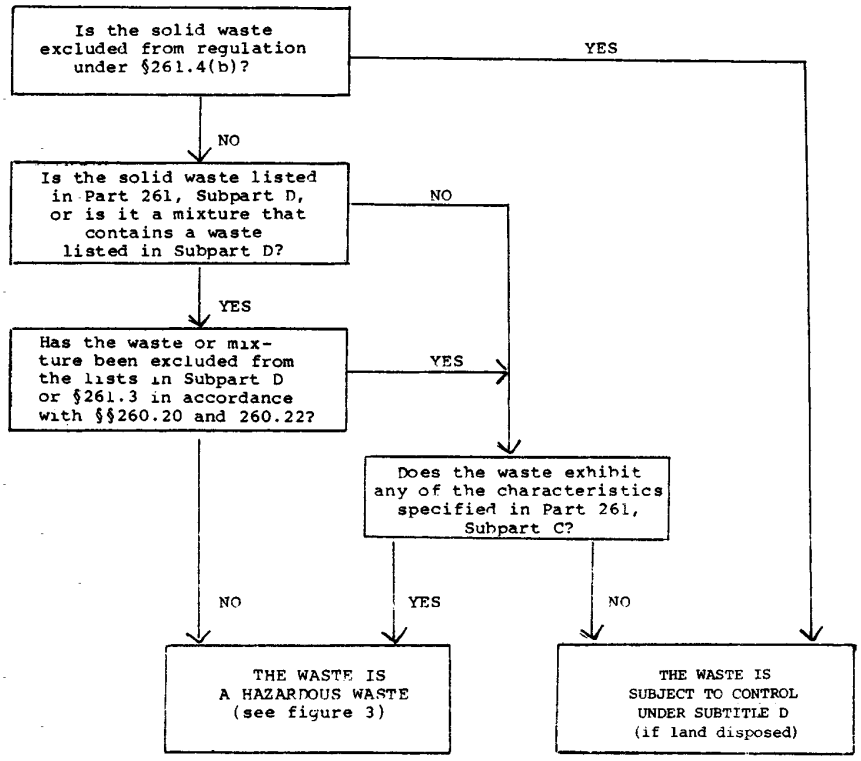


FIGURE 3

SPECIAL PROVISIONS FOR CERTAIN HAZARDOUS WASTE

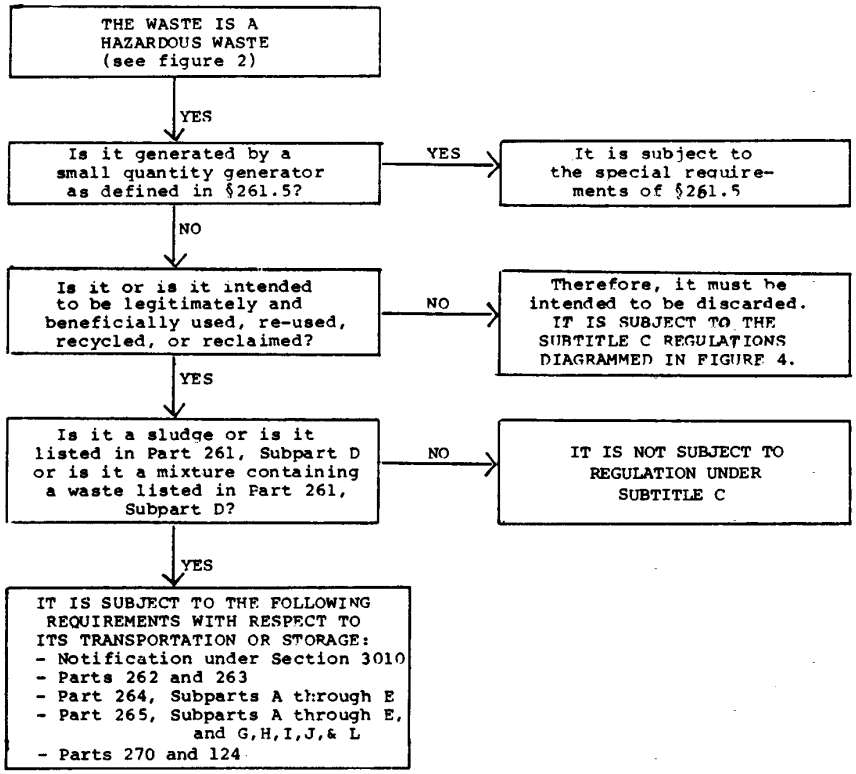
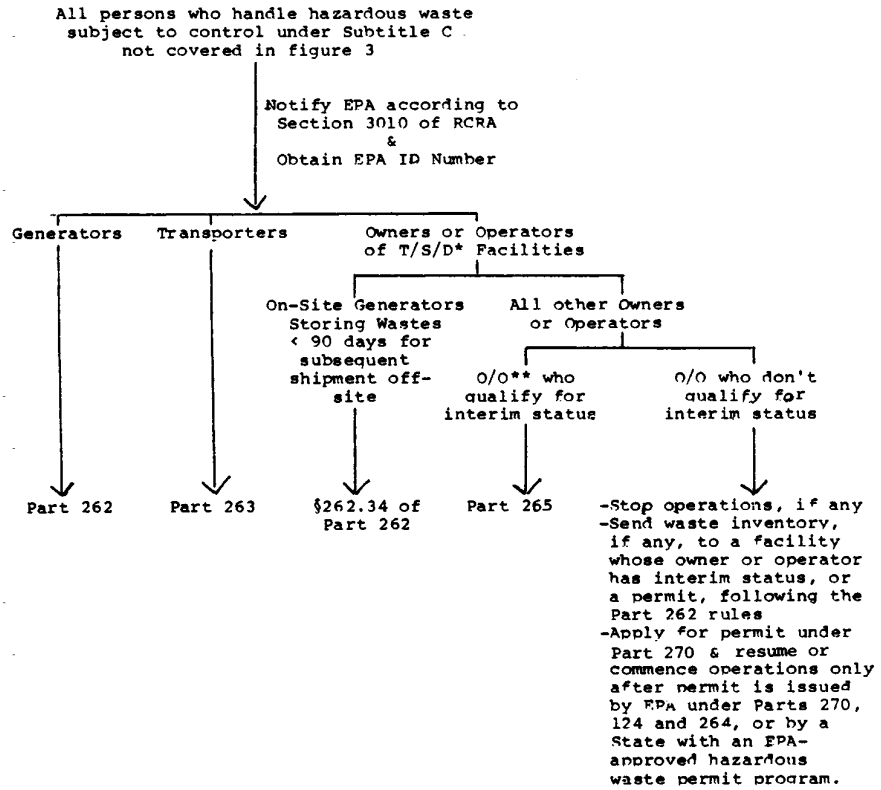


FIGURE 4

REGULATIONS FOR HAZARDOUS WASTE
NOT COVERED IN DIAGRAM 3



* T/S/D stands for Treatment, Storage, or Disposal
** O/O stands for Owners or Operators

[45 FR 33073, May 19, 1980, as amended at 48 FR 14293, Apr. 1, 1983]

PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

Subpart A—General

Sec.

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261.3 Definition of hazardous waste.
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261.6 Requirements for recyclable materials.
261.7 Residues of hazardous waste in empty containers.
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Subpart C—Characteristics of Hazardous Waste

261.20 General.
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261.30 General.
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APPENDIX II TO PART 261—METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)
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APPENDIX IV TO PART 261—[RESERVED FOR RADIOACTIVE WASTE TEST METHODS]
APPENDIX V TO PART 261—[RESERVED FOR INFECTIOUS WASTE TREATMENT SPECIFICATIONS]
APPENDIX VI TO PART 261—[RESERVED FOR ETIOLOGIC AGENTS]
APPENDIX VII TO PART 261—BASIS FOR LISTING HAZARDOUS WASTE
APPENDIX VIII TO PART 261—HAZARDOUS CONSTITUENTS
APPENDIX IX TO PART 261—WASTES EXCLUDED UNDER §§ 260.20 AND 260.22

AUTHORITY: 42 U.S.C. 6905, 6912(a), 6921, 6922, 6924(y) and 6938.

SOURCE: 45 FR 33119, May 19, 1980, unless otherwise noted.

Subpart A—General

§ 261.1 Purpose and scope.

(a) This part identifies those solid wastes which are subject to regulation as hazardous wastes under parts 262 through 265, 268, and parts 270, 271, and 124 of this chapter and which are subject to the notification requirements of section 3010 of RCRA. In this part:

(1) Subpart A defines the terms ''solid waste'' and ''hazardous waste'', identifies those wastes which are excluded from regulation under parts 262 through 266, 268 and 270 and establishes special management requirements for hazardous waste produced by conditionally exempt small quantity generators and hazardous waste which is recycled.

(2) Subpart B sets forth the criteria used by EPA to identify characteristics of hazardous waste and to list particular hazardous wastes.

(3) Subpart C identifies characteristics of hazardous waste.

(4) Subpart D lists particular hazardous wastes.

(b)(1) The definition of solid waste contained in this part applies only to wastes that also are hazardous for purposes of the regulations implementing subtitle C of RCRA. For example, it does not apply to materials (such as non-hazardous scrap, paper, textiles, or rubber) that are not otherwise hazardous wastes and that are recycled.

(2) This part identifies only some of the materials which are solid wastes and hazardous wastes under sections 3007, 3013, and 7003 of RCRA. A material which is not defined as a solid waste in this part, or is not a hazardous waste identified or listed in this part, is still a solid waste and a hazardous waste for purposes of these sections if:

(i) In the case of sections 3007 and 3013, EPA has reason to believe that the material may be a solid waste within the meaning of section 1004(27) of RCRA and a hazardous waste within the meaning of section 1004(5) of RCRA; or

(ii) In the case of section 7003, the statutory elements are established.

(c) For the purposes of §§ 261.2 and 261.6:

(1) A ''spent material'' is any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing;

(2) ''Sludge'' has the same meaning used in § 260.10 of this chapter;

(3) A ''by-product'' is a material that is not one of the primary products of a production process and is not solely or

separately produced by the production process. Examples are process residues such as slags or distillation column bottoms. The term does not include a co-product that is produced for the general public's use and is ordinarily used in the form it is produced by the process.

(4) A material is ''reclaimed'' if it is processed to recover a usable product, or if it is regenerated. Examples are recovery of lead values from spent batteries and regeneration of spent solvents.

(5) A material is ''used or reused'' if it is either:

(i) Employed as an ingredient (including use as an intermediate) in an industrial process to make a product (for example, distillation bottoms from one process used as feedstock in another process). However, a material will not satisfy this condition if distinct components of the material are recovered as separate end products (as when metals are recovered from metal-containing secondary materials); or

(ii) Employed in a particular function or application as an effective substitute for a commercial product (for example, spent pickle liquor used as phosphorous precipitant and sludge conditioner in wastewater treatment).

(6) ''Scrap metal'' is bits and pieces of metal parts (*e.g.*,) bars, turnings, rods, sheets, wire) or metal pieces that may be combined together with bolts or soldering (*e.g.*, radiators, scrap automobiles, railroad box cars), which when worn or superfluous can be recycled.

(7) A material is ''recycled'' if it is used, reused, or reclaimed.

(8) A material is ''accumulated speculatively'' if it is accumulated before being recycled. A material is not accumulated speculatively, however, if the person accumulating it can show that the material is potentially recyclable and has a feasible means of being recycled; and that—during the calendar year (commencing on January 1)—the amount of material that is recycled, or transferred to a different site for recycling, equals at least 75 percent by weight or volume of the amount of that material accumulated at the beginning of the period. In calculating the percentage of turnover, the 75 percent requirement is to be applied to each material of the same type (*e.g.*, slags from a single smelting process) that is recycled in the same way (*i.e.*, from which the same material is recovered or that is used in the same way). Materials accumulating in units that would be exempt from regulation under § 261.4(c) are not to be included in making the calculation. (Materials that are already defined as solid wastes also are not to be included in making the calculation.) Materials are no longer in this category once they are removed from accumulation for recycling, however.

(9) ''Excluded scrap metal'' is processed scrap metal, unprocessed home scrap metal, and unprocessed prompt scrap metal.

(10) ''Processed scrap metal'' is scrap metal which has been manually or physically altered to either separate it into distinct materials to enhance economic value or to improve the handling of materials. Processed scrap metal includes, but is not limited to scrap metal which has been baled, shredded, sheared, chopped, crushed, flattened, cut, melted, or separated by metal type (i.e., sorted), and, fines, drosses and related materials which have been agglomerated. (Note: shredded circuit boards being sent for recycling are not considered processed scrap metal. They are covered under the exclusion from the definition of solid waste for shredded circuit boards being recycled (§ 261.4(a)(13)).

(11) ''Home scrap metal'' is scrap metal as generated by steel mills, foundries, and refineries such as turnings, cuttings, punchings, and borings.

(12) ''Prompt scrap metal'' is scrap metal as generated by the metal working/fabrication industries and includes such scrap metal as turnings, cuttings, punchings, and borings. Prompt scrap is also known as industrial or new scrap metal.

[45 FR 33119, May 19, 1980, as amended at 48 FR 14293, Apr. 1, 1983; 50 FR 663, Jan. 4, 1985; 51 FR 10174, Mar. 24, 1986; 51 FR 40636, Nov. 7, 1986; 62 FR 26018, May 12, 1997]

EFFECTIVE DATE NOTE: At 62 FR 26018, May 12, 1997, § 261.1 was amended by adding paragraphs (c)(9)–(12), effective Aug. 11, 1997.

§ 261.2 Definition of solid waste.

(a)(1) A *solid waste* is any discarded material that is not excluded by § 261.4(a) or that is not excluded by variance granted under §§ 260.30 and 260.31.

(2) A *discarded material* is any material which is:

(i) *Abandoned,* as explained in paragraph (b) of this section; or

(ii) *Recycled,* as explained in paragraph (c) of this section; or

(iii) Considered *inherently waste-like,* as explained in paragraph (d) of this section; or

(iv) *A military munition* identified as a solid waste in 40 CFR 266.202.

(b) Materials are solid waste if they are *abandoned* by being:

(1) Disposed of; or

(2) Burned or incinerated; or

(3) Accumulated, stored, or treated (but not recycled) before or in lieu of being abandoned by being disposed of, burned, or incinerated.

(c) Materials are solid wastes if they are *recycled*—or accumulated, stored, or treated before recycling—as specified in paragraphs (c)(1) through (4) of this section.

(1) *Used in a manner constituting disposal.* (i) Materials noted with a ''*'' in Column 1 of Table I are solid wastes when they are:

(A) Applied to or placed on the land in a manner that constitutes disposal; or

(B) Used to produce products that are applied to or placed on the land or are otherwise contained in products that are applied to or placed on the land (in which cases the product itself remains a solid waste).

(ii) However, commercial chemical products listed in § 261.33 are not solid wastes if they are applied to the land and that is their ordinary manner of use.

(2) *Burning for energy recovery.* (i) Materials noted with a ''*'' in column 2 of Table 1 are solid wastes when they are:

(A) Burned to recover energy;

(B) Used to produce a fuel or are otherwise contained in fuels (in which cases the fuel itself remains a solid waste).

(ii) However, commercial chemical products listed in § 261.33 are not solid wastes if they are themselves fuels.

(3) *Reclaimed.* Materials noted with a ''*'' in column 3 of Table 1 are solid wastes when reclaimed.

(4) *Accumulated speculatively.* Materials noted with a ''*'' in column 4 of Table 1 are solid wastes when accumulated speculatively.

TABLE 1

	Use constituting disposal (§ 261.2(c)(1)) (1)	Energy recovery/fuel (§ 261.2(c)(2)) (2)	Reclamation (§ 261.2(c)(3)) (3)	Speculative accumulation (§ 261.2(c)(4)) (4)
Spent Materials	(*)	(*)	(*)	(*)
Sludges (listed in 40 CFR Part 261.31 or 261.32	(*)	(*)	(*)	(*)
Sludges exhibiting a characteristic of hazardous waste	(*)	(*)	.....	(*)
By-products (listed in 40 CFR 261.31 or 261.32)	(*)	(*)	(*)	(*)
By-products exhibiting a characteristic of hazardous waste	(*)	(*)	.....	(*)
Commercial chemical products listed in 40 CFR 261.33	(*)	(*)	.....	.....
Scrap metal other than excluded scrap metal (see 261.1(c)(9))	(*)	(*)	(*)	(*)

Note: The terms ''spent materials'', ''sludges'', ''by-products'', and ''scrap metal'' and ''processed scrap metal'' are defined in § 261.1.

(d) *Inherently waste-like materials.* The following materials are solid wastes when they are recycled in any manner:

(1) Hazardous Waste Nos. F020, F021 (unless used as an ingredient to make a product at the site of generation), F022, F023, F026, and F028.

(2) Secondary materials fed to a halogen acid furnace that exhibit a characteristic of a hazardous waste or are listed as a hazardous waste as defined in subparts C or D of this part, except for brominated material that meets the following criteria:

(i) The material must contain a bromine concentration of at least 45%; and

(ii) The material must contain less than a total of 1% of toxic organic compounds listed in appendix VIII; and

(iii) The material is processed continually on-site in the halogen acid furnace via direct conveyance (hard piping).

(3) The Administrator will use the following criteria to add wastes to that list:

(i)(A) The materials are ordinarily disposed of, burned, or incinerated; or

(B) The materials contain toxic constituents listed in appendix VIII of part 261 and these constituents are not ordinarily found in raw materials or products for which the materials substitute (or are found in raw materials or products in smaller concentrations) and are not used or reused during the recycling process; and

(ii) The material may pose a substantial hazard to human health and the environment when recycled.

(e) *Materials that are not solid waste when recycled.* (1) Materials are not solid wastes when they can be shown to be recycled by being:

(i) Used or reused as ingredients in an industrial process to make a product, provided the materials are not being reclaimed; or

(ii) Used or reused as effective substitutes for commercial products; or

(iii) Returned to the original process from which they are generated, without first being reclaimed or land disposed. The material must be returned as a substitute for feedstock materials. In cases where the original process to which the material is returned is a secondary process, the materials must be managed such that there is no placement on the land.

(2) The following materials are solid wastes, even if the recycling involves use, reuse, or return to the original process (described in paragraphs (e)(1)(i) through (iii) of this section):

(i) Materials used in a manner constituting disposal, or used to produce products that are applied to the land; or

(ii) Materials burned for energy recovery, used to produce a fuel, or contained in fuels; or

(iii) Materials accumulated speculatively; or

(iv) Materials listed in paragraphs (d)(1) and (d)(2) of this section.

(f) *Documentation of claims that materials are not solid wastes or are conditionally exempt from regulation.* Respondents in actions to enforce regulations implementing subtitle C of RCRA who raise a claim that a certain material is not a solid waste, or is conditionally exempt from regulation, must demonstrate that there is a known market or disposition for the material, and that they meet the terms of the exclusion or exemption. In doing so, they must provide appropriate documentation (such as contracts showing that a second person uses the material as an ingredient in a production process) to demonstrate that the material is not a waste, or is exempt from regulation. In addition, owners or operators of facilities claiming that they actually are recycling materials must show that they have the necessary equipment to do so.

[50 FR 664, Jan. 4, 1985, as amended at 50 FR 33542, Aug. 20, 1985; 56 FR 7206, Feb. 21, 1991; 56 FR 32688, July 17, 1991; 56 FR 42512, Aug. 27, 1991; 57 FR 38564, Aug. 25, 1992; 59 FR 48042, Sept. 19, 1994; 62 FR 6651, Feb. 12, 1997; 62 FR 26019, May 12, 1997]

EFFECTIVE DATE NOTES: 1. At 62 FR 6651, Feb. 12, 1997, § 261.2 was amended by removing the period at the end of paragraph (a)(2)(iii) and adding a semicolon followed by ''or''; and by adding a new paragraph (a)(2)(iv), effective Aug. 12, 1997.

2. At 62 FR 26018, May 12, 1997, § 261.2(c) was amended by revising table 1, effective Aug. 11, 1997. For the convenience of the user, the superseded text is set forth as follows:

§ 261.2 Definition of solid waste.

* * * * *

(c) * * *

TABLE 1

	Use constituting disposal (§ 261.2(c)(1))	Energy recovery/fuel (§ 261.2(c)(2))	Reclamation (§ 261.2(c)(3))	Speculative accumulation (§ 261.2(c)(4))
	(1)	(2)	(3)	(4)
Spent Materials	(*)	(*)	(*)	(*)
Sludges (listed in 40 CFR part 261.31 or 261.32)	(*)	(*)	(*)	(*)
Sludges exhibiting a characteristic of hazardous waste	(*)	(*)	.....	(*)
By-products (listed in 40 CFR part 261.31 or 261.32)	(*)	(*)	(*)	(*)
By-products exhibiting a characteristic of hazardous waste	(*)	(*)	.....	(*)
Commercial chemical products listed in 40 CFR 261.33	(*)	(*)	.....	.....
Scrap metal	(*)	(*)	(*)	(*)

Note: The terms ''spent materials,'' ''sludges,'' ''by-products,'' and ''scrap metal'' are defined in § 261.1.

* * * * *

§ 261.3 Definition of hazardous waste.

(a) A solid waste, as defined in § 261.2, is a hazardous waste if:

(1) It is not excluded from regulation as a hazardous waste under § 261.4(b); and

(2) It meets any of the following criteria:

(i) It exhibits any of the characteristics of hazardous waste identified in subpart C except that any mixture of a waste from the extraction, beneficiation, and processing of ores and minerals excluded under § 261.4(b)(7) and any other solid waste exhibiting a characteristic of hazardous waste under subpart C of this part only if it exhibits a characteristic that would not have been exhibited by the excluded waste alone if such mixture had not occurred or if it continues to exhibit any of the characteristics exhibited by the non-excluded wastes prior to mixture. Further, for the purposes of applying the Toxicity Characteristic to such mixtures, the mixture is also a hazardous waste if it exceeds the maximum concentration for any contaminant listed in table I to § 261.24 that would not have been exceeded by the excluded waste alone if the mixture had not occurred or if it continues to exceed the maximum concentration for any contaminant exceeded by the nonexempt waste prior to mixture.

(ii) It is listed in subpart D of this part and has not been excluded from the lists in subpart D of this part under §§ 260.20 and 260.22 of this chapter.

(iii) It is a mixture of a solid waste and a hazardous waste that is listed in subpart D of this part solely because it exhibits one or more of the characteristics of hazardous waste identified in subpart C of this part, unless the resultant mixture no longer exhibits any characteristic of hazardous waste identified in subpart C of this part, or unless the solid waste is excluded from regulation under § 261.4(b)(7) and the resultant mixture no longer exhibits any characteristic of hazardous waste identified in subpart C of this part for which the hazardous waste listed in subpart D of this part was listed. (However, nonwastewater mixtures are still subject to the requirements of part 268 of this chapter, even if they no longer exhibit a characteristic at the point of land disposal).

(iv) It is a mixture of solid waste and one or more hazardous wastes listed in subpart D of this part and has not been excluded from paragraph (a)(2) of this section under §§ 260.20 and 260.22 of this chapter; however, the following mixtures of solid wastes and hazardous wastes listed in subpart D of this part are not hazardous wastes (except by application of paragraph (a)(2) (i) or (ii) of this section) if the generator can demonstrate that the mixture consists of wastewater the discharge of which is subject to regulation under either section 402 or section 307(b) of the Clean Water Act (including wastewater at facilities which have eliminated the discharge of wastewater) and:

(A) One or more of the following solvents listed in § 261.31—carbon tetrachloride, tetrachloroethylene, trichloroethylene—*Provided*, That the maximum total weekly usage of these solvents (other than the amounts that

can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed 1 part per million; or

(B) One or more of the following spent solvents listed in § 261.31—methylene chloride, 1,1,1-trichloroethane, chlorobenzene, o-dichlorobenzene, cresols, cresylic acid, nitrobenzene, toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, spent chlorofluorocarbon solvents—provided that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed 25 parts per million; or

(C) One of the following wastes listed in § 261.32—heat exchanger bundle cleaning sludge from the petroleum refining industry (EPA Hazardous Waste No. K050); or

(D) A discarded commercial chemical product, or chemical intermediate listed in § 261.33, arising from *de minimis* losses of these materials from manufacturing operations in which these materials are used as raw materials or are produced in the manufacturing process. For purposes of this paragraph (a)(2)(iv)(D), ''*de minimis*'' losses include those from normal material handling operations (e.g., spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves or other devices used to transfer materials); minor leaks of process equipment, storage tanks or containers; leaks from well maintained pump packings and seals; sample purgings; relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinstate from empty containers or from containers that are rendered empty by that rinsing; or

(E) Wastewater resulting from laboratory operations containing toxic (T) wastes listed in subpart D of this part, *Provided,* That the annualized average flow of laboratory wastewater does not exceed one percent of total wastewater flow into the headworks of the facility's wastewater treatment or pretreatment system or provided the wastes, combined annualized average concentration does not exceed one part per million in the headworks of the facility's wastewater treatment or pretreatment facility. Toxic (T) wastes used in laboratories that are demonstrated not to be discharged to wastewater are not to be included in this calculation; or

(F) One or more of the following wastes listed in § 261.32—wastewaters from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K157)—Provided that the maximum weekly usage of formaldehyde, methyl chloride, methylene chloride, and triethylamine (including all amounts that can not be demonstrated to be reacted in the process, destroyed through treatment, or is recovered, i.e., what is discharged or volatilized) divided by the average weekly flow of process wastewater prior to any dilutions into the headworks of the facility's wastewater treatment system does not exceed a total of 5 parts per million by weight; or

(G) Wastewaters derived from the treatment of one or more of the following wastes listed in § 261.32—organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K156).—Provided, that the maximum concentration of formaldehyde, methyl chloride, methylene chloride, and triethylamine prior to any dilutions into the headworks of the facility's wastewater treatment system does not exceed a total of 5 milligrams per liter.

(v) *Rebuttable presumption for used oil.* Used oil containing more than 1000 ppm total halogens is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in subpart D of part 261 of this chapter. Persons may rebut this presumption by demonstrating that the used oil does not contain hazardous waste (for example, by using an analytical method from SW–846, Third Edition, to show that the used oil does not contain significant concentrations of halogenated

hazardous constituents listed in appendix VIII of part 261 of this chapter). EPA Publication SW–846, Third Edition, is available for the cost of $110.00 from the Government Printing Office, Superintendent of Documents, PO Box 371954, Pittsburgh, PA 15250–7954. 202–512–1800 (document number 955–001–00000–1).

(A) The rebuttable presumption does not apply to metalworking oils/fluids containing chlorinated paraffins, if they are processed, through a tolling agreement, to reclaim metalworking oils/fluids. The presumption does apply to metalworking oils/fluids if such oils/fluids are recycled in any other manner, or disposed.

(B) The rebuttable presumption does not apply to used oils contaminated with chlorofluorocarbons (CFCs) removed from refrigeration units where the CFCs are destined for reclamation. The rebuttable presumption does apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units.

(b) A solid waste which is not excluded from regulation under paragraph (a)(1) of this section becomes a hazardous waste when any of the following events occur:

(1) In the case of a waste listed in subpart D of this part, when the waste first meets the listing description set forth in subpart D of this part.

(2) In the case of a mixture of solid waste and one or more listed hazardous wastes, when a hazardous waste listed in subpart D is first added to the solid waste.

(3) In the case of any other waste (including a waste mixture), when the waste exhibits any of the characteristics identified in subpart C of this part.

(c) Unless and until it meets the criteria of paragraph (d) of this section:

(1) A hazardous waste will remain a hazardous waste.

(2)(i) Except as otherwise provided in paragraph (c)(2)(ii) of this section, any solid waste generated from the treatment, storage, or disposal of a hazardous waste, including any sludge, spill residue, ash, emission control dust, or leachate (but not including precipitation run-off) is a hazardous waste. (However, materials that are reclaimed from solid wastes and that are used beneficially are not solid wastes and hence are not hazardous wastes under this provision unless the reclaimed material is burned for energy recovery or used in a manner constituting disposal.)

(ii) The following solid wastes are not hazardous even though they are generated from the treatment, storage, or disposal of a hazardous waste, unless they exhibit one or more of the characteristics of hazardous waste:

(A) Waste pickle liquor sludge generated by lime stabilization of spent pickle liquor from the iron and steel industry (SIC Codes 331 and 332).

(B) Waste from burning any of the materials exempted from regulation by § 261.6(a)(3)(iv) through (vi).

(C)(*1*) Nonwastewater residues, such as slag, resulting from high temperature metals recovery (HTMR) processing of K061, K062 or F006 waste, in units identified as rotary kilns, flame reactors, electric furnaces, plasma arc furnaces, slag reactors, rotary hearth furnace/electric furnace combinations or industrial furnaces (as defined in paragraphs (6), (7), and (13) of the definition for ''Industrial furnace'' in 40 CFR 260.10), that are disposed in subtitle D units, provided that these residues meet the generic exclusion levels identified in the tables in this paragraph for all constituents, and exhibit no characteristics of hazardous waste. Testing requirements must be incorporated in a facility's waste analysis plan or a generator's self-implementing waste analysis plan; at a minimum, composite samples of residues must be collected and analyzed quarterly and/or when the process or operation generating the waste changes. Persons claiming this exclusion in an enforcement action will have the burden of proving by clear and convincing evidence that the material meets all of the exclusion requirements.

Constituent	Maximum for any single composite sample—TCLP (mg/l)
Generic exclusion levels for K061 and K062 nonwastewater HTMR residues	
Antimony	0.10
Arsenic	0.50
Barium	7.6

Constituent	Maximum for any single composite sample—TCLP (mg/l)
Beryllium	0.010
Cadmium	0.050
Chromium (total)	0.33
Lead	0.15
Mercury	0.009
Nickel	1.0
Selenium	0.16
Silver	0.30
Thallium	0.020
Zinc	70
Generic exclusion levels for F006 nonwastewater HTMR residues	
Antimony	0.10
Arsenic	0.50
Barium	7.6
Beryllium	0.010
Cadmium	0.050
Chromium (total)	0.33
Cyanide (total) (mg/kg)	1.8
Lead	0.15
Mercury	0.009
Nickel	1.0
Selenium	0.16
Silver	0.30
Thallium	0.020
Zinc	70

(*2*) A one-time notification and certification must be placed in the facility's files and sent to the EPA region or authorized state for K061, K062 or F006 HTMR residues that meet the generic exclusion levels for all constituents and do not exhibit any characteristics that are sent to subtitle D units. The notification and certification that is placed in the generators or treaters files must be updated if the process or operation generating the waste changes and/or if the subtitle D unit receiving the waste changes. However, the generator or treater need only notify the EPA region or an authorized state on an annual basis if such changes occur. Such notification and certification should be sent to the EPA region or authorized state by the end of the calendar year, but no later than December 31. The notification must include the following information: The name and address of the subtitle D unit receiving the waste shipments; the EPA Hazardous Waste Number(s) and treatability group(s) at the initial point of generation; and, the treatment standards applicable to the waste at the initial point of generation. The certification must be signed by an authorized representative and must state as follows: ''I certify under penalty of law that the generic exclusion levels for all constituents have been met without impermissible dilution and that no characteristic of hazardous waste is exhibited. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.''

(D) Biological treatment sludge from the treatment of one of the following wastes listed in § 261.32—organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K156), and wastewaters from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K157).

(d) Any solid waste described in paragraph (c) of this section is not a hazardous waste if it meets the following criteria:

(1) In the case of any solid waste, it does not exhibit any of the characteristics of hazardous waste identified in subpart C of this part. (However, wastes that exhibit a characteristic at the point of generation may still be subject to the requirements of part 268, even if they no longer exhibit a characteristic at the point of land disposal.)

(2) In the case of a waste which is a listed waste under subpart D of this part, contains a waste listed under subpart D of this part or is derived from a waste listed in subpart D of this part, it also has been excluded from paragraph (c) of this section under §§ 260.20 and 260.22 of this chapter.

(e) [Reserved]

(f) Notwithstanding paragraphs (a) through (d) of this section and provided the debris as defined in part 268 of this chapter does not exhibit a characteristic identified at subpart C of this part, the following materials are not subject to regulation under 40 CFR parts 260, 261 to 266, 268, or 270:

(1) Hazardous debris as defined in part 268 of this chapter that has been treated using one of the required extraction or destruction technologies specified in Table 1 of § 268.45 of this chapter; persons claiming this exclusion in an enforcement action will have the burden of proving by clear and convincing evidence that the material

meets all of the exclusion requirements; or

(2) Debris as defined in part 268 of this chapter that the Regional Administrator, considering the extent of contamination, has determined is no longer contaminated with hazardous waste.

[57 FR 7632, Mar. 3, 1992; 57 FR 23063, June 1, 1992, as amended at 57 FR 37263, Aug. 18, 1992; 57 FR 41611, Sept. 10, 1992; 57 FR 49279, Oct. 30, 1992; 59 FR 38545, July 28, 1994; 60 FR 7848, Feb. 9, 1995]

§ 261.4 Exclusions.

(a) *Materials which are not solid wastes.* The following materials are not solid wastes for the purpose of this part:

(1)(i) Domestic sewage; and

(ii) Any mixture of domestic sewage and other wastes that passes through a sewer system to a publicly-owned treatment works for treatment. ''Domestic sewage'' means untreated sanitary wastes that pass through a sewer system.

(2) Industrial wastewater discharges that are point source discharges subject to regulation under section 402 of the Clean Water Act, as amended.

[*Comment:* This exclusion applies only to the actual point source discharge. It does not exclude industrial wastewaters while they are being collected, stored or treated before discharge, nor does it exclude sludges that are generated by industrial wastewater treatment.]

(3) Irrigation return flows.

(4) Source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 *et seq.*

(5) Materials subjected to in-situ mining techniques which are not removed from the ground as part of the extraction process.

(6) Pulping liquors (*i.e.*, black liquor) that are reclaimed in a pulping liquor recovery furnace and then reused in the pulping process, unless it is accumulated speculatively as defined in § 261.1(c) of this chapter.

(7) Spent sulfuric acid used to produce virgin sulfuric acid, unless it is accumulated speculatively as defined in § 261.1(c) of this chapter.

(8) Secondary materials that are reclaimed and returned to the original process or processes in which they were generated where they are reused in the production process provided:

(i) Only tank storage is involved, and the entire process through completion of reclamation is closed by being entirely connected with pipes or other comparable enclosed means of conveyance;

(ii) Reclamation does not involve controlled flame combustion (such as occurs in boilers, industrial furnaces, or incinerators);

(iii) The secondary materials are never accumulated in such tanks for over twelve months without being reclaimed; and

(iv) The reclaimed material is not used to produce a fuel, or used to produce products that are used in a manner constituting disposal.

(9)(i) Spent wood preserving solutions that have been reclaimed and are reused for their original intended purpose; and

(ii) Wastewaters from the wood preserving process that have been reclaimed and are reused to treat wood.

(10) EPA Hazardous Waste Nos. K060, K087, K141, K142, K143, K144, K145, K147, and K148, and any wastes from the coke by-products processes that are hazardous only because they exhibit the Toxicity Characteristic (TC) specified in section 261.24 of this part when, subsequent to generation, these materials are recycled to coke ovens, to the tar recovery process as a feedstock to produce coal tar, or mixed with coal tar prior to the tar's sale or refining. This exclusion is conditioned on there being no land disposal of the wastes from the point they are generated to the point they are recycled to coke ovens or tar recovery or refining processes, or mixed with coal tar.

(11) Nonwastewater splash condenser dross residue from the treatment of K061 in high temperature metals recovery units, provided it is shipped in drums (if shipped) and not land disposed before recovery.

(12) Recovered oil from petroleum refining, exploration and production, and from transportation incident thereto, which is to be inserted into the petroleum refining process (SIC Code 2911) at

or before a point (other than direct insertion into a coker) where contaminants are removed. This exclusion applies to recovered oil stored or transported prior to insertion, except that the oil must not be stored in a manner involving placement on the land, and must not be accumulated speculatively, before being so recycled. Recovered oil is oil that has been reclaimed from secondary materials (such as wastewater) generated from normal petroleum refining, exploration and production, and transportation practices. Recovered oil includes oil that is recovered from refinery wastewater collection and treatment systems, oil recovered from oil and gas drilling operations, and oil recovered from wastes removed from crude oil storage tanks. Recovered oil does not include (among other things) oil-bearing hazardous waste listed in 40 CFR part 261 D (e.g., K048–K052, F037, F038). However, oil recovered from such wastes may be considered recovered oil. Recovered oil also does not include used oil as defined in 40 CFR 279.1.

(13) Excluded scrap metal (processed scrap metal, unprocessed home scrap metal, and unprocessed prompt scrap metal) being recycled.

(14) Shredded circuit boards being recycled provided that they are:

(i) Stored in containers sufficient to prevent a release to the environment prior to recovery; and

(ii) Free of mercury switches, mercury relays and nickel-cadmium batteries and lithium batteries.

(b) *Solid wastes which are not hazardous wastes.* The following solid wastes are not hazardous wastes:

(1) Household waste, including household waste that has been collected, transported, stored, treated, disposed, recovered (e.g., refuse-derived fuel) or reused. ''Household waste'' means any material (including garbage, trash and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds and day-use recreation areas). A resource recovery facility managing municipal solid waste shall not be deemed to be treating, storing, disposing of, or otherwise managing hazardous wastes for the purposes of regulation under this subtitle, if such facility:

(i) Receives and burns only

(A) Household waste (from single and multiple dwellings, hotels, motels, and other residential sources) and

(B) Solid waste from commercial or industrial sources that does not contain hazardous waste; and

(ii) Such facility does not accept hazardous wastes and the owner or operator of such facility has established contractual requirements or other appropriate notification or inspection procedures to assure that hazardous wastes are not received at or burned in such facility.

(2) Solid wastes generated by any of the following and which are returned to the soils as fertilizers:

(i) The growing and harvesting of agricultural crops.

(ii) The raising of animals, including animal manures.

(3) Mining overburden returned to the mine site.

(4) Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste, generated primarily from the combusion of coal or other fossil fuels, except as provided by § 266.112 of this chapter for facilities that burn or process hazardous waste.

(5) Drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil, natural gas or geothermal energy.

(6)(i) Wastes which fail the test for the Toxicity Characteristic because chromium is present or are listed in subpart D due to the presence of chromium, which do not fail the test for the Toxicity Characteristic for any other constituent or are not listed due to the presence of any other constituent, and which do not fail the test for any other characteristic, if it is shown by a waste generator or by waste generators that:

(A) The chromium in the waste is exclusively (or nearly exclusively) trivalent chromium; and

(B) The waste is generated from an industrial process which uses trivalent chromium exlcusively (or nearly exclusively) and the process does not generate hexavalent chromium; and

(C) The waste is typically and frequently managed in non-oxidizing environments.

(ii) Specific waste which meet the standard in paragraphs (b)(6)(i) (A), (B), and (C) (so long as they do not fail the test for the toxicity characteristic for any other constituent, and do not exhibit any other characteristic) are:

(A) Chrome (blue) trimmings generated by the following subcategories of the leather tanning and finishing industry; hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(B) Chrome (blue) shavings generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(C) Buffing dust generated by the following subcategories of the leather tanning and finishing industry; hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue.

(D) Sewer screenings generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/crome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(E) Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(F) Wastewater treatment sludes generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrometan/retan/wet finish; and through-the-blue.

(G) Waste scrap leather from the leather tanning industry, the shoe manufacturing industry, and other leather product manufacturing industries.

(H) Wastewater treatment sludges from the production of TiO_2 pigment using chromium-bearing ores by the chloride process.

(7) Solid waste from the extraction, beneficiation, and processing of ores and minerals (including coal, phosphate rock and overburden from the mining of uranium ore), except as provided by § 266.112 of this chapter for facilities that burn or process hazardous waste. For purposes of § 261.4(b)(7), beneficiation of ores and minerals is restricted to the following activities: Crushing; grinding; washing; dissolution; crystallization; filtration; sorting; sizing; drying; sintering; pelletizing; briquetting; calcining to remove water and/or carbon dioxide; roasting, autoclaving, and/or chlorination in preparation for leaching (except where the roasting (and/or autoclaving and/or chlorination)/leaching sequence produces a final or intermediate product that does not undergo further beneficiation or processing); gravity concentration; magnetic separation; electrostatic separation; flotation; ion exchange; solvent extraction; electrowinning; precipitation; amalgamation; and heap, dump, vat, tank, and *in situ* leaching. For the purpose of § 261.4(b)(7), solid waste from the processing of ores and minerals includes only the following wastes:

(i) Slag from primary copper processing;

(ii) Slag from primary lead processing;

(iii) Red and brown muds from bauxite refining;

(iv) Phosphogypsum from phosphoric acid production;

(v) Slag from elemental phosphorus production;

(vi) Gasifier ash from coal gasification;

(vii) Process wastewater from coal gasification;

(viii) Calcium sulfate wastewater treatment plant sludge from primary copper processing;

(ix) Slag tailings from primary copper processing;

(x) Fluorogypsum from hydrofluoric acid production;

(xi) Process wastewater from hydrofluoric acid production;

(xii) Air pollution control dust/sludge from iron blast furnaces;

(xiii) Iron blast furnace slag;

(xiv) Treated residue from roasting/leaching of chrome ore;

(xv) Process wastewater from primary magnesium processing by the anhydrous process;

(xvi) Process wastewater from phosphoric acid production;

(xvii) Basic oxygen furnace and open hearth furnace air pollution control dust/sludge from carbon steel production;

(xviii) Basic oxygen furnace and open hearth furnace slag from carbon steel production;

(xix) Chloride process waste solids from titanium tetrachloride production;

(xx) Slag from primary zinc processing.

(8) Cement kiln dust waste, except as provided by § 266.112 of this chapter for facilities that burn or process hazardous waste.

(9) Solid waste which consists of discarded arsenical-treated wood or wood products which fails the test for the Toxicity Characteristic for Hazardous Waste Codes D004 through D017 and which is not a hazardous waste for any other reason if the waste is generated by persons who utilize the arsenical-treated wood and wood product for these materials' intended end use.

(10) Petroleum-contaminated media and debris that fail the test for the Toxicity Characteristic of § 261.24 (Hazardous Waste Codes D018 through D043 only) and are subject to the corrective action regulations under part 280 of this chapter.

(11) Injected groundwater that is hazardous only because it exhibits the Toxicity Characteristic (Hazardous Waste Codes D018 through D043 only) in § 261.24 of this part that is reinjected through an underground injection well pursuant to free phase hydrocarbon recovery operations undertaken at petroleum refineries, petroleum marketing terminals, petroleum bulk plants, petroleum pipelines, and petroleum transportation spill sites until January 25, 1993. This extension applies to recovery operations in existence, or for which contracts have been issued, on or before March 25, 1991. For groundwater returned through infiltration galleries from such operations at petroleum refineries, marketing terminals, and bulk plants, until [insert date six months after publication]. New operations involving injection wells (beginning after March 25, 1991) will qualify for this compliance date extension (until January 25, 1993) only if:

(i) Operations are performed pursuant to a written state agreement that includes a provision to assess the groundwater and the need for further remediation once the free phase recovery is completed; and

(ii) A copy of the written agreement has been submitted to: Characteristics Section (OS–333), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460.

(12) Used chlorofluorocarbon refrigerants from totally enclosed heat transfer equipment, including mobile air conditioning systems, mobile refrigeration, and commercial and industrial air conditioning and refrigeration systems that use chlorofluorocarbons as the heat transfer fluid in a refrigeration cycle, provided the refrigerant is reclaimed for further use.

(13) Non-terne plated used oil filters that are not mixed with wastes listed in subpart D of this part if these oil filters have been gravity hot-drained using one of the following methods:

(i) Puncturing the filter anti-drain back valve or the filter dome end and hot-draining;

(ii) Hot-draining and crushing;

(iii) Dismantling and hot-draining; or

(iv) Any other equivalent hot-draining method that will remove used oil.

(14) Used oil re-refining distillation bottoms that are used as feedstock to manufacture asphalt products.

(c) Hazardous wastes which are exempted from certain regulations. A hazardous waste which is generated in a product or raw material storage tank, a product or raw material transport vehicle or vessel, a product or raw material pipeline, or in a manufacturing process unit or an associated non-waste-treatment-manufacturing unit, is not subject to regulation under parts 262 through 265, 268, 270, 271 and 124 of this chapter or to the notification requirements of section 3010 of RCRA until it exits the unit in which it was generated, unless the unit is a surface impoundment, or unless the hazardous waste remains in the unit more than 90

days after the unit ceases to be operated for manufacturing, or for storage or transportation of product or raw materials.

(d) *Samples.* (1) Except as provided in paragraph (d)(2) of this section, a sample of solid waste or a sample of water, soil, or air, which is collected for the sole purpose of testing to determine its characteristics or composition, is not subject to any requirements of this part or parts 262 through 268 or part 270 or part 124 of this chapter or to the notification requirements of section 3010 of RCRA, when:

(i) The sample is being transported to a laboratory for the purpose of testing; or

(ii) The sample is being transported back to the sample collector after testing; or

(iii) The sample is being stored by the sample collector before transport to a laboratory for testing; or

(iv) The sample is being stored in a laboratory before testing; or

(v) The sample is being stored in a laboratory after testing but before it is returned to the sample collector; or

(vi) The sample is being stored temporarily in the laboratory after testing for a specific purpose (for example, until conclusion of a court case or enforcement action where further testing of the sample may be necessary).

(2) In order to qualify for the exemption in paragraphs (d)(1) (i) and (ii) of this section, a sample collector shipping samples to a laboratory and a laboratory returning samples to a sample collector must:

(i) Comply with U.S. Department of Transportation (DOT), U.S. Postal Service (USPS), or any other applicable shipping requirements; or

(ii) Comply with the following requirements if the sample collector determines that DOT, USPS, or other shipping requirements do not apply to the shipment of the sample:

(A) Assure that the following information accompanies the sample:

(*1*) The sample collector's name, mailing address, and telephone number;

(*2*) The laboratory's name, mailing address, and telephone number;

(*3*) The quantity of the sample;

(*4*) The date of shipment; and

(*5*) A description of the sample.

(B) Package the sample so that it does not leak, spill, or vaporize from its packaging.

(3) This exemption does not apply if the laboratory determines that the waste is hazardous but the laboratory is no longer meeting any of the conditions stated in paragraph (d)(1) of this section.

(e) *Treatability Study Samples.* (1) Except as provided in paragraph (e)(2) of this section, persons who generate or collect samples for the purpose of conducting treatability studies as defined in section 260.10, are not subject to any requirement of parts 261 through 263 of this chapter or to the notification requirements of Section 3010 of RCRA, nor are such samples included in the quantity determinations of § 261.5 and § 262.34(d) when:

(i) The sample is being collected and prepared for transportation by the generator or sample collector; or

(ii) The sample is being accumulated or stored by the generator or sample collector prior to transportation to a laboratory or testing facility; or

(iii) The sample is being transported to the laboratory or testing facility for the purpose of conducting a treatability study.

(2) The exemption in paragraph (e)(1) of this section is applicable to samples of hazardous waste being collected and shipped for the purpose of conducting treatability studies provided that:

(i) The generator or sample collector uses (in ''treatability studies'') no more than 10,000 kg of media contaminated with non-acute hazardous waste, 1000 kg of non-acute hazardous waste other than contaminated media, 1 kg of acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste for each process being evaluated for each generated waste stream; and

(ii) The mass of each sample shipment does not exceed 10,000 kg; the 10,000 kg quantity may be all media contaminated with non-acute hazardous waste, or may include 2500 kg of media contaminated with acute hazardous waste, 1000 kg of hazardous waste, and 1 kg of acute hazardous waste; and

(iii) The sample must be packaged so that it will not leak, spill, or vaporize from its packaging during shipment and the requirements of paragraph A or B of this subparagraph are met.

(A) The transportation of each sample shipment complies with U.S. Department of Transportation (DOT), U.S. Postal Service (USPS), or any other applicable shipping requirements; or

(B) If the DOT, USPS, or other shipping requirements do not apply to the shipment of the sample, the following information must accompany the sample:

(*1*) The name, mailing address, and telephone number of the originator of the sample;

(*2*) The name, address, and telephone number of the facility that will perform the treatability study;

(*3*) The quantity of the sample;

(*4*) The date of shipment; and

(*5*) A description of the sample, including its EPA Hazardous Waste Number.

(iv) The sample is shipped to a laboratory or testing facility which is exempt under §261.4(f) or has an appropriate RCRA permit or interim status.

(v) The generator or sample collector maintains the following records for a period ending 3 years after completion of the treatability study:

(A) Copies of the shipping documents;

(B) A copy of the contract with the facility conducting the treatability study;

(C) Documentation showing:

(*1*) The amount of waste shipped under this exemption;

(*2*) The name, address, and EPA identification number of the laboratory or testing facility that received the waste;

(*3*) The date the shipment was made; and

(*4*) Whether or not unused samples and residues were returned to the generator.

(vi) The generator reports the information required under paragraph (e)(v)(C) of this section in its biennial report.

(3) The Regional Administrator may grant requests on a case-by-case basis for up to an additional two years for treatability studies involving bioremediation. The Regional Administrator may grant requests on a case-by-case basis for quantity limits in excess of those specified in paragraphs (e)(2) (i) and (ii) and (f)(4) of this section, for up to an additional 5000 kg of media contaminated with non-acute hazardous waste, 500 kg of non-acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste and 1 kg of acute hazardous waste:

(i) In response to requests for authorization to ship, store and conduct treatabilty studies on additional quantities in advance of commencing treatability studies. Factors to be considered in reviewing such requests include the nature of the technology, the type of process (e.g., batch versus continuous), size of the unit undergoing testing (particularly in relation to scale-up considerations), the time/quantity of material required to reach steady state operating conditions, or test design considerations such as mass balance calculations.

(ii) In response to requests for authorization to ship, store and conduct treatability studies on additional quantities after initiation or completion of initial treatability studies, when: There has been an equipment or mechanical failure during the conduct of a treatability study; there is a need to verify the results of a previously conducted treatability study; there is a need to study and analyze alternative techniques within a previously evaluated treatment process; or there is a need to do further evaluation of an ongoing treatability study to determine final specifications for treatment.

(iii) The additional quantities and timeframes allowed in paragraph (e)(3) (i) and (ii) of this section are subject to all the provisions in paragraphs (e) (1) and (e)(2) (iii) through (vi) of this section. The generator or sample collector must apply to the Regional Administrator in the Region where the sample is collected and provide in writing the following information:

(A) The reason why the generator or sample collector requires additional time or quantity of sample for treatability study evaluation and the additional time or quantity needed;

(B) Documentation accounting for all samples of hazardous waste from the

waste stream which have been sent for or undergone treatability studies including the date each previous sample from the waste stream was shipped, the quantity of each previous shipment, the laboratory or testing facility to which it was shipped, what treatability study processes were conducted on each sample shipped, and the available results on each treatability study;

(C) A description of the technical modifications or change in specifications which will be evaluated and the expected results;

(D) If such further study is being required due to equipment or mechanical failure, the applicant must include information regarding the reason for the failure or breakdown and also include what procedures or equipment improvements have been made to protect against further breakdowns; and

(E) Such other information that the Regional Administrator considers necessary.

(f) *Samples Undergoing Treatability Studies at Laboratories and Testing Facilities.* Samples undergoing treatability studies and the laboratory or testing facility conducting such treatability studies (to the extent such facilities are not otherwise subject to RCRA requirements) are not subject to any requirement of this part, part 124, parts 262–266, 268, and 270, or to the notification requirements of Section 3010 of RCRA provided that the conditions of paragraphs (f) (1) through (11) of this section are met. A mobile treatment unit (MTU) may qualify as a testing facility subject to paragraphs (f) (1) through (11) of this section. Where a group of MTUs are located at the same site, the limitations specified in (f) (1) through (11) of this section apply to the entire group of MTUs collectively as if the group were one MTU.

(1) No less than 45 days before conducting treatability studies, the facility notifies the Regional Administrator, or State Director (if located in an authorized State), in writing that it intends to conduct treatability studies under this paragraph.

(2) The laboratory or testing facility conducting the treatability study has an EPA identification number.

(3) No more than a total of 10,000 kg of ''as received'' media contaminated with non-acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste or 250 kg of other ''as received'' hazardous waste is subject to initiation of treatment in all treatability studies in any single day. ''As received'' waste refers to the waste as received in the shipment from the generator or sample collector.

(4) The quantity of ''as received'' hazardous waste stored at the facility for the purpose of evaluation in treatability studies does not exceed 10,000 kg, the total of which can include 10,000 kg of media contaminated with non-acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste, 1000 kg of non-acute hazardous wastes other than contaminated media, and 1 kg of acute hazardous waste. This quantity limitation does not include treatment materials (including nonhazardous solid waste) added to ''as received'' hazardous waste.

(5) No more than 90 days have elapsed since the treatability study for the sample was completed, or no more than one year (two years for treatability studies involving bioremediation) have elapsed since the generator or sample collector shipped the sample to the laboratory or testing facility, whichever date first occurs. Up to 500 kg of treated material from a particular waste stream from treatability studies may be archived for future evaluation up to five years from the date of initial receipt. Quantities of materials archived are counted against the total storage limit for the facility.

(6) The treatability study does not involve the placement of hazardous waste on the land or open burning of hazardous waste.

(7) The facility maintains records for 3 years following completion of each study that show compliance with the treatment rate limits and the storage time and quantity limits. The following specific information must be included for each treatability study conducted:

(i) The name, address, and EPA identification number of the generator or sample collector of each waste sample;

(ii) The date the shipment was received;

(iii) The quantity of waste accepted;

(iv) The quantity of ''as received'' waste in storage each day;

(v) The date the treatment study was initiated and the amount of ''as received'' waste introduced to treatment each day;

(vi) The date the treatability study was concluded;

(vii) The date any unused sample or residues generated from the treatability study were returned to the generator or sample collector or, if sent to a designated facility, the name of the facility and the EPA identification number.

(8) The facility keeps, on-site, a copy of the treatability study contract and all shipping papers associated with the transport of treatability study samples to and from the facility for a period ending 3 years from the completion date of each treatability study.

(9) The facility prepares and submits a report to the Regional Administrator, or State Director (if located in an authorized State), by March 15 of each year that estimates the number of studies and the amount of waste expected to be used in treatability studies during the current year, and includes the following information for the previous calendar year:

(i) The name, address, and EPA identification number of the facility conducting the treatability studies;

(ii) The types (by process) of treatability studies conducted;

(iii) The names and addresses of persons for whom studies have been conducted (including their EPA identification numbers);

(iv) The total quantity of waste in storage each day;

(v) The quantity and types of waste subjected to treatability studies;

(vi) When each treatability study was conducted;

(vii) The final disposition of residues and unused sample from each treatability study.

(10) The facility determines whether any unused sample or residues generated by the treatability study are hazardous waste under §261.3 and, if so, are subject to parts 261 through 268, and part 270 of this chapter, unless the residues and unused samples are returned to the sample originator under the §261.4(e) exemption.

(11) The facility notifies the Regional Administrator, or State Director (if located in an authorized State), by letter when the facility is no longer planning to conduct any treatability studies at the site.

[45 FR 33119, May 19, 1980]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §261.4, see the List of CFR Sections Affected in the Finding Aids section of this volume.

EFFECTIVE DATE NOTE: At 62 FR 26019, May 12, 1997, §261.4(a) was amended by adding paragraphs (a)(13) and (14), effective Aug. 11, 1997.

§261.5 Special requirements for hazardous waste generated by conditionally exempt small quantity generators.

(a) A generator is a conditionally exempt small quantity generator in a calendar month if he generates no more than 100 kilograms of hazardous waste in that month.

(b) Except for those wastes identified in paragraphs (e), (f), (g), and (j) of this section, a conditionally exempt small quantity generator's hazardous wastes are not subject to regulation under parts 262 through 266, 268, and parts 270 and 124 of this chapter, and the notification requirements of section 3010 of RCRA, provided the generator complies with the requirements of paragraphs (f), (g), and (j) of this section.

(c) When making the quantity determinations of this part and 40 CFR part 262, the generator must include all hazardous waste that it generates, except hazardous waste that:

(1) Is exempt from regulation under 40 CFR 261.4(c) through (f), 261.6(a)(3), 261.7(a)(1), or 261.8; or

(2) Is managed immediately upon generation only in on-site elementary neutralization units, wastewater treatment units, or totally enclosed treatment facilities as defined in 40 CFR 260.10; or

(3) Is recycled, without prior storage or accumulation, only in an on-site process subject to regulation under 40 CFR 261.6(c)(2); or

(4) Is used oil managed under the requirements of 40 CFR 261.6(a)(4) and 40 CFR part 279; or

(5) Is spent lead-acid batteries managed under the requirements of 40 CFR part 266, subpart G; or

(6) Is universal waste managed under 40 CFR 261.9 and 40 CFR part 273.

(d) In determining the quantity of hazardous waste generated, a generator need not include:

(1) Hazardous waste when it is removed from on-site storage; or

(2) Hazardous waste produced by on-site treatment (including reclamation) of his hazardous waste, so long as the hazardous waste that is treated was counted once; or

(3) Spent materials that are generated, reclaimed, and subsequently reused on-site, so long as such spent materials have been counted once.

(e) If a generator generates acute hazardous waste in a calendar month in quantities greater than set forth below, all quantities of that acute hazardous waste are subject to full regulation under parts 262 through 266, 268, and parts 270 and 124 of this chapter, and the notification requirements of section 3010 of RCRA:

(1) A total of one kilogram of acute hazardous wastes listed in §§ 261.31, 261.32, or 261.33(e).

(2) A total of 100 kilograms of any residue or contaminated soil, waste, or other debris resulting from the clean-up of a spill, into or on any land or water, of any acute hazardous wastes listed in §§ 261.31, 261.32, or 261.33(e).

[Comment: ''Full regulation'' means those regulations applicable to generators of greater than 1,000 kg of non-acutely hazardous waste in a calendar month.]

(f) In order for acute hazardous wastes generated by a generator of acute hazardous wastes in quantities equal to or less than those set forth in paragraph (e)(1) or (2) of this section to be excluded from full regulation under this section, the generator must comply with the following requirements:

(1) Section 262.11 of this chapter;

(2) The generator may accumulate acute hazardous waste on-site. If he accumulates at any time acute hazardous wastes in quantities greater than those set forth in paragraph (e)(1) or (e)(2) of this section, all of those accumulated wastes are subject to regulation under parts 262 through 266, 268, and parts 270 and 124 of this chapter, and the applicable notification requirements of section 3010 of RCRA. The time period of § 262.34(a) of this chapter, for accumulation of wastes on-site, begins when the accumulated wastes exceed the applicable exclusion limit;

(3) A conditionally exempt small quantity generator may either treat or dispose of his acute hazardous waste in an on-site facility or ensure delivery to an off-site treatment, storage, or disposal facility, either of which, if located in the U.S., is:

(i) Permitted under part 270 of this chapter;

(ii) In interim status under parts 270 and 265 of this chapter;

(iii) Authorized to manage hazardous waste by a State with a hazardous waste management program approved under part 271 of this chapter;

(iv) Permitted, licensed, or registered by a State to manage municipal solid waste and, if managed in a municipal solid waste landfill is subject to Part 258 of this chapter;

(v) Permitted, licensed, or registered by a State to manage non-municipal non-hazardous waste and, if managed in a non-municipal non-hazardous waste disposal unit after January 1, 1998, is subject to the requirements in §§ 257.5 through 257.30 of this chapter; or

(vi) A facility which:

(A) Beneficially uses or reuses, or legitimately recycles or reclaims its waste; or

(B) Treats its waste prior to beneficial use or reuse, or legitimate recycling or reclamation; or

(vii) For universal waste managed under part 273 of this chapter, a universal waste handler or destination facility subject to the requirements of part 273 of this chapter.

(g) In order for hazardous waste generated by a conditionally exempt small quantity generator in quantities of less than 100 kilograms of hazardous waste during a calendar month to be excluded from full regulation under this section, the generator must comply with the following requirements:

(1) Section 262.11 of this chapter;

(2) The conditionally exempt small quantity generator may accumulate hazardous waste on-site. If he accumulates at any time more than a total of 1000 kilograms of his hazardous wastes, all of those accumulated wastes are

subject to regulation under the special provisions of part 262 applicable to generators of between 100 kg and 1000 kg of hazardous waste in a calendar month as well as the requirements of parts 263 through 266, 268, and parts 270 and 124 of this chapter, and the applicable notification requirements of section 3010 of RCRA. The time period of §262.34(d) for accumulation of wastes on-site begins for a conditionally exempt small quantity generator when the accumulated wastes exceed 1000 kilograms;

(3) A conditionally exempt small quantity generator may either treat or dispose of his hazardous waste in an on-site facility or ensure delivery to an off-site treatment, storage or disposal facility, either of which, if located in the U.S., is:

(i) Permitted under part 270 of this chapter;

(ii) In interim status under parts 270 and 265 of this chapter;

(iii) Authorized to manage hazardous waste by a State with a hazardous waste management program approved under part 271 of this chapter;

(iv) Permitted, licensed, or registered by a State to manage municipal solid waste and, if managed in a municipal solid waste landfill is subject to Part 258 of this chapter;

(v) Permitted, licensed, or registered by a State to manage non-municipal non-hazardous waste and, if managed in a non-municipal non-hazardous waste disposal unit after January 1, 1998, is subject to the requirements in §§257.5 through 257.30 of this chapter; or

(vi) A facility which:

(A) Beneficially uses or reuses, or legitimately recycles or reclaims its waste; or

(B) Treats its waste prior to beneficial use or reuse, or legitimate recycling or reclamation; or

(vii) For universal waste managed under part 273 of this chapter, a universal waste handler or destination facility subject to the requirements of part 273 of this chapter.

(h) Hazardous waste subject to the reduced requirements of this section may be mixed with non-hazardous waste and remain subject to these reduced requirements even though the resultant mixture exceeds the quantity limitations identified in this section, unless the mixture meets any of the characteristics of hazardous waste identified in subpart C.

(i) If any person mixes a solid waste with a hazardous waste that exceeds a quantity exclusion level of this section, the mixture is subject to full regulation.

(j) If a conditionally exempt small quantity generator's wastes are mixed with used oil, the mixture is subject to part 279 of this chapter if it is destined to be burned for energy recovery. Any material produced from such a mixture by processing, blending, or other treatment is also so regulated if it is destined to be burned for energy recovery.

[51 FR 10174, Mar. 24, 1986, as amended at 51 FR 28682, Aug. 8, 1986; 51 FR 40637, Nov. 7, 1986; 53 FR 27163, July 19, 1988; 58 FR 26424, May 3, 1993; 60 FR 25541, May 11, 1995; 61 FR 34278, July 1, 1996]

§261.6 Requirements for recyclable materials.

(a)(1) Hazardous wastes that are recycled are subject to the requirements for generators, transporters, and storage facilities of paragraphs (b) and (c) of this section, except for the materials listed in paragraphs (a)(2) and (a)(3) of this section. Hazardous wastes that are recycled will be known as ''recyclable materials.''

(2) The following recyclable materials are not subject to the requirements of this section but are regulated under subparts C through H of part 266 of this chapter and all applicable provisions in parts 270 and 124 of this chapter:

(i) Recyclable materials used in a manner constituting disposal (subpart C);

(ii) Hazardous wastes burned for energy recovery in boilers and industrial furnaces that are not regulated under subpart O of part 264 or 265 of this chapter (subpart H);

(iii) Recyclable materials from which precious metals are reclaimed (subpart F);

(iv) Spent lead-acid batteries that are being reclaimed (subpart G).

(3) The following recyclable materials are not subject to regulation under parts 262 through parts 266 or parts 268, 270 or 124 of this chapter, and

are not subject to the notification requirements of section 3010 of RCRA:

(i) Industrial ethyl alcohol that is reclaimed except that, unless provided otherwise in an international agreement as specified in § 262.58:

(A) A person initiating a shipment for reclamation in a foreign country, and any intermediary arranging for the shipment, must comply with the requirements applicable to a primary exporter in §§ 262.53, 262.56 (a)(1)–(4), (6), and (b), and 262.57, export such materials only upon consent of the receiving country and in conformance with the EPA Acknowledgment of Consent as defined in subpart E of part 262, and provide a copy of the EPA Acknowledgment of Consent to the shipment to the transporter transporting the shipment for export;

(B) Transporters transporting a shipment for export may not accept a shipment if he knows the shipment does not conform to the EPA Acknowledgment of Consent, must ensure that a copy of the EPA Acknowledgment of Consent accompanies the shipment and must ensure that it is delivered to the facility designated by the person initiating the shipment.

(ii) Scrap metal that is not excluded under § 261.4(a)(13);

(iii) Fuels produced from the refining of oil-bearing hazardous waste along with normal process streams at a petroleum refining facility if such wastes result from normal petroleum refining, production, and transportation practices (this exemption does not apply to fuels produced from oil recovered from oil-bearing hazardous waste, where such recovered oil is already excluded under § 261.4(a)(12);

(iv)(A) Hazardous waste fuel produced from oil-bearing hazardous wastes from petroleum refining, production, or transportation practices, or produced from oil reclaimed from such hazardous wastes, where such hazardous wastes are reintroduced into a process that does not use distillation or does not produce products from crude oil so long as the resulting fuel meets the used oil specification under § 266.40(e) of this chapter and so long as no other hazardous wastes are used to produce the hazardous waste fuel;

(B) Hazardous waste fuel produced from oil-bearing hazardous waste from petroleum refining production, and transportation practices, where such hazardous wastes are reintroduced into a refining process after a point at which contaminants are removed, so long as the fuel meets the used oil fuel specification under § 266.40(e) of this chapter; and

(C) Oil reclaimed from oil-bearing hazardous wastes from petroleum refining, production, and transportation practices, which reclaimed oil is burned as a fuel without reintroduction to a refining process, so long as the reclaimed oil meets the used oil fuel specification under § 266.40(e) of this chapter; and

(v) Petroleum coke produced from petroleum refinery hazardous wastes containing oil by the same person who generated the waste, unless the resulting coke product exceeds one or more of the characteristics of hazardous waste in part 261, subpart C.

(4) Used oil that is recycled and is also a hazardous waste solely because it exhibits a hazardous characteristic is not subject to the requirements of parts 260 through 268 of this chapter, but is regulated under part 279 of this chapter. Used oil that is recycled includes any used oil which is reused, following its original use, for any purpose (including the purpose for which the oil was originally used). Such term includes, but is not limited to, oil which is re-refined, reclaimed, burned for energy recovery, or reprocessed.

(5) Hazardous waste that is exported to or imported from designated member countries of the Organization for Economic Cooperation and Development (OECD) (as defined in § 262.58(a)(1)) for purpose of recovery is subject to the requirements of 40 CFR part 262, subpart H, if it is subject to either the Federal manifesting requirements of 40 CFR Part 262, to the universal waste management standards of 40 CFR Part 273, or to State requirements analogous to 40 CFR Part 273.

(b) Generators and transporters of recyclable materials are subject to the applicable requirements of parts 262 and 263 of this chapter and the notification requirements under section 3010 of

RCRA, except as provided in paragraph (a) of this section.

(c)(1) Owners and operators of facilities that store recyclable materials before they are recycled are regulated under all applicable provisions of subparts A though L, AA, BB, and CC of parts 264 and 265, and under parts 124, 266, 268, and 270 of this chapter and the notification requirements under section 3010 of RCRA, except as provided in paragraph (a) of this section. (The recycling process itself is exempt from regulation except as provided in §261.6(d).)

(2) Owners or operators of facilities that recycle recyclable materials without storing them before they are rcycled are subject to the following requirements, except as provided in paragraph (a) of this section:

(i) Notification requirements under section 3010 of RCRA;

(ii) Sections 265.71 and 265.72 (dealing with the use of the manifest and manifest discrepancies) of this chapter.

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

(d) Owners or operators of facilities subject to RCRA permitting requirements with hazardous waste management units that recycle hazardous wastes are subject to the requirements of subparts AA and BB of part 264 or 265 of this chapter.

[50 FR 49203, Nov. 29, 1985, as amended at 51 FR 28682, Aug. 8, 1986; 51 FR 40637, Nov. 7, 1986; 52 FR 11821, Apr. 13, 1987; 55 FR 25493, June 21, 1990; 56 FR 7207, Feb. 21, 1991; 56 FR 32692, July 17, 1991; 57 FR 41612, Sept. 10, 1992; 59 FR 38545, July 28, 1994; 60 FR 25541, May 11, 1995; 61 FR 16309, Apr. 12, 1996; 61 FR 59950, Nov. 25, 1996; 62 FR 26019, May 12, 1997]

EFFECTIVE DATE NOTE: At 62 FR 26019, May 12, 1997, §261.6(a)(3)(ii) was revised, effective Aug. 11, 1997. For the convenience of the user, the superseded text is set forth as follows:

§261.6 Requirements for recyclable materials.

(a) * * *

(3) * * *

(ii) Scrap metal;

* * * * *

§261.7 Residues of hazardous waste in empty containers.

(a)(1) Any hazardous waste remaining in either (i) an empty container or (ii) an inner liner removed from an empty container, as defined in paragraph (b) of this section, is not subject to regulation under parts 261 through 265, or part 268, 270 or 124 of this chapter or to the notification requirements of section 3010 of RCRA.

(2) Any hazardous waste in either (i) a container that is not empty or (ii) an inner liner removed from a container that is not empty, as defined in paragraph (b) of this section, is subject to regulation under parts 261 through 265, and parts 268, 270 and 124 of this chapter and to the notification requirements of section 3010 of RCRA.

(b)(1) A container or an inner liner removed from a container that has held any hazardous waste, except a waste that is a compressed gas or that is identified as an acute hazardous waste listed in §§261.31, 261.32, or 261.33(e) of this chapter is empty if:

(i) All wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, *e.g.*, pouring, pumping, and aspirating, *and*

(ii) No more than 2.5 centimeters (one inch) of residue remain on the bottom of the container or inner liner, *or*

(iii)(A) No more than 3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is less than or equal to 110 gallons in size, or

(B) No more than 0.3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is greater than 110 gallons in size.

(2) A container that has held a hazardous waste that is a compressed gas is empty when the pressure in the container approaches atmospheric.

(3) A container or an inner liner removed from a container that has held an acute hazardous waste listed in §§261.31, 261.32, or 261.33(e) is empty if:

(i) The container or inner liner has been triple rinsed using a solvent capable of removing the commercial chemical product or manufacturing chemical intermediate;

(ii) The container or inner liner has been cleaned by another method that has been shown in the scientific literature, or by tests conducted by the

generator, to achieve equivalent removal; or

(iii) In the case of a container, the inner liner that prevented contact of the commercial chemical product or manufacturing chemical intermediate with the container, has been removed.

[45 FR 78529, Nov. 25, 1980, as amended at 47 FR 36097, Aug. 18, 1982; 48 FR 14294, Apr. 1, 1983; 50 FR 1999, Jan. 14, 1985; 51 FR 40637, Nov. 7, 1986]

§ 261.8 PCB wastes regulated under Toxic Substance Control Act.

The disposal of PCB-containing dielectric fluid and electric equipment containing such fluid authorized for use and regulated under part 761 of this chapter and that are hazardous only because they fail the test for the Toxicity Characteristic (Hazardous Waste Codes D018 through D043 only) are exempt from regulation under parts 261 through 265, and parts 268, 270, and 124 of this chapter, and the notification requirements of section 3010 of RCRA.

[55 FR 11862, Mar. 29, 1990]

§ 261.9 Requirements for Universal Waste.

The wastes listed in this section are exempt from regulation under parts 262 through 270 of this chapter except as specified in part 273 of this chapter and, therefore are not fully regulated as hazardous waste. The wastes listed in this section are subject to regulation under 40 CFR part 273:

(a) Batteries as described in 40 CFR 273.2;

(b) Pesticides as described in 40 CFR 273.3; and

(c) Thermostats as described in 40 CFR 273.4.

[60 FR 25541, May 11, 1995]

Subpart B—Criteria for Identifying the Characteristics of Hazardous Waste and for Listing Hazardous Waste

(b) [Reserved]

§ 261.10 Criteria for identifying the characteristics of hazardous waste.

(a) The Administrator shall identify and define a characteristic of hazardous waste in subpart C only upon determining that:

(1) A solid waste that exhibits the characteristic may:

(i) Cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or

(ii) Pose a substantial present or potential hazard to human health or the environment when it is improperly treated, stored, transported, disposed of or otherwise managed; and

(2) The characteristic can be:

(i) Measured by an available standardized test method which is reasonably within the capability of generators of solid waste or private sector laboratories that are available to serve generators of solid waste; or

(ii) Reasonably detected by generators of solid waste through their knowledge of their waste.

(b) [Reserved].

§ 261.11 Criteria for listing hazardous waste.

(a) The Administrator shall list a solid waste as a hazardous waste only upon determining that the solid waste meets one of the following criteria:

(1) It exhibits any of the characteristics of hazardous waste identified in subpart C.

(2) It has been found to be fatal to humans in low doses or, in the absence of data on human toxicity, it has been shown in studies to have an oral LD 50 toxicity (rat) of less than 50 milligrams per kilogram, an inhalation LC 50 toxicity (rat) of less than 2 milligrams per liter, or a dermal LD 50 toxicity (rabbit) of less than 200 milligrams per kilogram or is otherwise capable of causing or significantly contributing to an increase in serious irreversible, or incapacitating reversible, illness. (Waste listed in accordance with these criteria will be designated Acute Hazardous Waste.)

(3) It contains any of the toxic constituents listed in appendix VIII and, after considering the following factors, the Administrator concludes that the waste is capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed:

(i) The nature of the toxicity presented by the constituent.

(ii) The concentration of the constituent in the waste.

(iii) The potential of the constituent or any toxic degradation product of the constituent to migrate from the waste into the environment under the types of improper management considered in paragraph (a)(3)(vii) of this section.

(iv) The persistence of the constituent or any toxic degradation product of the constituent.

(v) The potential for the constituent or any toxic degradation product of the constituent to degrade into non-harmful constituents and the rate of degradation.

(vi) The degree to which the constituent or any degradation product of the constituent bioaccumulates in ecosystems.

(vii) The plausible types of improper management to which the waste could be subjected.

(viii) The quantities of the waste generated at individual generation sites or on a regional or national basis.

(ix) The nature and severity of the human health and environmental damage that has occurred as a result of the improper management of wastes containing the constituent.

(x) Action taken by other governmental agencies or regulatory programs based on the health or environmental hazard posed by the waste or waste constituent.

(xi) Such other factors as may be appropriate.

Substances will be listed on appendix VIII only if they have been shown in scientific studies to have toxic, carcinogenic, mutagenic or teratogenic effects on humans or other life forms.

(Wastes listed in accordance with these criteria will be designated Toxic wastes.)

(b) The Administrator may list classes or types of solid waste as hazardous waste if he has reason to believe that individual wastes, within the class or type of waste, typically or frequently are hazardous under the definition of hazardous waste found in section 1004(5) of the Act.

(c) The Administrator will use the criteria for listing specified in this section to establish the exclusion limits referred to in §261.5(c).

[45 FR 33119, May 19, 1980, as amended at 55 FR 18726, May 4, 1990; 57 FR 14, Jan. 2, 1992]

Subpart C—Characteristics of Hazardous Waste

§261.20 General.

(a) A solid waste, as defined in §261.2, which is not excluded from regulation as a hazardous waste under §261.4(b), is a hazardous waste if it exhibits any of the characteristics identified in this subpart.

[*Comment*: §262.11 of this chapter sets forth the generator's responsibility to determine whether his waste exhibits one or more of the characteristics identified in this subpart]

(b) A hazardous waste which is identified by a characteristic in this subpart is assigned every EPA Hazardous Waste Number that is applicable as set forth in this subpart. This number must be used in complying with the notification requirements of section 3010 of the Act and all applicable recordkeeping and reporting requirements under parts 262 through 265, 268, and 270 of this chapter.

(c) For purposes of this subpart, the Administrator will consider a sample obtained using any of the applicable sampling methods specified in appendix I to be a representative sample within the meaning of part 260 of this chapter.

[*Comment*: Since the appendix I sampling methods are not being formally adopted by the Administrator, a person who desires to employ an alternative sampling method is not required to demonstrate the equivalency of his method under the procedures set forth in §§260.20 and 260.21.]

[45 FR 33119, May 19, 1980, as amended at 51 FR 40636, Nov. 7, 1986; 55 FR 22684, June 1, 1990; 56 FR 3876, Jan. 31, 1991]

§261.21 Characteristic of ignitability.

(a) A solid waste exhibits the characteristic of ignitability if a representative sample of the waste has any of the following properties:

(1) It is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume and has flash point less than 60°C (140°F), as determined by a Pensky-Martens Closed

Cup Tester, using the test method specified in ASTM Standard D–93–79 or D–93–80 (incorporated by reference, see § 260.11), or a Setaflash Closed Cup Tester, using the test method specified in ASTM Standard D–3278–78 (incorporated by reference, see § 260.11), or as determined by an equivalent test method approved by the Administrator under procedures set forth in §§ 260.20 and 260.21.

(2) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard.

(3) It is an ignitable compressed gas as defined in 49 CFR 173.300 and as determined by the test methods described in that regulation or equivalent test methods approved by the Administrator under §§ 260.20 and 260.21.

(4) It is an oxidizer as defined in 49 CFR 173.151.

(b) A solid waste that exhibits the characteristic of ignitability has the EPA Hazardous Waste Number of D001.

[45 FR 33119, May 19, 1980, as amended at 46 FR 35247, July 7, 1981; 55 FR 22684, June 1, 1990]

§ 261.22 Characteristic of corrosivity.

(a) A solid waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties:

(1) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, as determined by a pH meter using Method 9040 in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' EPA Publication SW–846, as incorporated by reference in § 260.11 of this chapter.

(2) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55°C (130°F) as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM–01–69 as standardized in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' EPA Publication SW–846, as incorporated by reference in § 260.11 of this chapter.

(b) A solid waste that exhibits the characteristic of corrosivity has the EPA Hazardous Waste Number of D002.

[45 FR 33119, May 19, 1980, as amended at 46 FR 35247, July 7, 1981; 55 FR 22684, June 1, 1990; 58 FR 46049, Aug. 31, 1993]

§ 261.23 Characteristic of reactivity.

(a) A solid waste exhibits the characteristic of reactivity if a representative sample of the waste has *any* of the following properties:

(1) It is normally unstable and readily undergoes violent change without detonating.

(2) It reacts violently with water.

(3) It forms potentially explosive mixtures with water.

(4) When mixed with water, it generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

(5) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

(6) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement.

(7) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure.

(8) It is a forbidden explosive as defined in 49 CFR 173.51, or a Class A explosive as defined in 49 CFR 173.53 or a Class B explosive as defined in 49 CFR 173.88.

(b) A solid waste that exhibits the characteristic of reactivity has the EPA Hazardous Waste Number of D003.

[45 FR 33119, May 19, 1980, as amended at 55 FR 22684, June 1, 1990]

§ 261.24 Toxicity characteristic.

(a) A solid waste exhibits the characteristic of toxicity if, using the Toxicity Characteristic Leaching Procedure, test Method 1311 in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' EPA Publication SW–846, as incorporated by reference in § 260.11 of this chapter, the extract from a representative sample of

the waste contains any of the contaminants listed in table 1 at the concentration equal to or greater than the respective value given in that table. Where the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering using the methodology outlined in Method 1311, is considered to be the extract for the purpose of this section.

(b) A solid waste that exhibits the characteristic of toxicity has the EPA Hazardous Waste Number specified in Table I which corresponds to the toxic contaminant causing it to be hazardous.

TABLE 1—MAXIMUM CONCENTRATION OF CONTAMINANTS FOR THE TOXICITY CHARACTERISTIC

EPA HW No.[1]	Contaminant	CAS No.[2]	Regulatory Level (mg/L)
D004	Arsenic	7440–38–2	5.0
D005	Barium	7440–39–3	100.0
D018	Benzene	71–43–2	0.5
D006	Cadmium	7440–43–9	1.0
D019	Carbon tetrachloride	56–23–5	0.5
D020	Chlordane	57–74–9	0.03
D021	Chlorobenzene	108–90–7	100.0
D022	Chloroform	67–66–3	6.0
D007	Chromium	7440–47–3	5.0
D023	o-Cresol	95–48–7	[4] 200.0
D024	m-Cresol	108–39–4	[4] 200.0
D025	p-Cresol	106–44–5	[4] 200.0
D026	Cresol	.....	[4] 200.0
D016	2,4-D	94–75–7	10.0
D027	1,4-Dichlorobenzene	106–46–7	7.5
D028	1,2-Dichloroethane	107–06–2	0.5
D029	1,1-Dichloroethylene	75–35–4	0.7
D030	2,4-Dinitrotoluene	121–14–2	[3] 0.13
D012	Endrin	72–20–8	0.02
D031	Heptachlor (and its epoxide).	76–44–8	0.008
D032	Hexachlorobenzene	118–74–1	[3] 0.13
D033	Hexachlorobutadiene	87–68–3	0.5
D034	Hexachloroethane	67–72–1	3.0
D008	Lead	7439–92–1	5.0
D013	Lindane	58–89–9	0.4
D009	Mercury	7439–97–6	0.2
D014	Methoxychlor	72–43–5	10.0
D035	Methyl ethyl ketone	78–93–3	200.0
D036	Nitrobenzene	98–95–3	2.0
D037	Pentrachlorophenol	87–86–5	100.0
D038	Pyridine	110–86–1	[3] 5.0
D010	Selenium	7782–49–2	1.0
D011	Silver	7440–22–4	5.0
D039	Tetrachloroethylene	127–18–4	0.7
D015	Toxaphene	8001–35–2	0.5
D040	Trichloroethylene	79–01–6	0.5
D041	2,4,5-Trichlorophenol	95–95–4	400.0
D042	2,4,6-Trichlorophenol	88–06–2	2.0
D017	2,4,5-TP (Silvex)	93–72–1	1.0
D043	Vinyl chloride	75–01–4	0.2

[1] Hazardous waste number.
[2] Chemical abstracts service number.
[3] Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.
[4] If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200 mg/l.

[55 FR 11862, Mar. 29, 1990, as amended at 55 FR 22684, June 1, 1990; 55 FR 26987, June 29, 1990; 58 FR 46049, Aug. 31, 1993]

Subpart D—Lists of Hazardous Wastes

§ 261.30 General.

(a) A solid waste is a hazardous waste if it is listed in this subpart, unless it has been excluded from this list under §§ 260.20 and 260.22.

(b) The Administrator will indicate his basis for listing the classes or types of wastes listed in this subpart by employing one or more of the following Hazard Codes:

Ignitable Waste ..... (I)
Corrosive Waste ..... (C)
Reactive Waste ..... (R)
Toxicity Characteristic Waste ... (E)
Acute Hazardous Waste ..... (H)
Toxic Waste ..... (T)

Appendix VII identifies the constituent which caused the Administrator to list the waste as a Toxicity Characteristic Waste (E) or Toxic Waste (T) in §§ 261.31 and 261.32.

(c) Each hazardous waste listed in this subpart is assigned an EPA Hazardous Waste Number which precedes the name of the waste. This number must be used in complying with the notification requirements of Section 3010 of the Act and certain recordkeeping and reporting requirements under parts 262 through 265, 268, and part 270 of this chapter.

(d) The following hazardous wastes listed in § 261.31 or § 261.32 are subject to the exclusion limits for acutely hazardous wastes established in § 261.5: EPA Hazardous Wastes Nos. FO20, FO21, FO22, FO23, FO26, and FO27.

[45 FR 33119, May 19, 1980, as amended at 48 FR 14294, Apr. 1, 1983; 50 FR 2000, Jan. 14, 1985; 51 FR 40636, Nov. 7, 1986; 55 FR 11863, Mar. 29, 1990]

§ 261.31 Hazardous wastes from non-specific sources.

(a) The following solid wastes are listed hazardous wastes from non-specific sources unless they are excluded under §§ 260.20 and 260.22 and listed in appendix IX.

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
Generic:		
F001	The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F002	The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F003	The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(I)*
F004	The following spent non-halogenated solvents: Cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F005	The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(I,T)
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.	(T)
F007	Spent cyanide plating bath solutions from electroplating operations	(R, T)
F008	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process.	(R, T)
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.	(R, T)
F010	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.	(R, T)
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.	(R, T)
F012	Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process.	(T)
F019	Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process.	(T)
F020	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol.).	(H)
F021	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives.	(H)
F022	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions.	(H)

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
F023	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of Hexachlorophene from highly purified 2,4,5-trichlorophenol.).	(H)
F024	Process wastes, including but not limited to, distillation residues, heavy ends, tars, and reactor clean-out wastes, from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. (This listing does not include wastewaters, wastewater treatment sludges, spent catalysts, and wastes listed in § 261.31 or § 261.32.).	(T)
F025	Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	(T)
F026	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzene under alkaline conditions.	(H)
F027	Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing Hexachlorophene sythesized from prepurified 2,4,5-trichlorophenol as the sole component.).	(H)
F028	Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027.	(T)
F032	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenolic formulations (except potentially cross-contaminated wastes that have had the F032 waste code deleted in accordance with § 261.35 of this chapter or potentially cross-contaminated wastes that are otherwise currently regulated as hazardous wastes (i.e., F034 or F035), and where the generator does not resume or initiate use of chlorophenolic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.	(T)
F034	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.	(T)
F035	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.	(T)
F037	Petroleum refinery primary oil/water/solids separation sludge—Any sludge generated from the gravitational separation of oil/water/solids during the storage or treatment of process wastewaters and oily cooling wastewaters from petroleum refineries. Such sludges include, but are not limited to, those generated in: oil/water/solids separators; tanks and impoundments; ditches and other conveyances; sumps; and stormwater units receiving dry weather flow. Sludge generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in § 261.31(b)(2) (including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and K051 wastes are not included in this listing.	(T)

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
F038	Petroleum refinery secondary (emulsified) oil/water/solids separation sludge—Any sludge and/or float generated from the physical and/or chemical separation of oil/water/solids in process wastewaters and oily cooling wastewaters from petroleum refineries. Such wastes include, but are not limited to, all sludges and floats generated in: induced air flotation (IAF) units, tanks and impoundments, and all sludges generated in DAF units. Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges and floats generated in aggressive biological treatment units as defined in § 261.31(b)(2) (including sludges and floats generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and F037, K048, and K051 wastes are not included in this listing.	(T)
F039	Leachate (liquids that have percolated through land disposed wastes) resulting from the disposal of more than one restricted waste classified as hazardous under subpart D of this part. (Leachate resulting from the disposal of one or more of the following EPA Hazardous Wastes and no other Hazardous Wastes retains its EPA Hazardous Waste Number(s): F020, F021, F022, F026, F027, and/or F028.).	(T)

(b) Listing Specific Definitions: (1) For the purposes of the F037 and F038 listings, oil/water/solids is defined as oil and/or water and/or solids.

(2) (i) For the purposes of the F037 and F038 listings, aggressive biological treatment units are defined as units which employ one of the following four treatment methods: activated sludge; trickling filter; rotating biological contactor for the continuous accelerated biological oxidation of wastewaters; or high-rate aeration. High-rate aeration is a system of surface impoundments or tanks, in which intense mechanical aeration is used to completely mix the wastes, enhance biological activity, and (A) the units employ a minimum of 6 hp per million gallons of treatment volume; and either (B) the hydraulic retention time of the unit is no longer than 5 days; or (C) the hydraulic retention time is no longer than 30 days and the unit does not generate a sludge that is a hazardous waste by the Toxicity Characteristic.

(ii) Generators and treatment, storage and disposal facilities have the burden of proving that their sludges are exempt from listing as F037 and F038 wastes under this definition. Generators and treatment, storage and disposal facilities must maintain, in their operating or other onsite records, documents and data sufficient to prove that: (A) the unit is an aggressive biological treatment unit as defined in this subsection; and (B) the sludges sought to be exempted from the definitions of F037 and/or F038 were actually generated in the aggressive biological treatment unit.

(3) (i) For the purposes of the F037 listing, sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement.

(ii) For the purposes of the F038 listing,

(A) sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement and

(B) floats are considered to be generated at the moment they are formed in the top of the unit.

[46 FR 4617, Jan. 16, 1981, as amended at 60 FR 33913, June 29, 1995]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 261.31, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§ 261.32 Hazardous wastes from specific sources.

The following solid wastes are listed hazardous wastes from specific sources unless they are excluded under §§ 260.20 and 260.22 and listed in appendix IX.

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
Wood preservation: K001	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol.	(T)

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
Inorganic pigments:		
K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments.	(T)
K003	Wastewater treatment sludge from the production of molybdate orange pigments	(T)
K004	Wastewater treatment sludge from the production of zinc yellow pigments	(T)
K005	Wastewater treatment sludge from the production of chrome green pigments	(T)
K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).	(T)
K007	Wastewater treatment sludge from the production of iron blue pigments	(T)
K008	Oven residue from the production of chrome oxide green pigments	(T)
Organic chemicals:		
K009	Distillation bottoms from the production of acetaldehyde from ethylene	(T)
K010	Distillation side cuts from the production of acetaldehyde from ethylene	(T)
K011	Bottom stream from the wastewater stripper in the production of acrylonitrile	(R, T)
K013	Bottom stream from the acetonitrile column in the production of acrylonitrile	(R, T)
K014	Bottoms from the acetonitrile purification column in the production of acrylonitrile	(T)
K015	Still bottoms from the distillation of benzyl chloride	(T)
K016	Heavy ends or distillation residues from the production of carbon tetrachloride	(T)
K017	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin.	(T)
K018	Heavy ends from the fractionation column in ethyl chloride production	(T)
K019	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production.	(T)
K020	Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production	(T)
K021	Aqueous spent antimony catalyst waste from fluoromethanes production	(T)
K022	Distillation bottom tars from the production of phenol/acetone from cumene	(T)
K023	Distillation light ends from the production of phthalic anhydride from naphthalene	(T)
K024	Distillation bottoms from the production of phthalic anhydride from naphthalene	(T)
K025	Distillation bottoms from the production of nitrobenzene by the nitration of benzene	(T)
K026	Stripping still tails from the production of methy ethyl pyridines	(T)
K027	Centrifuge and distillation residues from toluene diisocyanate production	(R, T)
K028	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane.	(T)
K029	Waste from the product steam stripper in the production of 1,1,1-trichloroethane	(T)
K030	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene.	(T)
K083	Distillation bottoms from aniline production	(T)
K085	Distillation or fractionation column bottoms from the production of chlorobenzenes	(T)
K093	Distillation light ends from the production of phthalic anhydride from ortho-xylene	(T)
K094	Distillation bottoms from the production of phthalic anhydride from ortho-xylene	(T)
K095	Distillation bottoms from the production of 1,1,1-trichloroethane	(T)
K096	Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane	(T)
K103	Process residues from aniline extraction from the production of aniline	(T)
K104	Combined wastewater streams generated from nitrobenzene/aniline production	(T)
K105	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes.	(T)
K107	Column bottoms from product separation from the production of 1,1-dimethyl-hydrazine (UDMH) from carboxylic acid hydrazines.	(C,T)
K108	Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	(I,T)
K109	Spent filter cartridges from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	(T)
K110	Condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	(T)
K111	Product washwaters from the production of dinitrotoluene via nitration of toluene	(C,T)
K112	Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K113	Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K114	Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K115	Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K116	Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine.	(T)
K117	Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene.	(T)
K118	Spent adsorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.	(T)
K136	Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.	(T)

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
K149	Distillation bottoms from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups, (This waste does not include still bottoms from the distillation of benzyl chloride.).	(T)
K150	Organic residuals, excluding spent carbon adsorbent, from the spent chlorine gas and hydrochloric acid recovery processes associated with the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups.	(T)
K151	Wastewater treatment sludges, excluding neutralization and biological sludges, generated during the treatment of wastewaters from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups.	(T)
K156	Organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.).	(T)
K157	Wastewaters (including scrubber waters, condenser waters, washwaters, and separation waters) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.).	(T)
K158	Bag house dusts and filter/separation solids from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.).	(T)
K159	Organics from the treatment of thiocarbamate wastes	(T)
K161	Purification solids (including filtration, evaporation, and centrifugation solids), bag house dust and floor sweepings from the production of dithiocarbamate acids and their salts. (This listing does not include K125 or K126.).	(R,T)
Inorganic chemicals:		
K071	Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used.	(T)
K073	Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production.	(T)
K106	Wastewater treatment sludge from the mercury cell process in chlorine production	(T)
Pesticides:		
K031	By-product salts generated in the production of MSMA and cacodylic acid	(T)
K032	Wastewater treatment sludge from the production of chlordane	(T)
K033	Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane.	(T)
K034	Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane.	(T)
K035	Wastewater treatment sludges generated in the production of creosote	(T)
K036	Still bottoms from toluene reclamation distillation in the production of disulfoton	(T)
K037	Wastewater treatment sludges from the production of disulfoton	(T)
K038	Wastewater from the washing and stripping of phorate production	(T)
K039	Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate.	(T)
K040	Wastewater treatment sludge from the production of phorate	(T)
K041	Wastewater treatment sludge from the production of toxaphene	(T)
K042	Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T.	(T)
K043	2,6-Dichlorophenol waste from the production of 2,4-D	(T)
K097	Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane.	(T)
K098	Untreated process wastewater from the production of toxaphene	(T)
K099	Untreated wastewater from the production of 2,4-D	(T)
K123	Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenebisdithiocarbamic acid and its salt.	(T)
K124	Reactor vent scrubber water from the production of ethylenebisdithiocarbamic acid and its salts.	(C, T)
K125	Filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts.	(T)
K126	Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts.	(T)
K131	Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide.	(C, T)
K132	Spent absorbent and wastewater separator solids from the production of methyl bromide.	(T)
Explosives:		
K044	Wastewater treatment sludges from the manufacturing and processing of explosives	(R)
K045	Spent carbon from the treatment of wastewater containing explosives	(R)
K046	Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds.	(T)
K047	Pink/red water from TNT operations	(R)

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
Petroleum refining:		
K048	Dissolved air flotation (DAF) float from the petroleum refining industry	(T)
K049	Slop oil emulsion solids from the petroleum refining industry	(T)
K050	Heat exchanger bundle cleaning sludge from the petroleum refining industry	(T)
K051	API separator sludge from the petroleum refining industry	(T)
K052	Tank bottoms (leaded) from the petroleum refining industry	(T)
Iron and steel:		
K061	Emission control dust/sludge from the primary production of steel in electric furnaces	(T)
K062	Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332).	(C,T)
Primary copper:		
K064	Acid plant blowdown slurry/sludge resulting from the thickening of blowdown slurry from primary copper production.	(T)
Primary lead:		
K065	Surface impoundment solids contained in and dredged from surface impoundments at primary lead smelting facilities.	(T)
Primary zinc:		
K066	Sludge from treatment of process wastewater and/or acid plant blowdown from primary zinc production.	(T)
Primary aluminum:		
K088	Spent potliners from primary aluminum reduction	(T)
Ferroalloys:		
K090	Emission control dust or sludge from ferrochromiumsilicon production	(T)
K091	Emission control dust or sludge from ferrochromium production	(T)
Secondary lead:		
K069	Emission control dust/sludge from secondary lead smelting. (NOTE: This listing is stayed administratively for sludge generated from secondary acid scrubber systems. The stay will remain in effect until further administrative action is taken. If EPA takes further action effecting this stay, EPA will publish a notice of the action in the **Federal Register**.	(T)
K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.	(T)
Veterinary pharmaceuticals:		
K084	Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
K101	Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
K102	Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
Ink formulation:		
K086	Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.	(T)
Coking:		
K060	Ammonia still lime sludge from coking operations	(T)
K087	Decanter tank tar sludge from coking operations	(T)
K141	Process residues from the recovery of coal tar, including, but not limited to, collecting sump residues from the production of coke from coal or the recovery of coke by-products produced from coal. This listing does not include K087 (decanter tank tar sludges from coking operations).	(T)
K142	Tar storage tank residues from the production of coke from coal or from the recovery of coke by-products produced from coal.	(T)
K143	Process residues from the recovery of light oil, including, but not limited to, those generated in stills, decanters, and wash oil recovery units from the recovery of coke by-products produced from coal.	(T)
K144	Wastewater sump residues from light oil refining, including, but not limited to, intercepting or contamination sump sludges from the recovery of coke by-products produced from coal.	(T)
K145	Residues from naphthalene collection and recovery operations from the recovery of coke by-products produced from coal.	(T)
K147	Tar storage tank residues from coal tar refining	(T)
K148	Residues from coal tar distillation, including but not limited to, still bottoms	(T)

[46 FR 4618, Jan. 16, 1981]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 261.32, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§ 261.33 Discarded commercial chemical products, off-specification species, container residues, and spill residues thereof.

The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded as described in § 261.2(a)(2)(i), when they are mixed with waste oil or used oil or other material and applied to the land for dust suppression or road treatment, when they are otherwise applied to the land in lieu of their original intended use or when they are contained in products that are applied to the land in lieu of their original intended use, or when, in lieu of their original intended use, they are produced for use as (or as a component of) a fuel, distributed for use as a fuel, or burned as a fuel.

(a) Any commercial chemical product, or manufacturing chemical intermediate having the generic name listed in paragraph (e) or (f) of this section.

(b) Any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraph (e) or (f) of this section.

(c) Any residue remaining in a container or in an inner liner removed from a container that has held any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraphs (e) or (f) of this section, unless the container is empty as defined in § 261.7(b) of this chapter.

[*Comment:* Unless the residue is being beneficially used or reused, or legitimately recycled or reclaimed; or being accumulated, stored, transported or treated prior to such use, re-use, recycling or reclamation, EPA considers the residue to be intended for discard, and thus, a hazardous waste. An example of a legitimate re-use of the residue would be where the residue remains in the container and the container is used to hold the same commercial chemical product or manufacturing chemical intermediate it previously held. An example of the discard of the residue would be where the drum is sent to a drum reconditioner who reconditions the drum but discards the residue.]

(d) Any residue or contaminated soil, water or other debris resulting from the cleanup of a spill into or on any land or water of any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraph (e) or (f) of this section, or any residue or contaminated soil, water or other debris resulting from the cleanup of a spill, into or on any land or water, of any off-specification chemical product and manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraph (e) or (f) of this section.

[*Comment:* The phrase ''commercial chemical product or manufacturing chemical intermediate having the generic name listed in . . .'' refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in paragraph (e) or (f). Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in paragraph (e) or (f), such waste will be listed in either § 261.31 or § 261.32 or will be identified as a hazardous waste by the characteristics set forth in subpart C of this part.]

(e) The commercial chemical products, manufacturing chemical intermediates or off-specification commercial chemical products or manufacturing chemical intermediates referred to in paragraphs (a) through (d) of this section, are identified as acute hazardous wastes (H) and are subject to be the small quantity exclusion defined in § 261.5(e).

[*Comment:* For the convenience of the regulated community the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), and R (Reactivity). Absence of a letter indicates that the compound only is listed for acute toxicity.]

These wastes and their corresponding EPA Hazardous Waste Numbers are:

Hazardous waste No.	Chemical abstracts No.	Substance
P023	107–20–0	Acetaldehyde, chloro-
P002	591–08–2	Acetamide, N-(aminothioxomethyl)-
P057	640–19–7	Acetamide, 2-fluoro-
P058	62–74–8	Acetic acid, fluoro-, sodium salt
P002	591–08–2	1-Acetyl-2-thiourea
P003	107–02–8	Acrolein
P070	116–06–3	Aldicarb
P203	1646–88–4	Aldicarb sulfone.
P004	309–00–2	Aldrin
P005	107–18–6	Allyl alcohol
P006	20859–73–8	Aluminum phosphide (R,T)
P007	2763–96–4	5-(Aminomethyl)-3-isoxazolol
P008	504–24–5	4-Aminopyridine
P009	131–74–8	Ammonium picrate (R)
P119	7803–55–6	Ammonium vanadate
P099	506–61–6	Argentate(1-), bis(cyano-C)-, potassium
P010	7778–39–4	Arsenic acid H_3AsO_4
P012	1327–53–3	Arsenic oxide As_2O_3
P011	1303–28–2	Arsenic oxide As_2O_5
P011	1303–28–2	Arsenic pentoxide
P012	1327–53–3	Arsenic trioxide
P038	692–42–2	Arsine, diethyl-
P036	696–28–6	Arsonous dichloride, phenyl-
P054	151–56–4	Aziridine
P067	75–55–8	Aziridine, 2-methyl-
P013	542–62–1	Barium cyanide
P024	106–47–8	Benzenamine, 4-chloro-
P077	100–01–6	Benzenamine, 4-nitro-
P028	100–44–7	Benzene, (chloromethyl)-
P042	51–43–4	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-
P046	122–09–8	Benzeneethanamine, alpha,alpha-dimethyl-
P014	108–98–5	Benzenethiol
P127	1563–66–2	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate.
P188	57–64–7	Benzoic acid, 2-hydroxy-, compd. with (3aS-cis)-1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrolo[2,3-b]indol-5-yl methylcarbamate ester (1:1).
P001	[1] 81–81–2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3%
P028	100–44–7	Benzyl chloride
P015	7440–41–7	Beryllium powder
P017	598–31–2	Bromoacetone
P018	357–57–3	Brucine
P045	39196–18–4	2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-[methylamino)carbonyl] oxime
P021	592–01–8	Calcium cyanide
P021	592–01–8	Calcium cyanide $Ca(CN)_2$
P189	55285–14–8	Carbamic acid, [(dibutylamino)- thio]methyl-, 2,3-dihydro-2,2-dimethyl- 7-benzofuranyl ester.
P191	644–64–4	Carbamic acid, dimethyl-, 1-[(dimethyl-amino)carbonyl]- 5-methyl-1H- pyrazol-3-yl ester.
P192	119–38–0	Carbamic acid, dimethyl-, 3-methyl-1- (1-methylethyl)-1H- pyrazol-5-yl ester.
P190	1129–41–5	Carbamic acid, methyl-, 3-methylphenyl ester.
P127	1563–66–2	Carbofuran.
P022	75–15–0	Carbon disulfide
P095	75–44–5	Carbonic dichloride
P189	55285–14–8	Carbosulfan.
P023	107–20–0	Chloroacetaldehyde
P024	106–47–8	p-Chloroaniline
P026	5344–82–1	1-(o-Chlorophenyl)thiourea
P027	542–76–7	3-Chloropropionitrile
P029	544–92–3	Copper cyanide
P029	544–92–3	Copper cyanide Cu(CN)
P202	64–00–6	m-Cumenyl methylcarbamate.
P030	.....	Cyanides (soluble cyanide salts), not otherwise specified
P031	460–19–5	Cyanogen
P033	506–77–4	Cyanogen chloride
P033	506–77–4	Cyanogen chloride (CN)Cl
P034	131–89–5	2-Cyclohexyl-4,6-dinitrophenol
P016	542–88–1	Dichloromethyl ether
P036	696–28–6	Dichlorophenylarsine
P037	60–57–1	Dieldrin
P038	692–42–2	Diethylarsine
P041	311–45–5	Diethyl-p-nitrophenyl phosphate
P040	297–97–2	O,O-Diethyl O-pyrazinyl phosphorothioate
P043	55–91–4	Diisopropylfluorophosphate (DFP)

Hazardous waste No.	Chemical abstracts No.	Substance
P004	309–00–2	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa- chloro-1,4,4a,5,8,8a,-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)-
P060	465–73–6	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa- chloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5beta,8beta,8abeta)-
P037	60–57–1	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta, 7aalpha)-
P051	[1] 72–20–8	2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta, 7aalpha)-, & metabolites
P044	60–51–5	Dimethoate
P046	122–09–8	alpha,alpha-Dimethylphenethylamine
P191	644–64–4	Dimetilan.
P047	[1] 534–52–1	4,6-Dinitro-o-cresol, & salts
P048	51–28–5	2,4-Dinitrophenol
P020	88–85–7	Dinoseb
P085	152–16–9	Diphosphoramide, octamethyl-
P111	107–49–3	Diphosphoric acid, tetraethyl ester
P039	298–04–4	Disulfoton
P049	541–53–7	Dithiobiuret
P185	26419–73–8	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O- [(methylamino)- carbonyl]oxime.
P050	115–29–7	Endosulfan
P088	145–73–3	Endothall
P051	72–20–8	Endrin
P051	72–20–8	Endrin, & metabolites
P042	51–43–4	Epinephrine
P031	460–19–5	Ethanedinitrile
P194	23135–22–0	Ethanimidothioc acid, 2-(dimethylamino)-N-[[(methylamino) carbonyl]oxy]-2-oxo-, methyl ester.
P066	16752–77–5	Ethanimidothioic acid, N-[[(methylamino)carbonyl]oxy]-, methyl ester
P101	107–12–0	Ethyl cyanide
P054	151–56–4	Ethyleneimine
P097	52–85–7	Famphur
P056	7782–41–4	Fluorine
P057	640–19–7	Fluoroacetamide
P058	62–74–8	Fluoroacetic acid, sodium salt
P198	23422–53–9	Formetanate hydrochloride.
P197	17702–57–7	Formparanate.
P065	628–86–4	Fulminic acid, mercury(2+) salt (R,T)
P059	76–44–8	Heptachlor
P062	757–58–4	Hexaethyl tetraphosphate
P116	79–19–6	Hydrazinecarbothioamide
P068	60–34–4	Hydrazine, methyl-
P063	74–90–8	Hydrocyanic acid
P063	74–90–8	Hydrogen cyanide
P096	7803–51–2	Hydrogen phosphide
P060	465–73–6	Isodrin
P192	119–38–0	Isolan.
P202	64–00–6	3-Isopropylphenyl N-methylcarbamate.
P007	2763–96–4	3(2H)-Isoxazolone, 5-(aminomethyl)-
P196	15339–36–3	Manganese, bis(dimethylcarbamodithioato-S,S′)-,
P196	15339–36–3	Manganese dimethyldithiocarbamate.
P092	62–38–4	Mercury, (acetato-O)phenyl-
P065	628–86–4	Mercury fulminate (R,T)
P082	62–75–9	Methanamine, N-methyl-N-nitroso-
P064	624–83–9	Methane, isocyanato-
P016	542–88–1	Methane, oxybis[chloro-
P112	509–14–8	Methane, tetranitro- (R)
P118	75–70–7	Methanethiol, trichloro-
P198	23422–53–9	Methanimidamide, N,N-dimethyl-N′-[3-[[(methylamino)-carbonyl]oxy]phenyl]-, monohydrochloride.
P197	17702–57–7	Methanimidamide, N,N-dimethyl-N′-[2-methyl-4-[[(methylamino)carbonyl]oxy]phenyl]-
P050	115–29–7	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide
P059	76–44–8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-
P199	2032–65–7	Methiocarb.
P066	16752–77–5	Methomyl
P068	60–34–4	Methyl hydrazine
P064	624–83–9	Methyl isocyanate
P069	75–86–5	2-Methyllactonitrile
P071	298–00–0	Methyl parathion
P190	1129–41–5	Metolcarb.

Hazardous waste No.	Chemical abstracts No.	Substance
P128	315–8–4	Mexacarbate.
P072	86–88–4	alpha-Naphthylthiourea
P073	13463–39–3	Nickel carbonyl
P073	13463–39–3	Nickel carbonyl $Ni(CO)_4$, (T-4)-
P074	557–19–7	Nickel cyanide
P074	557–19–7	Nickel cynaide $Ni(CN)_2$
P075	[1] 54–11–5	Nicotine, & salts
P076	10102–43–9	Nitric oxide
P077	100–01–6	p-Nitroaniline
P078	10102–44–0	Nitrogen dioxide
P076	10102–43–9	Nitrogen oxide NO
P078	10102–44–0	Nitrogen oxide NO_2
P081	55–63–0	Nitroglycerine (R)
P082	62–75–9	N-Nitrosodimethylamine
P084	4549–40–0	N-Nitrosomethylvinylamine
P085	152–16–9	Octamethylpyrophosphoramide
P087	20816–12–0	Osmium oxide OsO_4, (T-4)-
P087	20816–12–0	Osmium tetroxide
P088	145–73–3	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
P194	23135–22–0	Oxamyl.
P089	56–38–2	Parathion
P034	131–89–5	Phenol, 2-cyclohexyl-4,6-dinitro-
P048	51–28–5	Phenol, 2,4-dinitro-
P047	[1] 534–52–1	Phenol, 2-methyl-4,6-dinitro-, & salts
P020	88–85–7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-
P009	131–74–8	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P128	315–18–4	Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester).
P199	2032–65–7	Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate
P202	64–00–6	Phenol, 3-(1-methylethyl)-, methyl carbamate.
P201	2631–37–0	Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate.
P092	62–38–4	Phenylmercury acetate
P093	103–85–5	Phenylthiourea
P094	298–02–2	Phorate
P095	75–44–5	Phosgene
P096	7803–51–2	Phosphine
P041	311–45–5	Phosphoric acid, diethyl 4-nitrophenyl ester
P039	298–04–4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester
P094	298–02–2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester
P044	60–51–5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester
P043	55–91–4	Phosphorofluoridic acid, bis(1-methylethyl) ester
P089	56–38–2	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester
P040	297–97–2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
P097	52–85–7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester
P071	298–00–0	Phosphorothioic acid, O,O,-dimethyl O-(4-nitrophenyl) ester
P204	57–47–6	Physostigmine.
P188	57–64–7	Physostigmine salicylate.
P110	78–00–2	Plumbane, tetraethyl-
P098	151–50–8	Potassium cyanide
P098	151–50–8	Potassium cyanide K(CN)
P099	506–61–6	Potassium silver cyanide
P201	2631–37–0	Promecarb
P070	116–06–3	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime
P203	1646–88–4	Propanal, 2-methyl-2-(methyl-sulfonyl)-, O-[(methylamino)carbonyl] oxime.
P101	107–12–0	Propanenitrile
P027	542–76–7	Propanenitrile, 3-chloro-
P069	75–86–5	Propanenitrile, 2-hydroxy-2-methyl-
P081	55–63–0	1,2,3-Propanetriol, trinitrate (R)
P017	598–31–2	2-Propanone, 1-bromo-
P102	107–19–7	Propargyl alcohol
P003	107–02–8	2-Propenal
P005	107–18–6	2-Propen-1-ol
P067	75–55–8	1,2-Propylenimine
P102	107–19–7	2-Propyn-1-ol
P008	504–24–5	4-Pyridinamine
P075	[1] 54–11–5	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts
P204	57–47–6	Pyrrolo[2,3-b]indol-5-ol, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)-.
P114	12039–52–0	Selenious acid, dithallium(1+) salt

Hazardous waste No.	Chemical abstracts No.	Substance
P103	630–10–4	Selenourea
P104	506–64–9	Silver cyanide
P104	506–64–9	Silver cyanide Ag(CN)
P105	26628–22–8	Sodium azide
P106	143–33–9	Sodium cyanide
P106	143–33–9	Sodium cyanide Na(CN)
P108	[1] 57–24–9	Strychnidin-10-one, & salts
P018	357–57–3	Strychnidin-10-one, 2,3-dimethoxy-
P108	[1] 57–24–9	Strychnine, & salts
P115	7446–18–6	Sulfuric acid, dithallium(1+) salt
P109	3689–24–5	Tetraethyldithiopyrophosphate
P110	78–00–2	Tetraethyl lead
P111	107–49–3	Tetraethyl pyrophosphate
P112	509–14–8	Tetranitromethane (R)
P062	757–58–4	Tetraphosphoric acid, hexaethyl ester
P113	1314–32–5	Thallic oxide
P113	1314–32–5	Thallium oxide Tl_2O_3
P114	12039–52–0	Thallium(I) selenite
P115	7446–18–6	Thallium(I) sulfate
P109	3689–24–5	Thiodiphosphoric acid, tetraethyl ester
P045	39196–18–4	Thiofanox
P049	541–53–7	Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$
P014	108–98–5	Thiophenol
P116	79–19–6	Thiosemicarbazide
P026	5344–82–1	Thiourea, (2-chlorophenyl)-
P072	86–88–4	Thiourea, 1-naphthalenyl-
P093	103–85–5	Thiourea, phenyl-
P185	26419–73–8	Tirpate.
P123	8001–35–2	Toxaphene
P118	75–70–7	Trichloromethanethiol
P119	7803–55–6	Vanadic acid, ammonium salt
P120	1314–62–1	Vanadium oxide V_2O_5
P120	1314–62–1	Vanadium pentoxide
P084	4549–40–0	Vinylamine, N-methyl-N-nitroso-
P001	[1] 81–81–2	Warfarin, & salts, when present at concentrations greater than 0.3%
P205	137–30–4	Zinc, bis(dimethylcarbamodithioato-S,S′)-,
P121	557–21–1	Zinc cyanide
P121	557–21–1	Zinc cyanide $Zn(CN)_2$
P122	1314–84–7	Zinc phosphide Zn_3P_2, when present at concentrations greater than 10% (R,T)
P205	137–30–4	Ziram.

[1] CAS Number given for parent compound only.

(f) The commercial chemical products, manfacturing chemical intermediates, or off-specification commercial chemical products referred to in paragraphs (a) through (d) of this section, are identified as toxic wastes (T), unless otherwise designated and are subject to the small quantity generator exclusion defined in § 261.5 (a) and (g).

[*Comment:* For the convenience of the regulated community, the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), R (Reactivity), I (Ignitability) and C (Corrosivity). Absence of a letter indicates that the compound is only listed for toxicity.]

These wastes and their corresponding EPA Hazardous Waste Numbers are:

Hazardous waste No.	Chemical abstracts No.	Substance
U394	30558–43–1	A2213.
U001	75–07–0	Acetaldehyde (I)
U034	75–87–6	Acetaldehyde, trichloro-
U187	62–44–2	Acetamide, N-(4-ethoxyphenyl)-
U005	53–96–3	Acetamide, N-9H-fluoren-2-yl-
U240	[1] 94–75–7	Acetic acid, (2,4-dichlorophenoxy)-, salts & esters
U112	141–78–6	Acetic acid ethyl ester (I)

Hazardous waste No.	Chemical abstracts No.	Substance
U144	301–04–2	Acetic acid, lead(2+) salt
U214	563–68–8	Acetic acid, thallium(1+) salt
see F027	93–76–5	Acetic acid, (2,4,5-trichlorophenoxy)-
U002	67–64–1	Acetone (I)
U003	75–05–8	Acetonitrile (I,T)
U004	98–86–2	Acetophenone
U005	53–96–3	2-Acetylaminofluorene
U006	75–36–5	Acetyl chloride (C,R,T)
U007	79–06–1	Acrylamide
U008	79–10–7	Acrylic acid (I)
U009	107–13–1	Acrylonitrile
U011	61–82–5	Amitrole
U012	62–53–3	Aniline (I,T)
U136	75–60–5	Arsinic acid, dimethyl-
U014	492–80–8	Auramine
U015	115–02–6	Azaserine
U010	50–07–7	Azirino[2′,3′:3,4]pyrrolo[1,2-a]indole-4,7-dione, 6-amino-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha, 8beta,8aalpha,8balpha)]-
U280	101–27–9	Barban.
U278	22781–23–3	Bendiocarb.
U364	22961–82–6	Bendiocarb phenol.
U271	17804–35–2	Benomyl.
U157	56–49–5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-
U016	225–51–4	Benz[c]acridine
U017	98–87–3	Benzal chloride
U192	23950–58–5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-
U018	56–55–3	Benz[a]anthracene
U094	57–97–6	Benz[a]anthracene, 7,12-dimethyl-
U012	62–53–3	Benzenamine (I,T)
U014	492–80–8	Benzenamine, 4,4′-carbonimidoylbis[N,N-dimethyl-
U049	3165–93–3	Benzenamine, 4-chloro-2-methyl-, hydrochloride
U093	60–11–7	Benzenamine, N,N-dimethyl-4-(phenylazo)-
U328	95–53–4	Benzenamine, 2-methyl-
U353	106–49–0	Benzenamine, 4-methyl-
U158	101–14–4	Benzenamine, 4,4′-methylenebis[2-chloro-
U222	636–21–5	Benzenamine, 2-methyl-, hydrochloride
U181	99–55–8	Benzenamine, 2-methyl-5-nitro-
U019	71–43–2	Benzene (I,T)
U038	510–15–6	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester
U030	101–55–3	Benzene, 1-bromo-4-phenoxy-
U035	305–03–3	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-
U037	108–90–7	Benzene, chloro-
U221	25376–45–8	Benzenediamine, ar-methyl-
U028	117–81–7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester
U069	84–74–2	1,2-Benzenedicarboxylic acid, dibutyl ester
U088	84–66–2	1,2-Benzenedicarboxylic acid, diethyl ester
U102	131–11–3	1,2-Benzenedicarboxylic acid, dimethyl ester
U107	117–84–0	1,2-Benzenedicarboxylic acid, dioctyl ester
U070	95–50–1	Benzene, 1,2-dichloro-
U071	541–73–1	Benzene, 1,3-dichloro-
U072	106–46–7	Benzene, 1,4-dichloro-
U060	72–54–8	Benzene, 1,1′-(2,2-dichloroethylidene)bis[4-chloro-
U017	98–87–3	Benzene, (dichloromethyl)-
U223	26471–62–5	Benzene, 1,3-diisocyanatomethyl- (R,T)
U239	1330–20–7	Benzene, dimethyl- (I,T)
U201	108–46–3	1,3-Benzenediol
U127	118–74–1	Benzene, hexachloro-
U056	110–82–7	Benzene, hexahydro- (I)
U220	108–88–3	Benzene, methyl-
U105	121–14–2	Benzene, 1-methyl-2,4-dinitro-
U106	606–20–2	Benzene, 2-methyl-1,3-dinitro-
U055	98–82–8	Benzene, (1-methylethyl)- (I)
U169	98–95–3	Benzene, nitro-
U183	608–93–5	Benzene, pentachloro-
U185	82–68–8	Benzene, pentachloronitro-
U020	98–09–9	Benzenesulfonic acid chloride (C,R)
U020	98–09–9	Benzenesulfonyl chloride (C,R)
U207	95–94–3	Benzene, 1,2,4,5-tetrachloro-
U061	50–29–3	Benzene, 1,1′-(2,2,2-trichloroethylidene)bis[4-chloro-
U247	72–43–5	Benzene, 1,1′-(2,2,2-trichloroethylidene)bis[4- methoxy-
U023	98–07–7	Benzene, (trichloromethyl)-

Hazardous waste No.	Chemical abstracts No.	Substance
U234	99–35–4	Benzene, 1,3,5-trinitro-
U021	92–87–5	Benzidine
U202	[1] 81–07–2	1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, & salts
U278	22781–23–3	1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate.
U364	22961–82–6	1,3-Benzodioxol-4-ol, 2,2-dimethyl-,
U203	94–59–7	1,3-Benzodioxole, 5-(2-propenyl)-
U141	120–58–1	1,3-Benzodioxole, 5-(1-propenyl)-
U367	1563–38–8	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-
U090	94–58–6	1,3-Benzodioxole, 5-propyl-
U064	189–55–9	Benzo[rst]pentaphene
U248	[1]81–81–2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenyl-butyl)-, & salts, when present at concentrations of 0.3% or less
U022	50–32–8	Benzo[a]pyrene
U197	106–51–4	p-Benzoquinone
U023	98–07–7	Benzotrichloride (C,R,T)
U085	1464–53–5	2,2′-Bioxirane
U021	92–87–5	[1,1′-Biphenyl]-4,4′-diamine
U073	91–94–1	[1,1′-Biphenyl]-4,4′-diamine, 3,3′-dichloro-
U091	119–90–4	[1,1′-Biphenyl]-4,4′-diamine, 3,3′-dimethoxy-
U095	119–93–7	[1,1′-Biphenyl]-4,4′-diamine, 3,3′-dimethyl-
U225	75–25–2	Bromoform
U030	101–55–3	4-Bromophenyl phenyl ether
U128	87–68–3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
U172	924–16–3	1-Butanamine, N-butyl-N-nitroso-
U031	71–36–3	1-Butanol (I)
U159	78–93–3	2-Butanone (I,T)
U160	1338–23–4	2-Butanone, peroxide (R,T)
U053	4170–30–3	2-Butenal
U074	764–41–0	2-Butene, 1,4-dichloro- (I,T)
U143	303–34–4	2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S*,3R*),7aalpha]]-
U031	71–36–3	n-Butyl alcohol (I)
U136	75–60–5	Cacodylic acid
U032	13765–19–0	Calcium chromate
U372	10605–21–7	Carbamic acid, 1H-benzimidazol-2-yl, methyl ester.
U271	17804–35–2	Carbamic acid, [1-[(butylamino)carbonyl]-1H-benzimidazol-2-yl]-, methyl ester.
U280	101–27–9	Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butynyl ester.
U238	51–79–6	Carbamic acid, ethyl ester
U178	615–53–2	Carbamic acid, methylnitroso-, ethyl ester
U373	122–42–9	Carbamic acid, phenyl-, 1-methylethyl ester.
U409	23564–05–8	Carbamic acid, [1,2-phenylenebis (iminocarbonothioyl)]bis-, dimethyl ester.
U097	79–44–7	Carbamic chloride, dimethyl-
U389	2303–17–5	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester.
U387	52888–80–9	Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester.
U114	[1] 111–54–6	Carbamodithioic acid, 1,2-ethanediylbis-, salts & esters
U062	2303–16–4	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester
U279	63–25–2	Carbaryl.
U372	10605–21–7	Carbendazim.
U367	1563–38–8	Carbofuran phenol.
U215	6533–73–9	Carbonic acid, dithallium(1+) salt
U033	353–50–4	Carbonic difluoride
U156	79–22–1	Carbonochloridic acid, methyl ester (I,T)
U033	353–50–4	Carbon oxyfluoride (R,T)
U211	56–23–5	Carbon tetrachloride
U034	75–87–6	Chloral
U035	305–03–3	Chlorambucil
U036	57–74–9	Chlordane, alpha & gamma isomers
U026	494–03–1	Chlornaphazin
U037	108–90–7	Chlorobenzene
U038	510–15–6	Chlorobenzilate
U039	59–50–7	p-Chloro-m-cresol
U042	110–75–8	2-Chloroethyl vinyl ether
U044	67–66–3	Chloroform
U046	107–30–2	Chloromethyl methyl ether
U047	91–58–7	beta-Chloronaphthalene
U048	95–57–8	o-Chlorophenol
U049	3165–93–3	4-Chloro-o-toluidine, hydrochloride
U032	13765–19–0	Chromic acid H_2CrO_4, calcium salt
U050	218–01–9	Chrysene

Hazardous waste No.	Chemical abstracts No.	Substance
U051	.....	Creosote
U052	1319–77–3	Cresol (Cresylic acid)
U053	4170–30–3	Crotonaldehyde
U055	98–82–8	Cumene (I)
U246	506–68–3	Cyanogen bromide (CN)Br
U197	106–51–4	2,5-Cyclohexadiene-1,4-dione
U056	110–82–7	Cyclohexane (I)
U129	58–89–9	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)-
U057	108–94–1	Cyclohexanone (I)
U130	77–47–4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
U058	50–18–0	Cyclophosphamide
U240	[1] 94–75–7	2,4-D, salts & esters
U059	20830–81–3	Daunomycin
U060	72–54–8	DDD
U061	50–29–3	DDT
U062	2303–16–4	Diallate
U063	53–70–3	Dibenz[a,h]anthracene
U064	189–55–9	Dibenzo[a,i]pyrene
U066	96–12–8	1,2-Dibromo-3-chloropropane
U069	84–74–2	Dibutyl phthalate
U070	95–50–1	o-Dichlorobenzene
U071	541–73–1	m-Dichlorobenzene
U072	106–46–7	p-Dichlorobenzene
U073	91–94–1	3,3′-Dichlorobenzidine
U074	764–41–0	1,4-Dichloro-2-butene (I,T)
U075	75–71–8	Dichlorodifluoromethane
U078	75–35–4	1,1-Dichloroethylene
U079	156–60–5	1,2-Dichloroethylene
U025	111–44–4	Dichloroethyl ether
U027	108–60–1	Dichloroisopropyl ether
U024	111–91–1	Dichloromethoxy ethane
U081	120–83–2	2,4-Dichlorophenol
U082	87–65–0	2,6-Dichlorophenol
U084	542–75–6	1,3-Dichloropropene
U085	1464–53–5	1,2:3,4-Diepoxybutane (I,T)
U108	123–91–1	1,4-Diethyleneoxide
U028	117–81–7	Diethylhexyl phthalate
U395	5952–26–1	Diethylene glycol, dicarbamate.
U086	1615–80–1	N,N′-Diethylhydrazine
U087	3288–58–2	O,O-Diethyl S-methyl dithiophosphate
U088	84–66–2	Diethyl phthalate
U089	56–53–1	Diethylstilbesterol
U090	94–58–6	Dihydrosafrole
U091	119–90–4	3,3′-Dimethoxybenzidine
U092	124–40–3	Dimethylamine (I)
U093	60–11–7	p-Dimethylaminoazobenzene
U094	57–97–6	7,12-Dimethylbenz[a]anthracene
U095	119–93–7	3,3′-Dimethylbenzidine
U096	80–15–9	alpha,alpha-Dimethylbenzylhydroperoxide (R)
U097	79–44–7	Dimethylcarbamoyl chloride
U098	57–14–7	1,1-Dimethylhydrazine
U099	540–73–8	1,2-Dimethylhydrazine
U101	105–67–9	2,4-Dimethylphenol
U102	131–11–3	Dimethyl phthalate
U103	77–78–1	Dimethyl sulfate
U105	121–14–2	2,4-Dinitrotoluene
U106	606–20–2	2,6-Dinitrotoluene
U107	117–84–0	Di-n-octyl phthalate
U108	123–91–1	1,4-Dioxane
U109	122–66–7	1,2-Diphenylhydrazine
U110	142–84–7	Dipropylamine (I)
U111	621–64–7	Di-n-propylnitrosamine
U041	106–89–8	Epichlorohydrin
U001	75–07–0	Ethanal (I)
U404	121–44–8	Ethanamine, N,N-diethyl-
U174	55–18–5	Ethanamine, N-ethyl-N-nitroso-
U155	91–80–5	1,2-Ethanediamine, N,N-dimethyl-N′-2-pyridinyl-N′-(2-thienylmethyl)-
U067	106–93–4	Ethane, 1,2-dibromo-
U076	75–34–3	Ethane, 1,1-dichloro-
U077	107–06–2	Ethane, 1,2-dichloro-
U131	67–72–1	Ethane, hexachloro-

Hazardous waste No.	Chemical abstracts No.	Substance
U024	111–91–1	Ethane, 1,1′-[methylenebis(oxy)]bis[2-chloro-
U117	60–29–7	Ethane, 1,1′-oxybis-(I)
U025	111–44–4	Ethane, 1,1′-oxybis[2-chloro-
U184	76–01–7	Ethane, pentachloro-
U208	630–20–6	Ethane, 1,1,1,2-tetrachloro-
U209	79–34–5	Ethane, 1,1,2,2-tetrachloro-
U218	62–55–5	Ethanethioamide
U226	71–55–6	Ethane, 1,1,1-trichloro-
U227	79–00–5	Ethane, 1,1,2-trichloro-
U410	59669–26–0	Ethanimidothioic acid, N,N'- [thiobis[(methylimino)carbonyloxy]]bis-, dimethyl ester
U394	30558–43–1	Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-, methyl ester.
U359	110–80–5	Ethanol, 2-ethoxy-
U173	1116–54–7	Ethanol, 2,2′-(nitrosoimino)bis-
U395	5952–26–1	Ethanol, 2,2′-oxybis-, dicarbamate.
U004	98–86–2	Ethanone, 1-phenyl-
U043	75–01–4	Ethene, chloro-
U042	110–75–8	Ethene, (2-chloroethoxy)-
U078	75–35–4	Ethene, 1,1-dichloro-
U079	156–60–5	Ethene, 1,2-dichloro-, (E)-
U210	127–18–4	Ethene, tetrachloro-
U228	79–01–6	Ethene, trichloro-
U112	141–78–6	Ethyl acetate (I)
U113	140–88–5	Ethyl acrylate (I)
U238	51–79–6	Ethyl carbamate (urethane)
U117	60–29–7	Ethyl ether (I)
U114	[1] 111–54–6	Ethylenebisdithiocarbamic acid, salts & esters
U067	106–93–4	Ethylene dibromide
U077	107–06–2	Ethylene dichloride
U359	110–80–5	Ethylene glycol monoethyl ether
U115	75–21–8	Ethylene oxide (I,T)
U116	96–45–7	Ethylenethiourea
U076	75–34–3	Ethylidene dichloride
U118	97–63–2	Ethyl methacrylate
U119	62–50–0	Ethyl methanesulfonate
U120	206–44–0	Fluoranthene
U122	50–00–0	Formaldehyde
U123	64–18–6	Formic acid (C,T)
U124	110–00–9	Furan (I)
U125	98–01–1	2-Furancarboxaldehyde (I)
U147	108–31–6	2,5-Furandione
U213	109–99–9	Furan, tetrahydro-(I)
U125	98–01–1	Furfural (I)
U124	110–00–9	Furfuran (I)
U206	18883–66–4	Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-, D-
U206	18883–66–4	D-Glucose, 2-deoxy-2-[[(methylnitrosoamino)-carbonyl]amino]-
U126	765–34–4	Glycidylaldehyde
U163	70–25–7	Guanidine, N-methyl-N′-nitro-N-nitroso-
U127	118–74–1	Hexachlorobenzene
U128	87–68–3	Hexachlorobutadiene
U130	77–47–4	Hexachlorocyclopentadiene
U131	67–72–1	Hexachloroethane
U132	70–30–4	Hexachlorophene
U243	1888–71–7	Hexachloropropene
U133	302–01–2	Hydrazine (R,T)
U086	1615–80–1	Hydrazine, 1,2-diethyl-
U098	57–14–7	Hydrazine, 1,1-dimethyl-
U099	540–73–8	Hydrazine, 1,2-dimethyl-
U109	122–66–7	Hydrazine, 1,2-diphenyl-
U134	7664–39–3	Hydrofluoric acid (C,T)
U134	7664–39–3	Hydrogen fluoride (C,T)
U135	7783–06–4	Hydrogen sulfide
U135	7783–06–4	Hydrogen sulfide H_2S
U096	80–15–9	Hydroperoxide, 1-methyl-1-phenylethyl- (R)
U116	96–45–7	2-Imidazolidinethione
U137	193–39–5	Indeno[1,2,3-cd]pyrene
U190	85–44–9	1,3-Isobenzofurandione
U140	78–83–1	Isobutyl alcohol (I,T)
U141	120–58–1	Isosafrole
U142	143–50–0	Kepone
U143	303–34–4	Lasiocarpine
U144	301–04–2	Lead acetate

Hazardous waste No.	Chemical abstracts No.	Substance
U146	1335–32–6	Lead, bis(acetato-O)tetrahydroxytri-
U145	7446–27–7	Lead phosphate
U146	1335–32–6	Lead subacetate
U129	58–89–9	Lindane
U163	70–25–7	MNNG
U147	108–31–6	Maleic anhydride
U148	123–33–1	Maleic hydrazide
U149	109–77–3	Malononitrile
U150	148–82–3	Melphalan
U151	7439–97–6	Mercury
U152	126–98–7	Methacrylonitrile (I, T)
U092	124–40–3	Methanamine, N-methyl- (I)
U029	74–83–9	Methane, bromo-
U045	74–87–3	Methane, chloro- (I, T)
U046	107–30–2	Methane, chloromethoxy-
U068	74–95–3	Methane, dibromo-
U080	75–09–2	Methane, dichloro-
U075	75–71–8	Methane, dichlorodifluoro-
U138	74–88–4	Methane, iodo-
U119	62–50–0	Methanesulfonic acid, ethyl ester
U211	56–23–5	Methane, tetrachloro-
U153	74–93–1	Methanethiol (I, T)
U225	75–25–2	Methane, tribromo-
U044	67–66–3	Methane, trichloro-
U121	75–69–4	Methane, trichlorofluoro-
U036	57–74–9	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-
U154	67–56–1	Methanol (I)
U155	91–80–5	Methapyrilene
U142	143–50–0	1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-
U247	72–43–5	Methoxychlor
U154	67–56–1	Methyl alcohol (I)
U029	74–83–9	Methyl bromide
U186	504–60–9	1-Methylbutadiene (I)
U045	74–87–3	Methyl chloride (I,T)
U156	79–22–1	Methyl chlorocarbonate (I,T)
U226	71–55–6	Methyl chloroform
U157	56–49–5	3-Methylcholanthrene
U158	101–14–4	4,4′-Methylenebis(2-chloroaniline)
U068	74–95–3	Methylene bromide
U080	75–09–2	Methylene chloride
U159	78–93–3	Methyl ethyl ketone (MEK) (I,T)
U160	1338–23–4	Methyl ethyl ketone peroxide (R,T)
U138	74–88–4	Methyl iodide
U161	108–10–1	Methyl isobutyl ketone (I)
U162	80–62–6	Methyl methacrylate (I,T)
U161	108–10–1	4-Methyl-2-pentanone (I)
U164	56–04–2	Methylthiouracil
U010	50–07–7	Mitomycin C
U059	20830–81–3	5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-
U167	134–32–7	1-Naphthalenamine
U168	91–59–8	2-Naphthalenamine
U026	494–03–1	Naphthalenamine, N,N′-bis(2-chloroethyl)-
U165	91–20–3	Naphthalene
U047	91–58–7	Naphthalene, 2-chloro-
U166	130–15–4	1,4-Naphthalenedione
U236	72–57–1	2,7-Naphthalenedisulfonic acid, 3,3′-[(3,3′-dimethyl[1,1′-biphenyl]-4,4′-diyl)bis(azo)bis[5-amino-4-hydroxy]-, tetrasodium salt
U279	63–25–2	1-Naphthalenol, methylcarbamate.
U166	130–15–4	1,4-Naphthoquinone
U167	134–32–7	alpha-Naphthylamine
U168	91–59–8	beta-Naphthylamine
U217	10102–45–1	Nitric acid, thallium(1+) salt
U169	98–95–3	Nitrobenzene (I,T)
U170	100–02–7	p-Nitrophenol
U171	79–46–9	2-Nitropropane (I,T)
U172	924–16–3	N-Nitrosodi-n-butylamine
U173	1116–54–7	N-Nitrosodiethanolamine
U174	55–18–5	N-Nitrosodiethylamine
U176	759–73–9	N-Nitroso-N-ethylurea
U177	684–93–5	N-Nitroso-N-methylurea
U178	615–53–2	N-Nitroso-N-methylurethane

Hazardous waste No.	Chemical abstracts No.	Substance
U179	100–75–4	N-Nitrosopiperidine
U180	930–55–2	N-Nitrosopyrrolidine
U181	99–55–8	5-Nitro-o-toluidine
U193	1120–71–4	1,2-Oxathiolane, 2,2-dioxide
U058	50–18–0	2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide
U115	75–21–8	Oxirane (I,T)
U126	765–34–4	Oxiranecarboxyaldehyde
U041	106–89–8	Oxirane, (chloromethyl)-
2	123–63–7	Paraldehyde
U183	608–93–5	Pentachlorobenzene
U184	76–01–7	Pentachloroethane
U185	82–68–8	Pentachloronitrobenzene (PCNB)
See F027	87–86–5	Pentachlorophenol
U161	108–10–1	Pentanol, 4-methyl-
U186	504–60–9	1,3-Pentadiene (I)
U187	62–44–2	Phenacetin
U188	108–95–2	Phenol
U048	95–57–8	Phenol, 2-chloro-
U039	59–50–7	Phenol, 4-chloro-3-methyl-
U081	120–83–2	Phenol, 2,4-dichloro-
U082	87–65–0	Phenol, 2,6-dichloro-
U089	56–53–1	Phenol, 4,4′-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-
U101	105–67–9	Phenol, 2,4-dimethyl-
U052	1319–77–3	Phenol, methyl-
U132	70–30–4	Phenol, 2,2′-methylenebis[3,4,6-trichloro-
U411	114–26–1	Phenol, 2-(1-methylethoxy)-, methylcarbamate.
U170	100–02–7	Phenol, 4-nitro-
See F027	87–86–5	Phenol, pentachloro-
See F027	58–90–2	Phenol, 2,3,4,6-tetrachloro-
See F027	95–95–4	Phenol, 2,4,5-trichloro-
See F027	88–06–2	Phenol, 2,4,6-trichloro-
U150	148–82–3	L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-
U145	7446–27–7	Phosphoric acid, lead(2+) salt (2:3)
U087	3288–58–2	Phosphorodithioic acid, O,O-diethyl S-methyl ester
U189	1314–80–3	Phosphorus sulfide (R)
U190	85–44–9	Phthalic anhydride
U191	109–06–8	2-Picoline
U179	100–75–4	Piperidine, 1-nitroso-
U192	23950–58–5	Pronamide
U194	107–10–8	1-Propanamine (I,T)
U111	621–64–7	1-Propanamine, N-nitroso-N-propyl-
U110	142–84–7	1-Propanamine, N-propyl- (I)
U066	96–12–8	Propane, 1,2-dibromo-3-chloro-
U083	78–87–5	Propane, 1,2-dichloro-
U149	109–77–3	Propanedinitrile
U171	79–46–9	Propane, 2-nitro- (I,T)
U027	108–60–1	Propane, 2,2′-oxybis[2-chloro-
U193	1120–71–4	1,3-Propane sultone
See F027	93–72–1	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-
U235	126–72–7	1-Propanol, 2,3-dibromo-, phosphate (3:1)
U140	78–83–1	1-Propanol, 2-methyl- (I,T)
U002	67–64–1	2-Propanone (I)
U007	79–06–1	2-Propenamide
U084	542–75–6	1-Propene, 1,3-dichloro-
U243	1888–71–7	1-Propene, 1,1,2,3,3,3-hexachloro-
U009	107–13–1	2-Propenenitrile
U152	126–98–7	2-Propenenitrile, 2-methyl- (I,T)
U008	79–10–7	2-Propenoic acid (I)
U113	140–88–5	2-Propenoic acid, ethyl ester (I)
U118	97–63–2	2-Propenoic acid, 2-methyl-, ethyl ester
U162	80–62–6	2-Propenoic acid, 2-methyl-, methyl ester (I,T)
U373	122–42–9	Propham.
U411	114–26–1	Propoxur.
U387	52888–80–9	Prosulfocarb.
U194	107–10–8	n-Propylamine (I,T)

Hazardous waste No.	Chemical abstracts No.	Substance
U083	78–87–5	Propylene dichloride
U148	123–33–1	3,6-Pyridazinedione, 1,2-dihydro-
U196	110–86–1	Pyridine
U191	109–06–8	Pyridine, 2-methyl-
U237	66–75–1	2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-
U164	56–04–2	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-
U180	930–55–2	Pyrrolidine, 1-nitroso-
U200	50–55–5	Reserpine
U201	108–46–3	Resorcinol
U202	[1] 81–07–2	Saccharin, & salts
U203	94–59–7	Safrole
U204	7783–00–8	Selenious acid
U204	7783–00–8	Selenium dioxide
U205	7488–56–4	Selenium sulfide
U205	7488–56–4	Selenium sulfide SeS_2 (R,T)
U015	115–02–6	L-Serine, diazoacetate (ester)
See F027	93–72–1	Silvex (2,4,5-TP)
U206	18883–66–4	Streptozotocin
U103	77–78–1	Sulfuric acid, dimethyl ester
U189	1314–80–3	Sulfur phosphide (R)
See F027	93–76–5	2,4,5-T
U207	95–94–3	1,2,4,5-Tetrachlorobenzene
U208	630–20–6	1,1,1,2-Tetrachloroethane
U209	79–34–5	1,1,2,2-Tetrachloroethane
U210	127–18–4	Tetrachloroethylene
See F027	58–90–2	2,3,4,6-Tetrachlorophenol
U213	109–99–9	Tetrahydrofuran (I)
U214	563–68–8	Thallium(I) acetate
U215	6533–73–9	Thallium(I) carbonate
U216	7791–12–0	Thallium(I) chloride
U216	7791–12–0	Thallium chloride Tlcl
U217	10102–45–1	Thallium(I) nitrate
U218	62–55–5	Thioacetamide
U410	59669–26–0	Thiodicarb.
U153	74–93–1	Thiomethanol (I,T)
U244	137–26–8	Thioperoxydicarbonic diamide $[(H_2N)C(S)]_2S_2$, tetramethyl-
U409	23564–05–8	Thiophanate-methyl.
U219	62–56–6	Thiourea
U244	137–26–8	Thiram
U220	108–88–3	Toluene
U221	25376–45–8	Toluenediamine
U223	26471–62–5	Toluene diisocyanate (R,T)
U328	95–53–4	o-Toluidine
U353	106–49–0	p-Toluidine
U222	636–21–5	o-Toluidine hydrochloride
U389	2303–17–5	Triallate.
U011	61–82–5	1H-1,2,4-Triazol-3-amine
U227	79–00–5	1,1,2-Trichloroethane
U228	79–01–6	Trichloroethylene
U121	75–69–4	Trichloromonofluoromethane
See F027	95–95–4	2,4,5-Trichlorophenol
See F027	88–06–2	2,4,6-Trichlorophenol
U404	121–44–8	Triethylamine.
U234	99–35–4	1,3,5-Trinitrobenzene (R,T)
U182	123–63–7	1,3,5-Trioxane, 2,4,6-trimethyl-
U235	126–72–7	Tris(2,3-dibromopropyl) phosphate
U236	72–57–1	Trypan blue
U237	66–75–1	Uracil mustard
U176	759–73–9	Urea, N-ethyl-N-nitroso-
U177	684–93–5	Urea, N-methyl-N-nitroso-
U043	75–01–4	Vinyl chloride
U248	[1] 81–81–2	Warfarin, & salts, when present at concentrations of 0.3% or less
U239	1330–20–7	Xylene (I)
U200	50–55–5	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester, (3beta,16beta,17alpha,18beta,20alpha)-

Hazardous waste No.	Chemical abstracts No.	Substance
U249	1314–84–7	Zinc phosphide Zn_3P_2, when present at concentrations of 10% or less

[1] CAS Number given for parent compound only.

[45 FR 78529, 78541, Nov. 25, 1980]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §261.33, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§ 261.35 Deletion of certain hazardous waste codes following equipment cleaning and replacement.

(a) Wastes from wood preserving processes at plants that do not resume or initiate use of chlorophenolic preservatives will not meet the listing definition of F032 once the generator has met all of the requirements of paragraphs (b) and (c) of this section. These wastes may, however, continue to meet another hazardous waste listing description or may exhibit one or more of the hazardous waste characteristics.

(b) Generators must either clean or replace all process equipment that may have come into contact with chlorophenolic formulations or constituents thereof, including, but not limited to, treatment cylinders, sumps, tanks, piping systems, drip pads, fork lifts, and trams, in a manner that minimizes or eliminates the escape of hazardous waste or constituents, leachate, contaminated drippage, or hazardous waste decomposition products to the ground water, surface water, or atmosphere.

(1) Generators shall do one of the following:

(i) Prepare and follow an equipment cleaning plan and clean equipment in accordance with this section;

(ii) Prepare and follow an equipment replacement plan and replace equipment in accordance with this section; or

(iii) Document cleaning and replacement in accordance with this section, carried out after termination of use of chlorophenolic preservations.

(2) Cleaning Requirements.

(i) Prepare and sign a written equipment cleaning plan that describes:

(A) The equipment to be cleaned;

(B) How the equipment will be cleaned;

(C) The solvent to be used in cleaning;

(D) How solvent rinses will be tested; and

(E) How cleaning residues will be disposed.

(ii) Equipment must be cleaned as follows:

(A) Remove all visible residues from process equipment;

(B) Rinse process equipment with an appropriate solvent until dioxins and dibenzofurans are not detected in the final solvent rinse.

(iii) Analytical requirements.

(A) Rinses must be tested in accordance with SW–846, Method 8290.

(B) ''Not detected'' means at or below the lower method calibration limit (MCL) in Method 8290, Table 1.

(iv) The generator must manage all residues from the cleaning process as F032 waste.

(3) Replacement requirements.

(i) Prepare and sign a written equipment replacement plan that describes:

(A) The equipment to be replaced;

(B) How the equipment will be replaced; and

(C) How the equipment will be disposed.

(ii) The generator must manage the discarded equipment as F032 waste.

(4) Documentation requirements.

(i) Document that previous equipment cleaning and/or replacement was performed in accordance with this section and occurred after cessation of use of chlorophenolic preservatives.

(c) The generator must maintain the following records documenting the cleaning and replacement as part of the facility's operating record:

(1) The name and address of the facility;

(2) Formulations previously used and the date on which their use ceased in each process at the plant;

(3) Formulations currently used in each process at the plant;

(4) The equipment cleaning or replacement plan;

(5) The name and address of any persons who conducted the cleaning and replacement;

(6) The dates on which cleaning and replacement were accomplished;

(7) The dates of sampling and testing;

(8) A description of the sample handling and preparation techniques, including techniques used for extraction, containerization, preservation, and chain-of-custody of the samples;

(9) A description of the tests performed, the date the tests were performed, and the results of the tests;

(10) The name and model numbers of the instrument(s) used in performing the tests;

(11) QA/QC documentation; and

(12) The following statement signed by the generator or his authorized representative:

I certify under penalty of law that all process equipment required to be cleaned or replaced under 40 CFR 261.35 was cleaned or replaced as represented in the equipment cleaning and replacement plan and accompanying documentation. I am aware that there are significant penalties for providing false information, including the possibility of fine or imprisonment.

[55 FR 50482, Dec. 6, 1990, as amended at 56 FR 30195, July 1, 1991]

APPENDICES TO PART 261

APPENDIX I TO PART 261—REPRESENTATIVE SAMPLING METHODS

The methods and equipment used for sampling waste materials will vary with the form and consistency of the waste materials to be sampled. Samples collected using the sampling protocols listed below, for sampling waste with properties similar to the indicated materials, will be considered by the Agency to be representative of the waste.

Extremely viscous liquid—ASTM Standard D140–70 Crushed or powdered material—ASTM Standard D346–75 Soil or rock-like material—ASTM Standard D420–69 Soil-like material—ASTM Standard D1452–65

Fly Ash-like material—ASTM Standard D2234–76 [ASTM Standards are available from ASTM, 1916 Race St., Philadelphia, PA 19103]

Containerized liquid wastes—''COLIWASA'' described in ''Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods,''[1a] U.S. Environmental Protection Agency, Office of Solid Waste, Washington, DC 20460. [Copies may be obtained from Solid Waste Information, U.S. Environmental Protection Agency, 26 W. St. Clair St., Cincinnati, Ohio 45268]

Liquid waste in pits, ponds, lagoons, and similar reservoirs.—''Pond Sampler'' described in ''Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods.''[1a]

This manual also contains additional information on application of these protocols.

APPENDIX II TO PART 261—METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

Note: The TCLP (Method 1311) is published in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' EPA Publication SW–846, as incorporated by reference in §260.11 of this chapter.

[58 FR 46049, Aug. 31, 1993]

APPENDIX III TO PART 261—CHEMICAL ANALYSIS TEST METHODS

Note: Appropriate analytical procedures to determine whether a sample contains a given toxic constituent are specified in Chapter Two, ''Choosing the Correct Procedure'' found in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' EPA Publication SW–846, as incorporated by reference in §260.11 of this chapter. Prior to final sampling and analysis method selection, the individual should consult the specific section or method described in SW–846 for additional guidance on which of the approved methods should be employed for a specific sample analysis situation.

[58 FR 46049, Aug. 31, 1993]

[1a] These methods are also described in ''Samplers and Sampling Procedures for Hazardous Waste Streams,'' EPA 600/2–80–018, January 1980.

APPENDIX IV TO PART 261—[RESERVED FOR RADIOACTIVE WASTE TEST METHODS]

APPENDIX V TO PART 261—[RESERVED FOR INFECTIOUS WASTE TREATMENT SPECIFICATIONS]

APPENDIX VI TO PART 261—[RESERVED FOR ETIOLOGIC AGENTS]

APPENDIX VII TO PART 261—BASIS FOR LISTING HAZARDOUS WASTE

EPA hazardous waste No.	Hazardous constituents for which listed
F001	Tetrachloroethylene, methylene chloride trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, chlorinated fluorocarbons.
F002	Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trichfluoroethane, ortho-dichlorobenzene, trichlorofluoromethane.
F003	N.A.
F004	Cresols and cresylic acid, nitrobenzene.
F005	Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, 2-ethoxyethanol, benzene, 2-nitropropane.
F006	Cadmium, hexavalent chromium, nickel, cyanide (complexed).
F007	Cyanide (salts).
F008	Cyanide (salts).
F009	Cyanide (salts).
F010	Cyanide (salts).
F011	Cyanide (salts).
F012	Cyanide (complexed).
F019	Hexavalent chromium, cyanide (complexed).
F020	Tetra- and pentachlorodibenzo-*p*-dioxins; tetra and pentachlorodi-benzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts.
F021	Penta- and hexachlorodibenzo-*p*-dioxins; penta- and hexachlorodibenzofurans; pentachlorophenol and its derivatives.
F022	Tetra-, penta-, and hexachlorodibenzo-*p*-dioxins; tetra-, penta-, and hexachlorodibenzofurans.
F023	Tetra-, and pentachlorodibenzo-*p*-dioxins; tetra- and pentachlorodibenzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts.
F024	Chloromethane, dichloromethane, trichloromethane, carbon tetrachloride, chloroethylene, 1,1-dichloroethane, 1,2-dichloroethane, trans-1-2-dichloroethylene, 1,1-dichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethylene, 1,1,1,2-tetra-chloroethane, 1,1,2,2-tetrachloroethane, tetrachloroethylene, pentachloroethane, hexachloroethane, allyl chloride (3-chloropropene), dichloropropane, dichloropropene, 2-chloro-1,3-butadiene, hexachloro-1,3-butadiene, hexachlorocyclopentadiene, hexachlorocyclohexane, benzene, chlorbenzene, dichlorobenzenes, 1,2,4-trichlorobenzene, tetrachlorobenzene, pentachlorobenzene, hexachlorobenzene, toluene, naphthalene.
F025	Chloromethane; Dichloromethane; Trichloromethane; Carbon tetrachloride; Chloroethylene; 1,1-Dichloroethane; 1,2-Dichloroethane; trans-1,2-Dichloroethylene; 1,1-Dichloroethylene; 1,1,1-Trichloroethane; 1,1,2-Trichloroethane; Trichloroethylene; 1,1,1,2-Tetrachloroethane; 1,1,2,2-Tetrachloroethane; Tetrachloroethylene; Pentachloroethane; Hexachloroethane; Allyl chloride (3-Chloropropene); Dichloropropane; Dichloropropene; 2-Chloro-1,3-butadiene; Hexachloro-1,3-butadiene; Hexachlorocyclopentadiene; Benzene; Chlorobenzene; Dichlorobenzene; 1,2,4-Trichlorobenzene; Tetrachlorobenzene; Pentachlorobenzene; Hexachlorobenzene; Toluene; Naphthalene.
F026	Tetra-, penta-, and hexachlorodibenzo-*p*-dioxins; tetra-, penta-, and hexachlorodibenzofurans.
F027	Tetra-, penta-, and hexachlorodibenzo-*p*-dioxins; tetra-, penta-, and hexachlorodibenzofurans; tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts.
F028	Tetra-, penta-, and hexachlorodibenzo-*p*-dioxins; tetra-, penta-, and hexachlorodibenzofurans; tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts.
F032	Benz(a)anthracene, benzo(a)pyrene, dibenz(a,h)-anthracene, indeno(1,2,3-cd)pyrene, pentachlorophenol, arsenic, chromium, tetra-, penta-, hexa-, heptachlorodibenzo-p-dioxins, tetra-, penta-, hexa-, heptachlorodibenzofurans.
F034	Benz(a)anthracene, benzo(k)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, naphthalene, arsenic, chromium.
F035	Arsenic, chromium, lead.
F037	Benzene, benzo(a)pyrene, chrysene, lead, chromium.
F038	Benzene, benzo(a)pyrene chrysene, lead, chromium.
F039	All constituents for which treatment standards are specified for multi-source leachate (wastewaters and nonwastewaters) under 40 CFR 268.43(a), Table CCW.
K001	Pentachlorophenol, phenol, 2-chlorophenol, p-chloro-m-cresol, 2,4-dimethylphenyl, 2,4-dinitrophenol, trichlorophenols, tetrachlorophenols, 2,4-dinitrophenol, cresosote, chrysene, naphthalene, fluoranthene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benz(a)anthracene, dibenz(a)anthracene, acenaphthalene.
K002	Hexavalent chromium, lead
K003	Hexavalent chromium, lead.
K004	Hexavalent chromium.
K005	Hexavalent chromium, lead.
K006	Hexavalent chromium.
K007	Cyanide (complexed), hexavalent chromium.
K008	Hexavalent chromium.
K009	Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid.
K010	Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid, chloroacetaldehyde.
K011	Acrylonitrile, acetonitrile, hydrocyanic acid.
K013	Hydrocyanic acid, acrylonitrile, acetonitrile.
K014	Acetonitrile, acrylamide.

EPA hazardous waste No.	Hazardous constituents for which listed
K015	Benzyl chloride, chlorobenzene, toluene, benzotrichloride.
K016	Hexachlorobenzene, hexachlorobutadiene, carbon tetrachloride, hexachloroethane, perchloroethylene.
K017	Epichlorohydrin, chloroethers [bis(chloromethyl) ether and bis (2-chloroethyl) ethers], trichloropropane, dichloropropanols.
K018	1,2-dichloroethane, trichloroethylene, hexachlorobutadiene, hexachlorobenzene.
K019	Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride.
K020	Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride.
K021	Antimony, carbon tetrachloride, chloroform.
K022	Phenol, tars (polycyclic aromatic hydrocarbons).
K023	Phthalic anhydride, maleic anhydride.
K024	Phthalic anhydride, 1,4-naphthoquinone.
K025	Meta-dinitrobenzene, 2,4-dinitrotoluene.
K026	Paraldehyde, pyridines, 2-picoline.
K027	Toluene diisocyanate, toluene-2, 4-diamine.
K028	1,1,1-trichloroethane, vinyl chloride.
K029	1,2-dichloroethane, 1,1,1-trichloroethane, vinyl chloride, vinylidene chloride, chloroform.
K030	Hexachlorobenzene, hexachlorobutadiene, hexachloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, ethylene dichloride.
K031	Arsenic.
K032	Hexachlorocyclopentadiene.
K033	Hexachlorocyclopentadiene.
K034	Hexachlorocyclopentadiene.
K035	Creosote, chrysene, naphthalene, fluoranthene benzo(b) fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd) pyrene, benzo(a)anthracene, dibenzo(a)anthracene, acenaphthalene.
K036	Toluene, phosphorodithioic and phosphorothioic acid esters.
K037	Toluene, phosphorodithioic and phosphorothioic acid esters.
K038	Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters.
K039	Phosphorodithioic and phosphorothioic acid esters.
K040	Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters.
K041	Toxaphene.
K042	Hexachlorobenzene, ortho-dichlorobenzene.
K043	2,4-dichlorophenol, 2,6-dichlorophenol, 2,4,6-trichlorophenol.
K044	N.A.
K045	N.A.
K046	Lead.
K047	N.A.
K048	Hexavalent chromium, lead.
K049	Hexavalent chromium, lead.
K050	Hexavalent chromium.
K051	Hexavalent chromium, lead.
K052	Lead.
K060	Cyanide, napthalene, phenolic compounds, arsenic.
K061	Hexavalent chromium, lead, cadmium.
K062	Hexavalent chromium, lead.
K064	Lead, cadmium.
K065	Do.
K066	Do.
K069	Hexavalent chromium, lead, cadmium.
K071	Mercury.
K073	Chloroform, carbon tetrachloride, hexacholroethane, trichloroethane, tetrachloroethylene, dichloroethylene, 1,1,2,2-tetrachloroethane.
K083	Aniline, diphenylamine, nitrobenzene, phenylenediamine.
K084	Arsenic.
K085	Benzene, dichlorobenzenes, trichlorobenzenes, tetrachlorobenzenes, pentachlorobenzene, hexachlorobenzene, benzyl chloride.
K086	Lead, hexavalent chromium.
K087	Phenol, naphthalene.
K088	Cyanide (complexes).
K090	Chromium.
K091	Do.
K093	Phthalic anhydride, maleic anhydride.
K094	Phthalic anhydride.
K095	1,1,2-trichloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane.
K096	1,2-dichloroethane, 1,1,1-trichloroethane, 1,1,2-trichloroethane.
K097	Chlordane, heptachlor.
K098	Toxaphene.
K099	2,4-dichlorophenol, 2,4,6-trichlorophenol.
K100	Hexavalent chromium, lead, cadmium.
K101	Arsenic.
K102	Arsenic.
K103	Aniline, nitrobenzene, phenylenediamine.
K104	Aniline, benzene, diphenylamine, nitrobenzene, phenylenediamine.
K105	Benzene, monochlorobenzene, dichlorobenzenes, 2,4,6-trichlorophenol.
K106	Mercury.
K107	1,1-Dimethylhydrazine (UDMH).
K108	1,1-Dimethylhydrazine (UDMH).
K109	1,1-Dimethylhydrazine (UDMH).
K110	1,1-Dimethylhydrazine (UDMH).
K111	2,4-Dinitrotoluene.
K112	2,4-Toluenediamine, *o*-toluidine, *p*-toluidine, aniline.
K113	2,4-Toluenediamine, *o*-toluidine, *p*-toluidine, aniline.
K114	2,4-Toluenediamine, *o*-toluidine, *p*-toluidine.
K115	2,4-Toluenediamine.
K116	Carbon tetrachloride, tetrachloroethylene, chloroform, phosgene.
K117	Ethylene dibromide.
K118	Ethylene dibromide.
K123	Ethylene thiourea.
K124	Ethylene thiourea.
K125	Ethylene thiourea.
K126	Ethylene thiourea.
K131	Dimethyl sulfate, methyl bromide.
K132	Methyl bromide.
K136	Ethylene dibromide.
K141	Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene.
K142	Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene.
K143	Benzene, benz(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene.
K144	Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene.

EPA hazardous waste No.	Hazardous constituents for which listed
K145	Benzene, benz(a)anthracene, benzo(a)pyrene, dibenz(a,h)anthracene, naphthalene.
K147	Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene.
K148	Benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene.
K149	Benzotrichloride, benzyl chloride, chloroform, chloromethane, chlorobenzene, 1,4-dichlorobenzene, hexachlorobenzene, pentachlorobenzene, 1,2,4,5-tetrachlorobenzene, toluene.
K150	Carbon tetrachloride, chloroform, chloromethane, 1,4-dichlorobenzene, hexachlorobenzene, pentachlorobenzene, 1,2,4,5-tetrachlorobenzene, 1,1,2,2-tetrachloroethane, tetrachloroethylene, 1,2,4-trichlorobenzene.
K151	Benzene, carbon tetrachloride, chloroform, hexachlorobenzene, pentachlorobenzene, toluene, 1,2,4,5-tetrachlorobenzene, tetrachloroethylene.
K156	Benomyl, carbaryl, carbendazim, carbofuran, carbosulfan, formaldehyde, methylene chloride, triethylamine.
K157	Carbon tetrachloride, formaldehyde, methyl chloride, methylene chloride, pyridine, triethylamine.
K158	Benomyl, carbendazim, carbofuran, carbosulfan, chloroform, methylene chloride.
K159	Benzene, butylate, eptc, molinate, pebulate, vernolate.
K161	Antimony, arsenic, metam-sodium, ziram.

N.A.—Waste is hazardous because it fails the test for the characteristic of ignitability, corrosivity, or reactivity.

[46 FR 4619, Jan. 16, 1981]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting Appendix VII, part 261, see the List of CFR Sections Affected in the Finding Aids section of this volume.

APPENDIX VIII TO PART 261—HAZARDOUS CONSTITUENTS

Common name	Chemical abstracts name	Chemical abstracts No.	Hazardous waste No.
A2213	Ethanimidothioic acid, 2- (dimethylamino) -N-hydroxy-2-oxo-, methyl ester.	30558–43–1	U394
Acetonitrile	Same	75–05–8	U003
Acetophenone	Ethanone, 1-phenyl-	98–86–2	U004
2-Acetylaminefluarone	Acetamide, N-9H-fluoren-2-yl-	53–96–3	U005
Acetyl chloride	Same	75–36–5	U006
1-Acetyl-2-thiourea	Acetamide, N-(aminothioxomethyl)-	591–08–2	P002
Acrolein	2-Propenal	107–02–8	P003
Acrylamide	2-Propenamide	79–06–1	U007
Acrylonitrile	2-Propenenitrile	107–13–1	U009
Aflatoxins	Same	1402–68–2	.....
Aldicarb	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime.	116–06–3	P070
Aldicarb sulfone	Propanal, 2-methyl-2- (methylsulfonyl) -, O-[(methylamino) carbonyl] oxime.	1646–88–4	P203
Aldrin	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha, 8abeta)-.	309–00–2	P004
Allyl alcohol	2-Propen-1-ol	107–18–6	P005
Allyl chloride	1-Propane, 3-chloro	107–18–6	.....
Aluminum phosphide	Same	20859–73–8	P006
4-Aminobiphenyl	[1,1′-Biphenyl]-4-amine	92–67–1	.....
5-(Aminomethyl)-3-isoxazolol	3(2H)-Isoxazolone, 5-(aminomethyl)-	2763–96–4	P007
4-Aminopyridine	4-Pyridinamine	504–24–5	P008
Amitrole	1H-1,2,4-Triazol-3-amine	61–82–5	U011
Ammonium vanadate	Vanadic acid, ammonium salt	7803–55–6	P119
Aniline	Benzenamine	62–53–3	U012
Antimony	Same	7440–36–0	.....
Antimony compounds, N.O.S.[1]	.....	.....	.....
Aramite	Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester.	140–57–8	.....
Arsenic	Same	7440–38–2	.....
Arsenic compounds, N.O.S.[1]	.....	.....	.....
Arsenic acid	Arsenic acid H_3AsO_4	7778–39–4	P010
Arsenic pentoxide	Arsenic oxide As_2O_5	1303–28–2	P011
Arsenic trioxide	Arsenic oxide As_2O_3	1327–53–3	P012
Auramine	Benzenamine, 4,4′-carbonimidoylbis[N,N-dimethyl.	492–80–8	U014
Azaserine	L-Serine, diazoacetate (ester)	115–02–6	U015
Barban	Carbamic acid, (3-chlorophenyl) -, 4-chloro-2-butynyl ester.	101–27–9	U280
Barium	Same	7440–39–3	.....
Barium compounds, N.O.S.[1]	.....	.....	.....
Barium cyanide	Same	542–62–1	P013
Bendiocarb	1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate.	22781–23–3	U278
Bendiocarb phenol	1,3-Benzodioxol-4-ol, 2,2-dimethyl-,	22961–82–6	U364
Benomyl	Carbamic acid, [1- [(butylamino) carbonyl]-1H-benzimidazol-2-yl] -, methyl ester.	17804–35–2	U271
Benz[c]acridine	Same	225–51–4	U016
Benz[a]anthracene	Same	56–55–3	U018
Benzal chloride	Benzene, (dichloromethyl)-	98–87–3	U017
Benzene	Same	71–43–2	U019
Benzenearsonic acid	Arsonic acid, phenyl-	98–05–5	.....
Benzidine	[1,1′-Biphenyl]-4,4 [1]-diamine	92–87–5	U021
Benzo[b]fluoranthene	Benz[e]acephenanthrylene	205–99–2	.....
Benzo[j]fluoranthene	Same	205–82–3	.....
Benzo(k)fluoranthene	Same	207–08–9	.....
Benzo[a]pyrene	Same	50–32–8	U022
p-Benzoquinone	2,5-Cyclohexadiene-1,4-dione	106–51–4	U197
Benzotrichloride	Benzene, (trichloromethyl)-	98–07–7	U023
Benzyl chloride	Benzene, (chloromethyl)-	100–44–7	P028
Beryllium powder	Same	7440–41–7	P015
Beryllium compounds, N.O.S.[1]	.....	.....	.....
Bis(pentamethylene)-thiuram tetrasulfide	Piperidine, 1,1′-(tetrathiodicarbonothioyl)-bis-	120–54–7	.....
Bromoacetone	2-Propanone, 1-bromo-	598–31–2	P017
Bromoform	Methane, tribromo-	75–25–2	U225
4-Bromophenyl phenyl ether	Benzene, 1-bromo-4-phenoxy-	101–55–3	U030
Brucine	Strychnidin-10-one, 2,3-dimethoxy-	357–57–3	P018

Common name	Chemical abstracts name	Chemical abstracts No.	Hazardous waste No.
Butyl benzyl phthalate	1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester.	85–68–7	
Butylate	Carbamothioic acid, bis(2-methylpropyl)-, S-ethyl ester.	2008–41–5	
Cacodylic acid	Arsinic acid, dimethyl-	75–60–5	U136
Cadmium	Same	7440–43–9	
Cadmium compounds, N.O.S.[1]			
Calcium chromate	Chromic acid H_2CrO_4, calcium salt	13765–19–0	U032
Calcium cyanide	Calcium cyanide $Ca(CN)_2$	592–01–8	P021
Carbaryl	1-Naphthalenol, methylcarbamate	63–25–2	U279
Carbendazim	Carbamic acid, 1H-benzimidazol-2-yl, methyl ester.	10605–21–7	U372
Carbofuran	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate.	1563–66–2	P127
Carbofuran phenol	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-	1563–38–8	U367
Carbon disulfide	Same	75–15–0	P022
Carbon oxyfluoride	Carbonic difluoride	353–50–4	U033
Carbon tetrachloride	Methane, tetrachloro-	56–23–5	U211
Carbosulfan	Carbamic acid, [(dibutylamino) thio] methyl-, 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester.	55285–14–8	P189
Chloral	Acetaldehyde, trichloro-	75–87–6	U034
Chlorambucil	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-.	305–03–3	U035
Chlordane	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-.	57–74–9	U036
Chlordane (alpha and gamma isomers)			U036
Chlorinated benzenes, N.O.S.[1]			
Chlorinated ethane, N.O.S.[1]			
Chlorinated fluorocarbons, N.O.S.[1]			
Chlorinated naphthalene, N.O.S.[1]			
Chlorinated phenol, N.O.S.[1]			
Chlornaphazin	Naphthalenamine, N,N′-bis(2-chloroethyl)-	494–03–1	U026
Chloroacetaldehyde	Acetaldehyde, chloro-	107–20–0	P023
Chloroalkyl ethers, N.O.S.[1]			
p-Chloroaniline	Benzenamine, 4-chloro-	106–47–8	P024
Chlorobenzene	Benzene, chloro-	108–90–7	U037
Chlorobenzilate	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester.	510–15–6	U038
p-Chloro-m-cresol	Phenol, 4-chloro-3-methyl-	59–50–7	U039
2-Chloroethyl vinyl ether	Ethene, (2-chloroethoxy)-	110–75–8	U042
Chloroform	Methane, trichloro-	67–66–3	U044
Chloromethyl methyl ether	Methane, chloromethoxy-	107–30–2	U046
beta-Chloronaphthalene	Naphthalene, 2-chloro-	91–58–7	U047
o-Chlorophenol	Phenol, 2-chloro-	95–57–8	U048
1-(o-Chlorophenyl)thiourea	Thiourea, (2-chlorophenyl)-	5344–82–1	P026
Chloroprene	1,3-Butadiene, 2-chloro-	126–99–8	
3-Chloropropionitrile	Propanenitrile, 3-chloro-	542–76–7	P027
Chromium	Same	7440–47–3	
Chromium compounds, N.O.S.[1]			
Chrysene	Same	218–01–9	U050
Citrus red No. 2	2-Naphthalenol, 1-[(2,5-dimethoxyphenyl)azo]-.	6358–53–8	
Coal tar creosote	Same	8007–45–2	
Copper cyanide	Copper cyanide CuCN	544–92–3	P029
Copper dimethyldithiocarbamate	Copper, bis(dimethylcarbamodithioato-S,S')-,	137–29–1	
Creosote	Same		U051
Cresol (Cresylic acid)	Phenol, methyl-	1319–77–3	U052
Crotonaldehyde	2-Butenal	4170–30–3	U053
m-Cumenyl methylcarbamate	Phenol, 3-(methylethyl)-, methyl carbamate	64–00–6	P202
Cyanides (soluble salts and complexes) N.O.S.[1].			P030
Cyanogen	Ethanedinitrile	460–19–5	P031
Cyanogen bromide	Cyanogen bromide (CN)Br	506–68–3	U246
Cyanogen chloride	Cyanogen chloride (CN)Cl	506–77–4	P033
Cycasin	beta-D-Glucopyranoside, (methyl-ONN-azoxy)methyl.	14901–08–7	
Cycloate	Carbamothioic acid, cyclohexylethyl-, S-ethyl ester.	1134–23–2	
2-Cyclohexyl-4,6-dinitrophenol	Phenol, 2-cyclohexyl-4,6-dinitro-	131–89–5	P034
Cyclophosphamide	2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide.	50–18–0	U058
2,4-D	Acetic acid, (2,4-dichlorophenoxy)-	94–75–7	U240

Common name	Chemical abstracts name	Chemical abstracts No.	Hazardous waste No.
2,4-D, salts, esters			U240
Daunomycin	5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-.	20830–81–3	U059
Dazomet	2H–1,3,5-thiadiazine-2-thione, tetrahydro-3,5-dimethyl.	533–74–4	
DDD	Benzene, 1,1′-(2,2-dichloroethylidene)bis[4-chloro-.	72–54–8	U060
DDE	Benzene, 1,1′-(dichloroethenylidene)bis[4-chloro-.	72–55–9	
DDT	Benzene, 1,1′-(2,2,2-trichloroethylidene)bis[4-chloro-.	50–29–3	U061
Diallate	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester.	2303–16–4	U062
Dibenz[a,h]acridine	Same	226–36–8	
Dibenz[a,j]acridine	Same	224–42–0	
Dibenz[a,h]anthracene	Same	53–70–3	U063
7H-Dibenzo[c,g]carbazole	Same	194–59–2	
Dibenzo[a,e]pyrene	Naphtho[1,2,3,4-def]chrysene	192–65–4	
Dibenzo[a,h]pyrene	Dibenzo[b,def]chrysene	189–64–0	
Dibenzo[a,i]pyrene	Benzo[rst]pentaphene	189–55–9	U064
1,2-Dibromo-3-chloropropane	Propane, 1,2-dibromo-3-chloro-	96–12–8	U066
Dibutyl phthalate	1,2-Benzenedicarboxylic acid, dibutyl ester	84–74–2	U069
o-Dichlorobenzene	Benzene, 1,2-dichloro-	95–50–1	U070
m-Dichlorobenzene	Benzene, 1,3-dichloro-	541–73–1	U071
p-Dichlorobenzene	Benzene, 1,4-dichloro-	106–46–7	U072
Dichlorobenzene, N.O.S.[1]	Benzene, dichloro-	25321–22–6	
3,3′-Dichlorobenzidine	[1,1′-Biphenyl]-4,4′-diamine, 3,3′-dichloro-	91–94–1	U073
1,4-Dichloro-2-butene	2-Butene, 1,4-dichloro-	764–41–0	U074
Dichlorodifluoromethane	Methane, dichlorodifluoro-	75–71–8	U075
Dichloroethylene, N.O.S.[1]	Dichloroethylene	25323–30–2	
1,1-Dichloroethylene	Ethene, 1,1-dichloro-	75–35–4	U078
1,2-Dichloroethylene	Ethene, 1,2-dichlrol-, (E)-	156–60–5	U079
Dichloroethyl ether	Ethane, 1,1′oxybis[2-chloro-	111–44–4	U025
Dichloroisopropyl ether	Propane, 2,2′-oxybis[2-chloro-	108–60–1	U027
Dichloromethoxy ethane	Ethane, 1,1′-[methylenebis(oxy)]bis[2-chloro-	111–91–1	U024
Dichloromethyl ether	Methane, oxybis[chloro-	542-88-1	P016
2,4-Dichlorophenol	Phenol, 2,4-dichloro-	120–83–2	U081
2,6-Dichlorophenol	Phenol, 2,6-dichloro-	87–65–0	U082
Dichlorophenylarsine	Arsonous dichloride, phenyl-	696–28–6	P036
Dichloropropane, N.O.S.[1]	Propane, dichloro-	26638–19–7	
Dichloropropanol, N.O.S.[1]	Propanol, dichloro-	26545–73–3	
Dichloropropene, N.O.S.[1]	1-Propene, dichloro-	26952–23–8	
1,3-Dichloropropene	1-Propene, 1,3-dichloro-	542–75–6	U084
Dieldrin	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta, 6aalpha,7beta,7aalpha)-.	60–57–1	P037
1,2:3,4-Diepoxybutane	2,2′-Bioxirane	1464–53–5	U085
Diethylarsine	Arsine, diethyl-	692–42–2	P038
Diethylene glycol, dicarbamate	Ethanol, 2,2'-oxybis-, dicarbamate	5952–26–1	U395
1,4-Diethyleneoxide	1,4-Dioxane	123–91–1	U108
Diethylhexyl phthalate	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester.	117–81–7	U028
N,N′-Diethylhydrazine	Hydrazine, 1,2-diethyl-	1615–80–1	U086
O,O-Diethyl S-methyl dithiophosphate	Phosphorodithioic acid, O,O-diethyl S-methyl ester.	3288–58–2	U087
Diethyl-p-nitrophenyl phosphate	Phosphoric acid, diethyl 4-nitrophenyl ester	311–45–5	P041
Diethyl phthalate	1,2-Benzenedicarboxylic acid, diethyl ester	84–66–2	U088
O,O-Diethyl O-pyrazinyl phosphoro- thioate	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester.	297–97–2	P040
Diethylstilbesterol	Phenol, 4,4′-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-.	56–53–1	U089
Dihydrosafrole	1,3-Benzodioxole, 5-propyl-	94–58–6	U090
Diisopropylfluorophosphate (DFP)	Phosphorofluoridic acid, bis(1-methylethyl) ester.	55–91–4	P043
Dimethoate	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester.	60–51–5	P044
3,3′-Dimethoxybenzidine	[1,1′-Biphenyl]-4,4′-diamine, 3,3′-dimethoxy-	119–90–4	U091
p-Dimethylaminoazobenzene	Benzenamine, N,N-dimethyl-4-(phenylazo)-	60–11–7	U093
7,12-Dimethylbenz[a]anthracene	Benz[a]anthracene, 7,12-dimethyl-	57–97–6	U094

Common name	Chemical abstracts name	Chemical abstracts No.	Hazardous waste No.
3,3′-Dimethylbenzidine	[1,1′-Biphenyl]-4,4′-diamine, 3,3′-dimethyl-	119–93–7	U095
Dimethylcarbamoyl chloride	Carbamic chloride, dimethyl-	79–44–7	U097
1,1-Dimethylhydrazine	Hydrazine, 1,1-dimethyl-	57–14–7	U098
1,2-Dimethylhydrazine	Hydrazine, 1,2-dimethyl-	540–73–8	U099
alpha,alpha-Dimethylphenethylamine	Benzeneethanamine, alpha,alpha-dimethyl-	122–09–8	P046
2,4-Dimethylphenol	Phenol, 2,4-dimethyl-	105–67–9	U101
Dimethyl phthalate	1,2-Benzenedicarboxylic acid, dimethyl ester	131–11–3	U102
Dimethyl sulfate	Sulfuric acid, dimethyl ester	77–78–1	U103
Dimetilan	Carbamic acid, dimethyl-, 1- [(dimethylamino) carbonyl]-5-methyl-1H-pyrazol-3-yl ester.	644–64–4	P191
Dinitrobenzene, N.O.S.[1]	Benzene, dinitro-	25154–54–5	.....
4,6-Dinitro-o-cresol	Phenol, 2-methyl-4,6-dinitro-	534–52–1	P047
4,6-Dinitro-o-cresol salts	.....	.....	P047
2,4-Dinitrophenol	Phenol, 2,4-dinitro-	51–28–5	P048
2,4-Dinitrotoluene	Benzene, 1-methyl-2,4-dinitro-	121–14–2	U105
2,6-Dinitrotoluene	Benzene, 2-methyl-1,3-dinitro-	606–20–2	U106
Dinoseb	Phenol, 2-(1-methylpropyl)-4,6-dinitro-	88–85–7	P020
Di-n-octyl phthalate	1,2-Benzenedicarboxylic acid, dioctyl ester	117–84–0	U017
Diphenylamine	Benzenamine, N-phenyl-	122–39–4	.....
1,2-Diphenylhydrazine	Hydrazine, 1,2-diphenyl-	122–66–7	U109
Di-n-propylnitrosamine	1-Propanamine, N-nitroso-N-propyl-	621–64–7	U111
Disulfiram	Thioperoxydicarbonic diamide, tetraethyl	97–77–8	.....
Disulfoton	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester.	298–04–4	P039
Dithiobiuret	Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$	541–53–7	P049
Endosulfan	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide.	115–29–7	P050
Endothall	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid.	145–73–3	P088
Endrin	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octa-hydro-, (1aalpha,2beta,2abeta,3alpha,6alpha, 6abeta,7beta,7aalpha)-.	72–20–8	P051
Endrin metabolites	.....	.....	P051
Epichlorohydrin	Oxirane, (chloromethyl)-	106–89–8	U041
Epinephrine	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-.	51–43–4	P042
EPTC	Carbamothioic acid, dipropyl-, S-ethyl ester	759–94–4	.....
Ethyl carbamate (urethane)	Carbamic acid, ethyl ester	51–79–6	U238
Ethyl cyanide	Propanenitrile	107–12–0	P101
Ethyl Ziram	Zinc, bis(diethylcarbamodithioato-S,S')-	14324–55–1	.....
Ethylenebisdithiocarbamic acid	Carbamodithioic acid, 1,2-ethanediylbis-	111–54–6	U114
Ethylenebisdithiocarbamic acid, salts and esters.	.....	.....	U114
Ethylene dibromide	Ethane, 1,2-dibromo-	106–93–4	U067
Ethylene dichloride	Ethane, 1,2-dichloro-	107–06–2	U077
Ethylene glycol monoethyl ether	Ethanol, 2-ethoxy-	110–80–5	U359
Ethyleneimine	Aziridine	151–56–4	P054
Ethylene oxide	Oxirane	75–21–8	U115
Ethylenethiourea	2-Imidazolidinethione	96–45–7	U116
Ethylidene dichloride	Ethane, 1,1-dichloro-	75–34–3	U076
Ethyl methacrylate	2-Propenoic acid, 2-methyl-, ethyl ester	97-63-2	U118
Ethyl methanesulfonate	Methanesulfonic acid, ethyl ester	62–50–0	U119
Famphur	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester.	52–85–7	P097
Ferbam	Iron, tris(dimethylcarbamodithioato-S,S')-	14484–64–1	.....
Fluoranthene	Same	206–44–0	U120
Fluorine	Same	7782–41–4	P056
Fluoroacetamide	Acetamide, 2-fluoro-	640–19–7	P057
Fluoroacetic acid, sodium salt	Acetic acid, fluoro-, sodium salt	62–74–8	P058
Formaldehyde	Same	50–00–0	U122
Formetanate hydrochloride	Methanimidamide, N,N-dimethyl-N′-[3-[[(methylamino) carbonyl]oxy]phenyl]-, monohydrochloride.	23422–53–9	P198
Formic acid	Same	64–18–6	U123
Formparanate	Methanimidamide, N,N-dimethyl-N′-[2-methyl-4-[[(methylamino) carbonyl]oxy]phenyl]-.	17702–57–7	P197
Glycidylaldehyde	Oxiranecarboxyaldehyde	765–34–4	U126
Halomethanes, N.O.S.[1]	.....	.....	.....
Heptachlor	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-.	76–44–8	P059

Common name	Chemical abstracts name	Chemical abstracts No.	Hazardous waste No.
Heptachlor epoxide	2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexa- hydro-, (1aalpha,1bbeta,2alpha,5alpha, 5abeta,6beta,6aalpha)-.	1024–57–3	
Heptachlor epoxide (alpha, beta, and gamma isomers).			
Heptachlorodibenzofurans			
Heptachlorodibenzo-p-dioxins			
Hexachlorobenzene	Benzene, hexachloro-	118–74–1	U127
Hexachlorobutadiene	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	87–68–3	U128
Hexachlorocyclopentadiene	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-	77–47–4	U130
Hexachlorodibenzo-p-dioxins			
Hexachlorodibenzofurans			
Hexachloroethane	Ethane, hexachloro-	67–72–1	U131
Hexachlorophene	Phenol, 2,2′-methylenebis[3,4,6-trichloro-	70–30–4	U132
Hexachloropropene	1-Propene, 1,1,2,3,3,3-hexachloro-	1888–71–7	U243
Hexaethyl tetraphosphate	Tetraphosphoric acid, hexaethyl ester	757–58–4	P062
Hydrazine	Same	302–01–2	U133
Hydrogen cyanide	Hydrocyanic acid	74–90–8	P063
Hydrogen fluoride	Hydrofluoric acid	7664–39–3	U134
Hydrogen sulfide	Hydrogen sulfide H_2S	7783–06–4	U135
Indeno[1,2,3-cd]pyrene	Same	193–39–5	U137
3-Iodo-2-propynyl n-butylcarbamate	Carbamic acid, butyl-, 3-iodo-2-propynyl ester.	55406–53–6	
Isobutyl alcohol	1-Propanol, 2-methyl-	78–83–1	U140
Isodrin	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5beta, 8beta,8abeta)-.	465–73–6	P060
Isolan	Carbamic acid, dimethyl-, 3-methyl-1-(1-methylethyl)-1H-pyrazol-5-yl ester.	119–38–0	P192
Isosafrole	1,3-Benzodioxole, 5-(1-propenyl)-	120–58–1	U141
Kepone	1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-.	143–50–0	U142
Lasiocarpine	2-Butenoic acid, 2-methyl-,7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S*,3R*),7aalpha]]-	303–34–1	4143
Lead	Same	7439–92–1	
Lead compounds, N.O.S.[1]			
Lead acetate	Acetic acid, lead(2+) salt	301–04–2	U144
Lead phosphate	Phosphoric acid, lead(2+) salt (2:3)	7446–27–7	U145
Lead subacetate	Lead, bis(acetato-O)tetrahydroxytri-	1335–32–6	U146
Lindane	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha, 5alpha,6beta)-.	58–89–9	U129
Maleic anhydride	2,5-Furandione	108–31–6	U147
Maleic hydrazide	3,6-Pyridazinedione, 1,2-dihydro-	123–33–1	U148
Malononitrile	Propanedinitrile	109–77–3	U149
Manganese dimethyldithiocarbamate	Manganese, bis(dimethylcarbamodithioato-S,S′)-,.	15339–36–3	P196
Melphalan	L-Phenylalanine, 4-[bis(2-chloroethyl)aminol]-	148–82–3	U150
Mercury	Same	7439–97–6	U151
Mercury compounds, N.O.S.[1]			
Mercury fulminate	Fulminic acid, mercury(2+) salt	628–86–4	P065
Metam Sodium	Carbamodithioic acid, methyl-, monosodium salt.	137–42–8	
Methacrylonitrile	2-Propenenitrile, 2-methyl-	126–98–7	U152
Methapyrilene	1,2-Ethanediamine, N,N-dimethyl-N′-2-pyridinyl-N′-(2-thienylmethyl)-.	91–80–5	U155
Methiocarb	Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate.	2032–65–7	P199
Methomyl	Ethanimidothioic acid, N-[[(methylamino)carbonyl]oxy]-, methyl ester.	16752–77–5	P066
Methoxychlor	Benzene, 1,1′-(2,2,2-trichloroethylidene)bis[4-methoxy-.	72–43–5	U247
Methyl bromide	Methane, bromo-	74–83–9	U029
Methyl chloride	Methane, chloro-	74–87–3	U045
Methyl chlorocarbonate	Carbonochloridic acid, methyl ester	79–22–1	U156

Common name	Chemical abstracts name	Chemical abstracts No.	Hazardous waste No.
Methyl chloroform	Ethane, 1,1,1-trichloro-	71–55–6	U226
3-Methylcholanthrene	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-	56–49–5	U157
4,4′-Methylenebis(2-chloroaniline)	Benzenamine, 4,4′-methylenebis[2-chloro-	101–14–4	U158
Methylene bromide	Methane, dibromo-	74–95–3	U068
Methylene chloride	Methane, dichloro-	75–09–2	U080
Methyl ethyl ketone (MEK)	2-Butanone	78–93–3	U159
Methyl ethyl ketone peroxide	2-Butanone, peroxide	1338–23–4	U160
Methyl hydrazine	Hydrazine, methyl-	60–34–4	P068
Methyl iodide	Methane, iodo-	74–88–4	U138
Methyl isocyanate	Methane, isocyanato-	624–83–9	P064
2-Methyllactonitrile	Propanenitrile, 2-hydroxy-2-methyl-	75–86–5	P069
Methyl methacrylate	2-Propenoic acid, 2-methyl-, methyl ester	80–62–6	U162
Methyl methanesulfonate	Methanesulfonic acid, methyl ester	66–27–3	.....
Methyl parathion	Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester.	298–00–0	P071
Methylthiouracil	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-.	56–04–2	U164
Metolcarb	Carbamic acid, methyl-, 3-methylphenyl ester	1129–41–5	P190
Mexacarbate	Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester).	315–18–4	P128
Mitomycin C	Azirino[2′,3′:3,4]pyrrolo[1,2-a]indole-4,7-dione, 6-amino-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha,8beta,8aalpha,8balpha)]-.	50–07–7	U010
MNNG	Guanidine, N-methyl-N′-nitro-N-nitroso-	70–25–7	U163
Molinate	1H-Azepine-1-carbothioic acid, hexahydro-, S-ethyl ester.	2212–67–1	.....
Mustard gas	Ethane, 1,1′-thiobis[2-chloro-	505–60–2	.....
Naphthalene	Same	91–20–3	U165
1,4-Naphthoquinone	1,4-Naphthalenedione	130–15–4	U166
alpha-Naphthylamine	1-Naphthalenamine	134–32–7	U167
beta-Naphthylamine	2-Naphthalenamine	91–59–8	U168
alpha-Naphthylthiourea	Thiourea, 1-naphthalenyl-	86–88–4	P072
Nickel	Same	7440–02–0	.....
Nickel compounds, N.O.S.[1]	.....	.....	.....
Nickel carbonyl	Nickel carbonyl $Ni(CO)_4$, (T-4)-	13463–39–3	P073
Nickel cyanide	Nickel cyanide $Ni(CN)_2$	557–19–7	P074
Nicotine	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-	54–11–5	P075
Nicotine salts	.....	.....	P075
Nitric oxide	Nitrogen oxide NO	10102–43–9	P076
p-Nitroaniline	Benzenamine, 4-nitro-	100–01–6	P077
Nitrobenzene	Benzene, nitro-	98–95–3	U169
Nitrogen dioxide	Nitrogen oxide NO_2	10102–44–0	P078
Nitrogen mustard	Ethanamine, 2-chloro-N-(2-chloroethyl)-N-methyl-.	51–75–2	.....
Nitrogen mustard, hydrochloride salt	.....	.....	.....
Nitrogen mustard N-oxide	Ethanamine, 2-chloro-N-(2-chloroethyl)-N-methyl-, N-oxide.	126–85–2	.....
Nitrogen mustard, N-oxide, hydro- chloride salt.	.....	.....	.....
Nitroglycerin	1,2,3-Propanetriol, trinitrate	55–63–0	P081
p-Nitrophenol	Phenol, 4-nitro-	100–02–7	U170
2-Nitropropane	Propane, 2-nitro-	79–46–9	U171
Nitrosamines, N.O.S.[1]	.....	35576–91–1D	.....
N-Nitrosodi-n-butylamine	1-Butanamine, N-butyl-N-nitroso-	924–16–3	U172
N-Nitrosodiethanolamine	Ethanol, 2,2′-(nitrosoimino)bis-	1116–54–7	U173
N-Nitrosodiethylamine	Ethanamine, N-ethyl-N-nitroso-	55–18–5	U174
N-Nitrosodimethylamine	Methanamine, N-methyl-N-nitroso-	62–75–9	P082
N-Nitroso-N-ethylurea	Urea, N-ethyl-N-nitroso-	759–73–9	U176
N-Nitrosomethylethylamine	Ethanamine, N-methyl-N-nitroso-	10595–95–6	.....
N-Nitroso-N-methylurea	Urea, N-methyl-N-nitroso-	684–93–5	U177
N-Nitroso-N-methylurethane	Carbamic acid, methylnitroso-, ethyl ester	615–53–2	U178
N-Nitrosomethylvinylamine	Vinylamine, N-methyl-N-nitroso-	4549–40–0	P084
N-Nitrosomorpholine	Morpholine, 4-nitroso-	59–89–2	.....
N-Nitrosonornicotine	Pyridine, 3-(1-nitroso-2-pyrrolidinyl)-, (S)-	16543–55–8	.....
N-Nitrosopiperidine	Piperidine, 1-nitroso-	100–75–4	U179
N-Nitrosopyrrolidine	Pyrrolidine, 1-nitroso-	930–55–2	U180
N-Nitrososarcosine	Glycine, N-methyl-N-nitroso-	13256–22–9	.....
5-Nitro-o-toluidine	Benzenamine, 2-methyl-5-nitro-	99–55–8	U181
Octamethylpyrophosphoramide	Diphosphoramide, octamethyl-	152–16–9	P085
Osmium tetroxide	Osmium oxide OsO_4, (T-4)-	20816–12–0	P087

Common name	Chemical abstracts name	Chemical abstracts No.	Hazardous waste No.
Oxamyl	Ethanimidothioc acid, 2-(dimethylamino)-N-[[(methylamino)carbonyl]oxy]-2-oxo-, methyl ester.	23135–22–0	P194
Paraldehyde	1,3,5-Trioxane, 2,4,6-trimethyl-	123–63–7	U182
Parathion	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester.	56–38–2	P089
Pebulate	Carbamothioic acid, butylethyl-, S-propyl ester.	1114–71–2	.....
Pentachlorobenzene	Benzene, pentachloro-	608–93–5	U183
Pentachlorodibenzo-p-dioxins	.....	.....	.....
Pentachlorodibenzofurans	.....	.....	.....
Pentachloroethane	Ethane, pentachloro-	76–01–7	U184
Pentachloronitrobenzene (PCNB)	Benzene, pentachloronitro-	82–68–8	U185
Pentachlorophenol	Phenol, pentachloro-	87–86–5	See F027
Phenacetin	Acetamide, N-(4-ethoxyphenyl)-	62–44–2	U187
Phenol	Same	108–95–2	U188
Phenylenediamine	Benzenediamine	25265–76–3	.....
Phenylmercury acetate	Mercury, (acetato-O)phenyl-	62–38–4	P092
Phenylthiourea	Thiourea, phenyl-	103–85–5	P093
Phosgene	Carbonic dichloride	75–44–5	P095
Phosphine	Same	7803–51–2	P096
Phorate	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester.	298–02–2	P094
Phthalic acid esters, N.O.S.[1]	.....	.....	.....
Phthalic anhydride	1,3-Isobenzofurandione	85–44–9	U190
Physostigmine	Pyrrolo[2,3-b]indol-5-01, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)-.	57–47–6	P204
Physostigmine salicylate	Benzoic acid, 2-hydroxy-, compd. with (3aS-cis) –1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrolo [2,3-b]indol-5-yl methylcarbamate ester (1:1).	57–64–7	P188
2-Picoline	Pyridine, 2-methyl-	109–06–8	U191
Polychlorinated biphenyls, N.O.S.[1]	.....	.....	.....
Potassium cyanide	Potassium cyanide K(CN)	151–50–8	P098
Potassium dimethyldithiocarbamate	Carbamodithioic acid, dimethyl, potassium salt.	128–03–0	.....
Potassium n-hydroxymethyl-n-methyl-dithiocarbamate.	Carbamodithioic acid, (hydroxymethyl)methyl-, monopotassium salt.	51026–28–9	.....
Potassium n-methyldithiocarbamate	Carbamodithioic acid, methyl-monopotassium salt.	137–41–7	.....
Potassium pentachlorophenate	Pentachlorophenol, potassium salt	7778736	None
Potassium silver cyanide	Argentate(1-), bis(cyano-C)-, potassium	506–61–6	P099
Promecarb	Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate.	2631–37–0	P201
Pronamide	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-.	23950–58–5	U192
1,3-Propane sultone	1,2-Oxathiolane, 2,2-dioxide	1120–71–4	U193
n-Propylamine	1-Propanamine	107–10–8	U194
Propargyl alcohol	2-Propyn-1-ol	107–19–7	P102
Propham	Carbamic acid, phenyl-, 1-methylethyl ester	122–42–9	U373
Propoxur	Phenol, 2-(1-methylethoxy)-, methylcarbamate.	114–26–1	U411
Propylene dichloride	Propane, 1,2-dichloro-	78–87–5	U083
1,2-Propylenimine	Aziridine, 2-methyl-	75–55–8	P067
Propylthiouracil	4(1H)-Pyrimidinone, 2,3-dihydro-6-propyl-2-thioxo-.	51–52–5	.....
Prosulfocarb	Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester.	52888–80–9	U387
Pyridine	Same	110–86–1	U196
Reserpine	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-smethyl ester, (3beta,16beta,17alpha,18beta,20alpha)-.	50–55–5	U200
Resorcinol	1,3-Benzenediol	108–46–3	U201
Saccharin	1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide	81–07–2	U202
Saccharin salts	.....	.....	U202
Safrole	1,3-Benzodioxole, 5-(2-propenyl)-	94–59–7	U203
Selenium	Same	7782–49–2	.....
Selenium compounds, N.O.S.[1]	.....	.....	.....
Selenium dioxide	Selenious acid	7783–00–8	U204
Selenium sulfide	Selenium sulfide SeS_2	7488–56–4	U205

Common name	Chemical abstracts name	Chemical abstracts No.	Hazardous waste No.
Selenium, tetrakis(dimethyl-dithiocarbamate)	Carbamodithioic acid, dimethyl-, tetraanhydrosulfide with orthothioselenious acid.	144–34–3	.....
Selenourea	Same	630–10–4	P103
Silver	Same	7440–22–4	.....
Silver compounds, N.O.S.[1]	.....	.....	.....
Silver cyanide	Silver cyanide Ag(CN)	506–64–9	P104
Silvex (2,4,5-TP)	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-	93–72–1	See F027
Sodium cyanide	Sodium cyanide Na(CN)	143–33–9	P106
Sodium dibutyldithiocarbamate	Carbamodithioic acid, dibutyl, sodium salt	136–30–1	.....
Sodium diethyldithiocarbamate	Carbamodithioic acid, diethyl-, sodium salt	148–18–5	
Sodium dimethyldithiocarbamate	Carbamodithioic acid, dimethyl-, sodium salt	128–04–1	.....
Sodium pentachlorophenate	Pentachlorophenol, sodium salt	131522	None
Streptozotocin	D-Glucose, 2-deoxy-2-[[(methylnitrosoamino)carbonyl]amino]-.	18883–66–4	U206
Strychnine	Strychnidin-10-one	57–24–9	P108
Strychnine salts	.....	.....	P108
Sulfallate	Carbamodithioic acid, diethyl-, 2-chloro-2-propenyl ester.	95–06–7	.....
TCDD	Dibenzo[b,e][1,4]dioxin, 2,3,7,8-tetrachloro-	1746–01–6	.....
Tetrabutylthiuram disulfide	Thioperoxydicarbonic diamide, tetrabutyl	1634–02–2	.....
1,2,4,5-Tetrachlorobenzene	Benzene, 1,2,4,5-tetrachloro-	95–94–3	U207
Tetrachlorodibenzo-p-dioxins	.....	.....	.....
Tetrachlorodibenzofurans	.....	.....	.....
Tetrachloroethane, N.O.S.[1]	Ethane, tetrachloro-, N.O.S.	25322–20–7	.....
1,1,1,2-Tetrachloroethane	Ethane, 1,1,1,2-tetrachloro-	630–20–6	U208
1,1,2,2-Tetrachloroethane	Ethane, 1,1,2,2-tetrachloro-	79–34–5	U209
Tetrachloroethylene	Ethene, tetrachloro-	127–18–4	U210
2,3,4,6-Tetrachlorophenol	Phenol, 2,3,4,6-tetrachloro-	58–90–2	See F027
2,3,4,6-tetrachlorophenol, potassium salt	same	53535276	None
2,3,4,6-tetrachlorophenol, sodium salt	same	25567559	None
Tetraethyldithiopyrophosphate	Thiodiphosphoric acid, tetraethyl ester	3689–24–5	P109
Tetraethyl lead	Plumbane, tetraethyl-	78–00–2	P110
Tetraethyl pyrophosphate	Diphosphoric acid, tetraethyl ester	107–49–3	P111
Tetramethylthiuram monosulfide	Bis(dimethylthiocarbamoyl) sulfide	97–74–5	.....
Tetranitromethane	Methane, tetranitro-	509–14–8	P112
Thallium	Same	7440–28–0	.....
Thallium compounds, N.O.S.[1]	.....	.....	.....
Thallic oxide	Thallium oxide Tl_2O_3	1314–32–5	P113
Thallium(I) acetate	Acetic acid, thallium(1+) salt	563–68–8	U214
Thallium(I) carbonate	Carbonic acid, dithallium(1+) salt	6533–73–9	U215
Thallium(I) chloride	Thallium chloride TlCl	7791–12–0	U216
Thallium(I) nitrate	Nitric acid, thallium(1+) salt	10102–45–1	U217
Thallium selenite	Selenious acid, dithallium(1+) salt	12039–52–0	P114
Thallium(I) sulfate	Sulfuric acid, dithallium(1+) salt	7446–18–6	P115
Thioacetamide	Ethanethioamide	62–55–5	U218
Thiodicarb	Ethanimidothioic acid, N,N'-[thiobis [(methylimino) carbonyloxy]] bis-, dimethyl ester.	59669–26–0	U410
Thiofanox	2-Butanone, 3,3-dimethyl-1-(methylthio)-, 0-[(methylamino)carbonyl] oxime.	39196–18–4	P045
Thiomethanol	Methanethiol	74–93–1	U153
Thiophanate-methyl	Carbamic acid, [1,2-phyenylenebis (iminocarbonothioyl)] bis-, dimethyl ester.	23564–05–8	U409
Thiophenol	Benzenethiol	108–98–5	P014
Thiosemicarbazide	Hydrazinecarbothioamide	79–19–6	P116
Thiourea	Same	62–56–6	U219
Thiram	Thioperoxydicarbonic diamide $[(H_2N)C(S)]_2S_2$, tetramethyl-.	137-26-8	U244
Tirpate	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O-[(methylamino) carbonyl] oxime.	26419–73–8	P185
Toluene	Benzene, methyl-	108–88–3	U220
Toluenediamine	Benzenediamine, ar-methyl-	25376–45–8	U221
Toluene-2,4-diamine	1,3-Benzenediamine, 4-methyl-	95–80–7	.....
Toluene-2,6-diamine	1,3-Benzenediamine, 2-methyl-	823–40–5	.....
Toluene-3,4-diamine	1,2-Benzenediamine, 4-methyl-	496–72–0	.....
Toluene diisocyanate	Benzene, 1,3-diisocyanatomethyl-	26471–62–5	U223
o-Toluidine	Benzenamine, 2-methyl-	95–53–4	U328
o-Toluidine hydrochloride	Benzenamine, 2-methyl-, hydrochloride	636–21–5	U222
p-Toluidine	Benzenamine, 4-methyl-	106–49–0	U353
Toxaphene	Same	8001–35–2	P123
Triallate	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester.	2303–17–5	U389

Common name	Chemical abstracts name	Chemical abstracts No.	Hazardous waste No.
1,2,4-Trichlorobenzene	Benzene, 1,2,4-trichloro-	120–82–1	.....
1,1,2-Trichloroethane	Ethane, 1,1,2-trichloro-	79–00–5	U227
Trichloroethylene	Ethene, trichloro-	79–01–6	U228
Trichloromethanethiol	Methanethiol, trichloro-	75–70–7	P118
Trichloromonofluoromethane	Methane, trichlorofluoro-	75–69–4	U121
2,4,5-Trichlorophenol	Phenol, 2,4,5-trichloro-	95–95–4	See F027
2,4,6-Trichlorophenol	Phenol, 2,4,6-trichloro-	88–06–2	See F027
2,4,5-T	Acetic acid, (2,4,5-trichlorophenoxy)-	93–76–5	See F027
Trichloropropane, N.O.S.[1]	.....	25735–29–9	.....
1,2,3-Trichloropropane	Propane, 1,2,3-trichloro-	96–18–4	.....
Triethylamine	Ethanamine, N,N-diethyl-	121–44–8	U404
O,O,O-Triethyl phosphorothioate	Phosphorothioic acid, O,O,O-triethyl ester	126–68–1	.....
1,3,5-Trinitrobenzene	Benzene, 1,3,5-trinitro-	99–35–4	U234
Tris(1-aziridinyl)phosphine sulfide	Aziridine, 1,1′,1″-phosphinothioylidynetris-	52–24–4	.....
Tris(2,3-dibromopropyl) phosphate	1-Propanol, 2,3-dibromo-, phosphate (3:1)	126–72–7	U235
Trypan blue	2,7-Naphthalenedisulfonic acid, 3,3′-[(3,3′-dimethyl[1,1′-biphenyl]-4,4′-diyl)bis(azo)]-bis[5-amino-4-hydroxy-, tetrasodium salt.	72–57–1	U236
Uracil mustard	2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-.	66–75–1	U237
Vanadium pentoxide	Vanadium oxide V_2O_5	1314–62–1	P120
Vernolate	Carbamothioic acid, dipropyl-,S-propyl ester	1929–77–7	.....
Vinyl chloride	Ethene, chloro-	75–01–4	U043
Warfarin	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, when present at concentrations less than 0.3%.	81–81–2	U248
Warfarin	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, when present at concentrations greater than 0.3%.	81–81–2	P001
Warfarin salts, when present at concentrations less than 0.3%.	.....	.....	U248
Warfarin salts, when present at concentrations greater than 0.3%.	.....	.....	P001
Zinc cyanide	Zinc cyanide $Zn(CN)_2$	557–21–1	P121
Zinc phosphide	Zinc phosphide Zn_3P_2, when present at concentrations greater than 10%.	1314–84–7	P122
Zinc phosphide	Zinc phosphide Zn_3P_2, when present at concentrations of 10% or less.	1314–84–7	U249
Ziram	ZInc, bis(dimethylcarbamodithioato-S,S')-, (T–4)-.	137–30–4	P205

[1] The abbreviation N.O.S. (not otherwise specified) signifies those members of the general class not specifically listed by name in this appendix.

[53 FR 13388, Apr. 22, 1988, as amended at 53 FR 43881, Oct. 31, 1988; 54 FR 50978, Dec. 11, 1989; 55 FR 50483, Dec. 6, 1990; 56 FR 7568, Feb. 25, 1991; 59 FR 468, Jan. 4, 1994; 59 FR 31551, June 20, 1994; 60 FR 7853, Feb. 9, 1995; 60 FR 19165, Apr. 17, 1995; 62 FR 32977, June 17, 1997]

APPENDIX IX TO PART 261—WASTES EXCLUDED UNDER §§ 260.20 AND 260.22

TABLE 1—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES

Facility	Address	Waste description
Alumnitec, Inc. (formerly Profile Extrusion Co., formerly United Technologies Automotive, Inc.).	Jeffersonville, IN.	Dewatered wastewater treatment sludge (EPA Hazardous Waste No. F019) generated from the chemical conversion of aluminum after April 29, 1986.
Ampex Recording Media Corporation.	Opelika, Alabama.	Solvent recovery residues in the powder or pellet form (EPA Hazardous Waste Nos. F003 and F005) generated from the recovery of spent solvents from the manufacture of tape recording media (generated at a maximum annual rate of 1,000 cubic yards in the powder or pellet form) after August 9, 1993. In order to confirm that the characteristics of the wastes do not change significantly, the facility must, on an annual basis, analyze a representative composite sample of the waste (in its final form) for the constituents listed in 40 CFR 261.24 using the method specified therein. The annual analytical results, including quality control information, must be compiled, certified according to 40 CFR 260.22(i)(12), maintained on-site for a minimum of five years, and made available for inspection upon request by any employee or representative of EPA or the State of Alabama. Failure to maintain the required records on-site will be considered by EPA, at its discretion, sufficient basis to revoke the exclusion to the extent directed by EPA.
Aptus, Inc	Coffeyville, Kansas.	Kiln residue and spray dryer/baghouse residue (EPA Hazardous Waste No. F027) generated during the treatment of cancelled pesticides containing 2,4,5–T and Silvex and related materials by Aptus' incinerator at Coffeyville, Kansas after December 27, 1991, so long as: (1) The incinerator is monitored continuously and is in compliance with operating permit conditions. Should the incinerator fail to comply with the permit conditions relevant to the mechanical operation of the incinerator, Aptus must test the residues generated during the run when the failure occurred according to the requirements of Conditions (2) through (4), regardless of whether or not the demonstration in Condition (5) has been made. (2) A minimum of four grab samples must be taken from each hopper (or other container) of kiln residue generated during each 24 hour run; all grabs collected during a given 24 hour run must then be composited to form one composite sample. A minimum of four grab samples must also be taken from each hopper (or other container) of spray dryer/baghouse residue generated during each 24 hour run; all grabs collected during a given 24 hour run must then be composited to form one composite sample. Prior to the disposal of the residues from each 24 hour run, a TCLP leachate test must be performed on these composite samples and the leachate analyzed for the TC toxic metals, nickel, and cyanide. If arsenic, chromium, lead or silver TC leachate test results exceed 1.6 ppm, barium levels exceed 32 ppm, cadmium or selenium levels exceed 0.3 ppm, mercury levels exceed 0.07 ppm, nickel levels exceed 10 ppm, or cyanide levels exceed 6.5 ppm, the wastes must be retreated to achieve these levels or must be disposed in accordance with subtitle C of RCRA. Analyses must be performed according to SW–846 methodologies. (3) Aptus must generate, prior to the disposal of the residues, verification data from each 24 hour run for each treatment residue (i.e., kiln residue, spray dryer/baghouse residue) to demonstrate that the maximum allowable treatment residue concentrations listed below are not exceeded. Samples must be collected as specified in Condition (2). Analyses must be performed according to SW–846 methodologies. Any residues which exceed any of the levels listed below must be retreated or must be disposed of as hazardous. Kiln residue and spray dryer/baghouse residue must not exceed the following levels: Aldrin—0.015 ppm Benzene—9.7 ppm Benzo(a)pyrene—0.43 ppm Benzo(b)fluoranthene—1.8 ppm Chlordane—0.37 ppm Chloroform—5.4 ppm Chrysene—170 ppm Dibenz(a,h)anthracene—0.083 ppm 1,2-Dichloroethane—4.1 ppm Dichloromethane—2.4 ppm 2,4-Dichlorophenol—480 ppm Dichlorvos—260 ppm Disulfaton—23 ppm Endosulfan I—310 ppm Fluorene—120 ppm Indeno(1,2,3,cd)-pyrene—330 ppm

TABLE 1—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		Methyl parathion—210 ppm Nitrosodiphenylamine—130 ppm Phenanthrene—150 ppm Polychlorinated biphenyls—0.31 ppm Tetrachloroethylene—59 ppm 2,4,5-TP (silvex)—110 ppm 2,4,6-Trichlorophenol—3.9 ppm (4) Aptus must generate, prior to disposal of residues, verification data from each 24 hour run for each treatment residue (*i.e.*, kiln residue, spray dryer/baghouse residue) to demonstrate that the residues do not contain tetra-, penta-, or hexachlorodibenzo-p-dioxins or furans at levels of regulatory concern. Samples must be collected as specified in Condition (2). The TCDD equivalent levels for the solid residues must be less than 5 ppt. Any residues with detected dioxins or furans in excess of this level must be retreated or must be disposed of as acutely hazardous. SW–846 Method 8290, a high resolution gas chromatography and high resolution mass spectroscopy (HRGC/HRMS) analytical method must be used. For tetra- and penta-chlorinated dioxin and furan homologs, the maximum practical quantitation limit must not exceed 15 ppt for the solid residues. For hexachlorinated dioxin and furan homologs, the maximum practical quantitation limit must not exceed 37 ppt for the solid residues. (5) The test data from Conditions (1), (2), (3), and (4) must be kept on file by Aptus for inspection purposes and must be compiled, summarized, and submitted to the Director for the Characterization and Assessment Division, Office of Solid Waste, by certified mail on a monthly basis and when the treatment of the cancelled pesticides and related materials is concluded. The testing requirements for Conditions (2), (3), and (4) will continue until Aptus provides the Director with the results of four consecutive batch analyses for the petitioned wastes, none of which exceed the maximum allowable levels listed in these conditions and the director notifies Aptus that the conditions have been lifted. All data submitted will be placed in the RCRA public docket. (6) Aptus must provide a signed copy of the following certification statement when submitting data in response to the conditions listed above: ''Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations, I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.''
Arco Building Products.	Sugarcreek, Ohio.	Dewatered wastewater treatment sludge (EPA Hazardous Waste No. F019) generated from the chemical conversion coating of aluminum after August 15, 1986.
Arco Chemical Co.	Miami, FL	Dewatered wastewater treatment sludge (EPA Hazardous Waste No. FO19) generated from the chemical conversion coating of aluminum after April 29, 1986.
Arkansas Department of Pollution Control and Ecology.	Vertac Superfund site, Jacksonville, Arkansas.	Kiln ash, cyclone ash, and calcium chloride salts from incineration of residues (EPA Hazardous Waste No. F020 and F023) generated from the primary production of 2,4,5–T and 2,4–D after August 24, 1990. This one-time exclusion applies only to the incineration of the waste materials described in the petition, and it is conditional upon the data obtained from ADPC&E's full-scale incineration facility. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern once the full-scale treatment facility is in operation, ADPC&E must implement a testing program for the petitioned waste. This testing program must meet the following conditions for the exclusion to be valid: (1) *Testing:* Sample collection and analyses (including quality control (QC) procedures) must be performed according to SW–846 methodologies. (A) *Initial testing:* Representative grab samples must be taken from each drum and kiln ash and cyclone ash generated from each 24 hours of operation, and the grab samples composited to form one composite sample of ash for each 24-hour period. Representative grab samples must also be taken from each drum of calcium chloride salts generated from each 24 hours of operation and composited to form one composite sample of calcium chloride salts for each 24-hour period. The initial testing requirements must be fullfilled for the following wastes: (i) Incineration by-products generated prior to and during the incinerator's trial burn; (ii) incineration by-products from the treatment of 2,4–D wastes for one week (or 7 days if incineration is not on consecutive days) after completion of the trial burn; (iii) incineration by-products from the treatment of blended 2,4–D and 2,4, 5–T wastes for two weeks (or 14 days if incineration is not on consecutive days) after completion of the trial burn; and (iv) incineration by-products from the treatment of blended 2,4–D and 2,4,5–T wastes for one week (or 7 days if incineration is not on consecutive days) when the percentage of 2, 4, 5–T wastes exceeds the maximum percentage treated under Condition (1)(A)(iii). Prior to disposal of the residues from each 24-hour sampling period, the daily composite must be analyzed for all the constituents listed in Condition (3). ADPC&E must report the analytical test data, including quality control information, obtained during this initial period no later than 90 days after the start of the operation.

TABLE 1—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		(B) *Subsequent testing:* Representative grab samples of each drum of kiln and cyclone ash generated from each week of operation must be composited to form one composite sample of ash for each weekly period. Representative grab samples of each drum of calcium chloride salts generated from each week of operation must also be composited to form one composite sample of calcium chloride salts for each weekly period. Prior to disposal of the residues from each weekly sampling period, the weekly composites must be analyzed for all of the constituents listed in Condition (3). The analytical data, including quality control information, must be compiled and maintained on site for a minimum of three years. These data must be furnished upon request and made available for inspection by any employee or representative of EPA. (2) *Waste holding:* The incineration residues that are generated must be stored as hazardous until the initial verification analyses or subsequent analyses are completed. If the composite incineration residue samples (from either Condition (1)(A) or Condition (1)(B)) do not exceed any of the delisting levels set in Condition (3), the incineration residues corresponding to these samples may be managed and disposed of in accordance with all applicable solid waste regulations. If any composite incineration residue sample exceeds any of the delisting levels set in Condition (3), the incineration residues generated during the time period corresponding to this sample must be retreated until they meet these levels (analyses must be repeated) or managed and disposed of in accordance with subtitle C of RCRA. Incineration residues which are generated but for which analysis is not complete or valid must be managed and disposed of in accordance with subtitle C of RCRA, until valid analyses demonstrate that the wastes meet the delisting levels. (3) *Delisting levels:* If concentrations in one or more of the incineration residues for any of the hazardous constituents listed below exceed their respective maximum allowable concentrations also listed below, the batch of failing waste must either be re-treated until it meets these levels or managed and disposed of in accordance with subtitle C of RCRA. (A) Inorganics (Leachable): Arsenic, 0.32 ppm; Barium, 6.3 ppm; Cadmium, 0.06 ppm; Chromium, 0.32 ppm; Cyanide, 4.4 ppm; Lead, 0.32 ppm; Mercury, 0.01 ppm; Nickel, 4.4 ppm; Selenium, 0.06 ppm; Silver, 0.32 ppm. Metal concentrations must be measured in the waste leachate as per 40 CFR 261.24. Cyanide extractions must be conducted using distilled water. (B) Organics: Benzene, 0.87 ppm; Benzo(a)anthracene, 0.10 ppm; Benzo(a)pyrene, 0.04 ppm; Benzo (b)fluoranthene, 0.16 ppm; Chlorobenzene, 152 ppm; o-Chlorophenol, 44 ppm; Chrysene, 15 ppm; 2, 4–D, 107 ppm; DDE, 1.0 ppm; Dibenz(a,h)anthracene, 0.007 ppm; 1, 4-Dichlorobenzene, 265 ppm; 1, 1-Dichloroethylene, 1.3 ppm; trans-1,2-Dichloroethylene, 37 ppm; Dichloromethane, 0.23 ppm; 2,4-Dichlorophenol, 43 ppm; Hexachlorobenzene, 0.26 ppm; Indeno (1,2,3-cd) pyrene, 30 ppm; Polychlorinated biphenyls, 12 ppm; 2,4,5–T, 1×10^{6} ppm; 1,2,4,5-Tetrachlorobenzene, 56 ppm; Tetrachloroethylene, 3.4 ppm; Trichloroethylene, 1.1 ppm; 2,4,5-Trichlorophenol, 21,000 ppm; 2,4,6-Trichlorophenol, 0.35 ppm. (C) Chlorinated dioxins and furans: 2,3,7,8-Tetrachlorodibenzo-p-dioxin equivalents, $4 > 10^{-7}$ ppm. The petitioned by-product must be analyzed for the tetra-, penta-, hexa-, and heptachlorodibenzo-p-dioxins, and the tetra-, penta-, hexa-, and heptachlorodibenzofurans to determine the 2, 3, 7, 8-tetra- chlorodibenzo-p-dioxin equivalent concentration. The analysis must be conducted using Method 8290, a high resolution gas chromatography/high resolution mass spectrometry method, and must achieve practical quantitation limits of 15 parts per trillion (ppt) for the tetra- and penta- homologs, and 37 ppt for the hexa- and hepta- homologs. (4) *Termination of testing:* Due to the possible variability of the incinerator feeds, the testing requirements of Condition (1)(B) will continue indefinitely. (5) *Data submittals:* Within one week of system start-up, ADPC&E must notify the Section Chief, Variances Section (see address below) when the full-scale incineration system is on-line and waste treatment has begun. The data obtained through Condition (1)(A) must be submitted to the Section Chief, Variances Section, PSPD/OSW (OS–343), U.S. EPA, 401 M Street SW., Washington, DC 20460, within the time period specified. At the Section Chief's request, ADPC&E must submit analytical data obtained through Condition (1)(B) within the time period specified by the Section Chief. Failure to submit the required data obtained from Condition (1)(A) within the specified time period or to maintain the required records for the time specified in Condition (1)(B) (or to submit data within the time specified by the Section Chief) will be considered by the Agency, at its discretion, sufficient basis to revoke ADPC&E's exclusion to the extent directed by EPA. All data must be accompanied by the following certification statement:

TABLE 1—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		''Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code, which include, but may not be limited to, 18 U.S.C. 1001 and 42 U.S.C. 6928), I certify that the information contained in or accompanying this document is true, accurate and complete. As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete. In the event that any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of wastes will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion.''
BBC Brown Boveri, Inc.	Sanford, FL ...	Dewatered Wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electroplating operations after October 17, 1986.
Bethlehem Steel Corporation.	Lackawanna, New York.	Ammonia still lime sludge (EPA Hazardous Waste No. K060) and other solid waste generated from primary metal-making and coking operations. This is a one-time exclusion for 118,000 cubic yards of waste contained in the on-site landfill referred to as HWM–2. This exclusion was published on April 24, 1996.
Bethlehem Steel Corporation.	Sparrows Point, Maryland.	Stabilized filter cake (at a maximum annual rate of 1100 cubic yards) from the treatment of wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electroplating operations after [insert date of publication in FEDERAL REGISTER]. Bethlehem Steel (BSC) must implement a testing program that meets the following conditions for the exclusion to be valid: (1) *Testing:* Sample collection and analyses (including quality control (QC) procedures) must be performed according to SW–846 methodologies. If EPA judges the stabilization process to be effective under the conditions used during the initial verification testing, BSC may replace the testing required in Condition (1)(A) with the testing required in Condition (1)(B). BSC must continue to test as specified in Condition (1)(A) until and unless notified by EPA in writing that testing in Condition (1)(A) may be replaced by Condition (1)(B) (to the extent directed by EPA). (A) *Initial Verification Testing:* During at least the first eight weeks of operation of the full-scale treatment system, BSC must collect and analyze weekly composites representative of the stabilized waste. Weekly composites must be composed of representative grab samples collected from every batch during each week of stabilization. The composite samples must be collected and analyzed, prior to the disposal of the stabilized filter cake, for all constituents listed in Condition (3). BSC must report the analytical test data, including a record of the ratios of lime kiln dust and fly ash used and quality control information, obtained during this initial period no later than 60 days after the collection of the last composite of stabilized filter cake. (B) *Subsequent Verification Testing:* Following written notification by EPA, BSC may substitute the testing condition in (1)(B) for (1)(A). BSC must collect and analyze at least one composite representative of the stabilized filter cake generated each month. Monthly composites must be comprised of representative samples collected from all batches that are stabilized in a one-month period. The monthly samples must be analyzed prior to the disposal of the stabilized filter cake for chromium, lead and nickel. BSC may, at its discretion, analyze composite samples more frequently to demonstrate that smaller batches of waste are non-hazardous. (C) *Annual Verification Testing:* In order to confirm that the characteristics of the treated waste do not change significantly, BSC must, on an annual basis, analyze a representative composite sample of stabilized filter cake for all TC constituents listed in 40 CFR §261.24 using the method specified therein. This composite sample must represent the stabilized filter cake generated over one week. (2) *Waste Holding and Handling:* BSC must store, as hazardous, all stabilized filter cake generated until verification testing (as specified in Conditions (1)(A) and (1)(B)) is completed and valid analyses demonstrate that the delisting levels set forth in Condition (3) are met. If the levels of hazardous constituents measured in the samples of stabilized filter cake generated are below all the levels set forth in Condition (3), then the stabilized filter cake is non-hazardous and may be managed and disposed of in accordance with all applicable solid waste regulations. If hazardous constituent levels in any weekly or monthly composite sample equal or exceed any of the delisting levels set in Condition (3), the stabilized filter cake generated during the time period corresponding to this sample must be retreated until it is below these levels or managed and disposed of in accordance with Subtitle C of RCRA. (3) *Delisting Levels:* All concentrations must be measured in the waste leachate by the method specified in 40 CFR §261.24. The leachable concentrations for the constituents must be below the following levels (ppm): arsenic—4.8; barium—100; cadmium—0.48; chromium—5.0; lead—1.4; mercury—0.19; nickel—9.6; selenium—1.0; silver—5.0.

TABLE 1—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		(4) *Changes in Operating Conditions:* After completing the initial verification test period in Condition (1)(A), if BSC decides to significantly change the stabilization process (*e.g.,* stabilization reagents) developed under Condition (1), then BSC must notify EPA in writing prior to instituting the change. After written approval by EPA, BSC may manage waste generated from the changed process as non-hazardous under this exclusion, provided the other conditions of this exclusion are fulfilled. (5) *Data Submittals:* Two weeks prior to system start-up, BSC must notify in writing the Section Chief, Delisting Section (see address below) when stabilization of the dewatered filter cake will begin. The data obtained through Condition (1)(A) must be submitted to the Section Chief, Delisting Section, OSW (5304), U.S. EPA, 401 M Street, SW, Washington, DC 20460 within the time period specified. The analytical data, including quality control information and records of ratios of lime kiln dust and fly ash used, must be compiled and maintained on site for a minimum of five years. These data must be furnished upon request and made available for inspection by EPA or the State of Maryland. Failure to submit the required data within the specified time period or maintain the required records on site for the specified time will be considered by the Agency, at its discretion, sufficient basis to revoke the exclusion to the extent directed by EPA. All data must be accompanied by a signed copy of the following certification statement to attest to the truth and accuracy of the data submitted: ''Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code, which include, but may not be limited to, 18 U.S.C § 1001 and 42 U.S.C § 6928), I certify that the information contained in or accompanying this document is true, accurate and complete. As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete. In the event that any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of waste will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion.''
Boeing Commercial Airplane Co.	Auburn, Washington.	Residually contaminated soils in an inactive sludge pile containment area on March 27, 1990, previously used to store wastewater treatment sludges generated from electroplating operations (EPA Hazardous Waste No. F006).
Bommer Industries Inc.	Landrum, SC	Wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from their electroplating operations and contained in evaporation ponds #1 and #2 on August 12, 1987.
Capitol Products Corp.	Harrisburg, PA	Dewatered wastewater treatment sludges (EPA Hazardous Waste No. FO19) generated from the chemical conversion coating of aluminum after September 12, 1986.
Capitol Products Corporation.	Kentland, IN ..	Dewatered wastewater treatment sludges (EPA Hazardous Waste No. F019) generated from the chemical conversion coating of aluminum after November 17, 1986.
Care Free Aluminum Products, Inc.	Charlotte, Michigan.	Wastewater treatment sludge (EPA Hazardous Waste No. F019) generated from the chemical conversion coating of aluminum (generated at a maximum annual rate of 100 cubic yards), after August 21, 1992. In order to confirm that the characteristics of the waste do not change significantly, the facility must, on an annual basis, analyze a representative composite sample for the constituents listed in § 261.24 using the method specified therein. The annual analytical results, including quality control information, must be compiled, certified according to § 260.22(i)(12), maintained on-site for a minimum of five years, and made available for inspection upon request by any employee or representative of EPA or the State of Michigan. Failure to maintain the required records on-site will be considered by EPA, at its discretion, sufficient basis to revoke the exclusion to the extent directed by EPA.
Chamberlian-Featherlite, Inc.	Hot Springs, AR.	Dewatered wastewater treatment sludges (EPA Hazardous Waste No. F019) generated from the chemical conversion coating of aluminum after July 16, 1986.
Cincinnati Metropolitan Sewer District.	Cincinnati, OH	Sluiced bottom ash (approximately 25,000 cubic yards) contained in the South Lagoon, on September 13, 1985 which contains EPA Hazardous Waste Nos. F001, F002, F003, F004, and F005.
Clay Equipment Corporation.	Cedar Falls, Iowa.	Dewatered wastewater treatment sludges (EPA Hazardous Waste No. F006) and spent cyanide bath solutions (EPA Hazardous Waste No. F009) generated from electroplating operations and disposed of in an on-site surface impoundment. This is a onetime exclusion. This exclusion was published on August 1, 1989.
Continental Can Co.	Olympia, WA	Dewatered wastewater treatment sludges (DPA Hazardous Waste No. FO19) generated from the chemical conversion coating of aluminum after September 12, 1986.
Dover Corp., Norris Div.	Tulsa, OK	Dewatered wastewater treatment sludge (EPA Hazardous Waste No. FO06) generated from their electroplating operations after April 29, 1986.

TABLE 1—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Continued

Facility	Address	Waste description
Eli Lilly and Company.	Clinton, Indiana.	Incinerator scrubber liquids, entering and contained in their onsite surface impoundment, and solids settling from these liquids originating from the burning of spent solvents (EPA Hazardous Waste Nos. F002, F003, and F005) contained in their onsite surface impoundment and solids retention area on August 18, 1988 and any new incinerator scubber liquids and settled solids generated in the surface impoundment and and disposed of in the retention are after August 12, 1988.
Envirite of Illinois (formerly Envirite Corporation).	Harvey, Illinois	See waste description under Envirite of Pennsylvania.
Envirite of Ohio (formerly Envirite Corporation).	Canton, Ohio	See waste description under Envirite of Pennsylvania.
Envirite of Pennsylvania (formerly Envirite Corporation).	York, Pennsylvania.	Dewatered wastewater sludges (EPA Hazardous Waste No .F006) generated from electroplating operations; spent cyanide plating solutions (EPA Hazardous Waste No. F007) generated from electroplating operations; plating bath residues from the bottom of plating baths (EPA Hazardous Waste No. F008) generated from electroplating operations where cyanides are used in the process; spent stripping and cleaning bath solutions (EPA Hazardous Waste No. F009) generated from electroplating operations where cyanides are used in the process; spent cyanide solutions from salt bath pot cleaning (EPA Hazardous Waste No. F011) generated from metal heat treating operations; quenching wastewater treatment sludges (EPA Hazardous Waste No. F012) generated from metal heat treating where cyanides are used in the process; wastewater treatment sludges (EPA Hazardous Waste No. F019) generated from the chemical conversion coating of aluminum after November 14, 1986. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern, the facility must implement a contingency testing program for the petitioned waste. This testing program must meet the following conditions for the exclusions to be valid: (1) Each batch of treatment residue must be representatively sampled and tested using the EP Toxicity test for arsenic, barium, cadmium, chromium, lead, selenium, silver, mercury, and nickel. If the extract concentrations for chromium, lead, arsenic, and silver exceed 0.315 ppm; barium levels exceed 6.3 ppm; cadmium and selenium exceed 0.063 ppm; mercury exceeds 0.0126 ppm; or nickel levels exceed 2.205 ppm; the waste must be re-treated or managed and disposed as a hazardous waste under 40 CFR Parts 262 to 265 and the permitting standards of 40 CFR Part 270. (2) Each batch of treatment residue must be tested for reactive and leachable cyanide. If the reactive cyanide levels exceed 250 ppm or leachable cyanide levels (using the EP Toxicity test without acetic acid adjustment) exceed 1.26 ppm, the waste must be re-treated or managed and disposed as a hazardous waste under 40 CFR Parts 262 to 265 and the permitting standards of 40 CFR Part 270. (3) Each batch of waste must be tested for the total content of specific organic toxicants. If the total content of anthracene exceeds 76.8 ppm, 1,2-diphenyl hydrazine exceeds 0.001 ppm, methylene chloride exceeds 8.18 ppm, methyl ethyl ketone exceeds 326 ppm, n-nitrosodiphenylamine exceeds 11.9 ppm, phenol exceeds 1,566 ppm, tetrachloroethylene exceeds 0.188 ppm, or trichloroethylene exceeds 0.592 ppm, the waste must be managed and disposed as a hazardous waste under 40 CFR Parts 262 to 265 and the permitting standards of 40 CFR Part 270. (4) A grab sample must be collected from each batch to form one monthly composite sample which must be tested using GC/MS analysis for the compounds listed in #3, above, as well as the remaining organics on the priority pollutant list. (See 47 FR 52309, November 19, 1982, for a list of the priority pollutants.) (5) The data from conditions 1–4 must be kept on file at the facility for inspection purposes and must be compiled, summarized, and submitted to the Administrator by certified mail semi-annually. The Agency will review this information and if needed will propose to modify or withdraw the exclusion. The organics testing described in conditions 3 and 4, above, are not required until six months from the date of promulgation. The Agency's decision to conditionally exclude the treatment residue generated from the wastewater treatment systems at these facilities applies only to the wastewater and solids treatment systems as they presently exist as described in the delisting petition. The exclusion does not apply to the proposed process additions described in the petition as recovery including crystallization, electrolytic metals recovery, evaporative recovery, and ion exchange.

TABLE 1—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Continued

Facility	Address	Waste description
EPA's Mobile Incineration System.	Denney Farm Site; McDowell, MO.	Process wastewater, rotary kiln ash, CHEAF media, and other solids (except spent activated carbon) (EPA Hazardous Waste Nos. F020, F022, F023, F026, F027, and F028) generated during the field demonstration of EPA's Mobile Incinerator at the Denney Farm Site in McDowell, Missouri, after July 25, 1985, so long as: (1) The incinerator is functioning properly; (2) a grab sample is taken from each tank of wastewater generated and the EP leachate values do not exceed 0.03 ppm for mercury, 0.14 ppm for selenium, and 0.68 ppm for chromium; and (3) a grab sample is taken from each drum of soil or ash generated and a core sample is collected from each CHEAF roll generated and the EP leachate values of daily composites do not exceed 0.044 ppm in ash or CHEAF media for mercury or 0.22 ppm in ash or CHEAF media for selenium.
Falconer Glass Indust., Inc.	Falconer, NY	Wastewater treatment sludges from the filter press and magnetic drum separator (EPA Hazardous Waste No. F006) generated from electroplating operations after July 16, 1986.
Florida Production Engineering Company.	Daytona Beach, Florida.	This is a one-time exclusion. Wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electroplating operations and contained in four on-site trenches on January 23, 1987.
General Electric Company.	Shreveport Louisiana.	Wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electroplating operations and contained in four on-site treatment ponds on August 12, 1987.
General Motors Corp., Fisher Body Division.	Elyria, OH	The residue generated from the use of the Chemfix® treatment process on sludge (EPA Hazardous Waste No. F006) generated from electroplating operations and contained in three on-site surface impoundments on November 14, 1986. To assure that stabilization occurs, the following conditions apply to this exclusion: (1) Mixing ratios shall be monitored continuously to assure consistent treatment. (2) One grab sample of the treated waste shall be taken each hour as it is pumped to the holding area (cell) from each trailer unit. At the end of each production day, the grab samples from the individual trailer units will be composited and the EP toxicity test will be run on each composite sample. If lead or total chromium concentrations exceed 0.315 ppm or if nickel exceeds 2.17 ppm, in the EP extract, the waste will be removed and retreated or disposed of as a hazardous waste. (3) The treated waste shall be pumped into bermed cells which are constructed to assure that the treated waste is identifiable and retrievable (*i.e.,* the material can be removed and either disposed of as a hazardous waste or retreated if conditions 1 or 2 are not met). Failure to satisfy any of these conditions would render the exclusion void. This is a one-time exclusion, applicable only to the residue generated from the use of the Chemfix® treatment process on the sludge currently contained in the three on-site surface impoundments.
Geological Reclamation Operations and Systems, Inc.	Morrisville, PA	Wastewater treatment sludge filter cake from the treatment of EPA Hazardous Waste No. *F039,* generated at a maximum annual rate of 1,000 cubic yards. This exclusion was published on August 20, 1991. This exclusion covers the filter cake resulting from the treatment of hazardous leachate derived from only ''old'' GROWS and non-hazardous leachate derived from only non-hazardous sources. This exclusion does not address the wastes disposed of in the ''old'' GROWS Landfill or the grit generated during the removal of heavy solids from the landfill leachate. To ensure that hazardous constituents are not present in the filter cake at levels of regulatory concern, GROWS must implement a testing program for the petitioned waste. This testing program must meet the conditions listed below in order for the exclusion to be valid: (1) *Testing:* Sample collection and analyses, including quality control (QC) procedures, must be performed according to SW–846 methodologies. (A) *Sample Collection:* Each batch of waste generated over a four-week period must be collected in containers with a maximum capacity of 20-cubic yards. At the end of the four-week period, each container must be divided into four quadrants and a single, full-depth core sample shall be collected from each quadrant. All of the full-depth core samples then must be composited under laboratory conditions to produce one representative composite sample for the four-week period. (B) *Sample Analysis:* Each four-week composite sample must be analyzed for all of the constituents listed in Condition (3). The analytical data, including quality control information, must be compiled and maintained on site for a minimum of three years. These data must be furnished upon request by any employee or representative of EPA or state of Pennsylvania. (2) *Waste Holding:* The dewatered filter cake waste must be stored as hazardous until the verification analyses are completed. If the four-week composite sample does not exceed any of the delisting levels set in Condition (3), the filter cake waste corresponding to this sample may be managed and disposed of in accordance with all applicable solid waste regulations. If the four-week composite sample exceeds any of the delisting levels set in Condition (3), the filter cake waste generated during the time period corresponding to the four-week composite sample must be retreated until it meets these levels (analyses must be repeated) or managed and disposed of in accordance with subtitle C of RCRA. Filter cake waste which is generated but for which analyses are not complete or valid must be managed and disposed of in accordance with subtitle C of RCRA, until valid analyses demonstrate that the waste meets the delisting levels.

TABLE 1—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		(3) *Delisting Levels:* If the concentrations in the four-week composite sample of the filter cake waste for any of the hazardous constituents listed below exceed their respective maximum allowable concentrations (ppm) also listed below, the four-week batch of failing filter cake waste must either be retreated until it meets these levels or managed and disposed of in accordance with subtitle C of RCRA. (A) Inorganics (Leachable): Arsenic—0.79 Barium—15.9 Cadmium—0.16 Chromium—0.79 Cyanide—11.1 Lead—0.79 Mercury—0.032 Selenium—0.16 Silver—0.79 Nickel—11.1 Leachable metal concentrations must be measured in the filter cake leachate as per 40 CFR § 261.24. Cyanide extractions must be conducted using distilled water in place of the leaching media per 40 CFR § 261.24. (B) Organics: Acetone—2.02E+03 Acetophenone—3.53E+04 Acetonitrile; Methyl cyanide—2.43E+01 Acrolein—1.38E+02 Acrylonitrile—6.26E − 04 Aldrin—5.27E − 03 Aniline—8.72E − 01 Anthracene—3.01E+02 Benzene—3.47E+00 Benzo[a]anthracene—5.78E − 01 Benzo(b)fluoranthene—6.41E − 01 Benzo(k)fluoranthene—3.04E+03 Benzo[a]pyrene—1.51E − 01 gamma-BHC; Lindane—5.90E − 01 Bis(2-chloroethyl) ether—6.94E − 04 Bis(2-ethylhexyl) phthalate—1.64E+02 Bromodichloromethane—2.94E+03 Bromoform; Tribromomethane—3.76E+03 Butyl benzyl phthalate—2.49E+05 Carbon disulfide—4.98E+04 Carbon tetrachloride—5.49E+00 Chlordane—7.51E+01 p-Chloroaniline—1.85E+02 Chlorobenzene—5.95E+02 Chlorobenzilate—1.68E+03 p-Chloro-m-cresol—5.18E+02 Chloroform—1.94E+00 2-Chlorophenol—1.72E+02 Chrysene—5.92E+01 Cresol—4.91E+03 2,4-D; 2,4-Dichlorophenoxyacetic acid—4.17E+02 4,4′-DDD; DDD—2.33E+00 4,4′-DDE; DDE—3.86E+00 4,4′-DDT; DDT—1.21E+01 Dibenz[a,h]anthracene—2.86E − 02 Dibromochloromethane; Chlorodibromomethane—3.05E+03 1,2-Dibromo-3-chloropropane—4.09E − 02 1,2-Dibromoethane; Ethylene dibromide—2.37E − 03 Di-n-butyl phthalate—9.84E+05 o-Dichlorobenzene; 1,2-Dichlorobenzene—1.95E+04 m-Dichlorobenzene; 1,3-Dichlorobenzene—1.87E+05 p-Dichlorobenzene; 1,4-Dichlorobenzene—1.03E+03 3,3′-Dichlorobenzidine—2.21E − 01 Dichlorodifluoromethane—4.15E+05 1,1-Dichloroethane—4.45E − 02 1,2-Dichloroethane; Ethylene dichloride—1.45E+00 1,1-Dichloroethylene—4.96E+00 trans-1,2-Dichloroethylene—1.42E+02 2,4-Dichlorophenol—1.69E+02 1,2-Dichloropropane—2.73E+00 1,3-Dichloropropene (total cis and trans isomers)—2.32E − 02 Dieldrin—5.04E − 03

TABLE 1—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		Diethyl phthalate—1.00E+06
		Dimethoate—1.32E+00
		7,12-Dimethylbenz[a]anthracene—1.46E−02
		2,4-Dimethylphenol—4.87E+01
		Dimethyl phthalate—1.00E+06
		m-Dinitrobenzene—5.14E+00
		4,6-Dinitro-o-cresol—2.00E+02
		2,4-Dinitrophenol—8.96E+01
		Dinitrotoluene (total of-2,4- and 2,6- isomers)—4.54E−03
		Dinoseb; DNBP—5.26E+02
		Di-n-octyl phthalate—1.34E+05
		1,4-Dioxane—7.89E−02
		Diphenylamine—4.81E+04
		Disulfoton—3.34E+00
		Endosulfan I and Endosulfan II (total)—7.74E+01
		Endrin—3.92E+00
		Ethylbenzene—1.94E+04
		Fluoranthene—1.16E+05
		Fluorene—4.09E+01
		Heptachlor—1.31E+01
		Heptachlor epoxide—3.26E+00
		Hexachlorobenzene—1.02E+00
		Hexachlorobutadiene—2.01E+01
		Hexachlorocyclopentadiene—3.23E+04
		Hexachloroethane—1.15E+01
		Hexachlorophene;—1.22E+04
		Indeno (1,2,3-cd) pyrene—1.16E+02
		Isobutyl alcohol; Isobutanol—3.22E+04
		Isophorone—2.86E+00
		Methacrylonitrile; 2-methyl-2-Propenenitrile—5.77E−01
		Methoxychlor—1.03E+05
		Methylbromide; Bromomethane—1.41E+02
		Methyl chloride; Chloromethane—3.22E+04
		Methylene chloride; Dichloromethane—9.07E−01
		Methyl ethyl ketone; 2-Butanone—1.50E+03
		Methyl methacrylate—5.08E+05
		Methyl parathion; Phosphorothioic acid—5.27E+01
		4-Methyl-2-pentanone; Methyl isobutyl ketone—6.40E+03
		Naphthalene—1.00E+06
		Nitrobenzene—2.56E+01
		N-Nitroso-di-n-butylamine—8.15E−05
		N-Nitrosodiethylamine—2.00E−07
		N-Nitrosodimethylamine—2.19E−05
		N-Nitrosodiphenylamine—4.55E+01
		N-Nitrosodipropylamine; Di-n-propylnitrosamine; N-Nitrosodi-n-propylamine—5.02E−05
		Nitrosopyrrolidine; N-Nitrosopyrrolidine; l-nitroso-Pyrrolidine—3.06E−05
		Polychlorinated biphenyls;—4.77E+01
		Pentachlorobenzene—8.91E+03
		Pentachloronitrobenzene—2.82E+00
		Pentachlorophenol—1.14E+04
		Phenanthrene—5.46E+01
		Phenol—8.00E+04
		Pronamide—2.13E+05
		Pyrene—1.00E+06
		Pyridine—1.31E+01
		Silvex; 2,4,5-TP; 2-(2,4,5-trichlorophenoxy)-Propanoic acid—3.87E+01
		Styrene—9.14E+00
		2,4,5-T; 2,4,5-Trichlorophenoxyacetic acid—6.63E+03
		1,2,4,5-Tetrachlorobenzene—2.19E+02
		1,1,2,2-Tetrachloroethane—2.28E−02
		Tetrachloroethene; Tetrachloroethylene—1.34E+01
		2,3,4,6-Tetrachlorophenol—1.17E+04
		Tetraethyl dithiopyrophosphate—2.51E+02
		Toluene—4.58E+04
		Toxaphene—3.09E+02
		1,2,4-Trichlorobenzene—4.75E+04
		1,1,1-Trichloroethane—8.70E+02
		1,1,2-Trichloroethane—9.03E−02
		Trichloroethylene; Trichloroethene—4.47E+00
		Trichlorofluoromethane—3.31E+05
		2,4,5-Trichlorophenol—8.20E+04
		2,4,6-Trichlorophenol—1.38E+00

TABLE 1—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		1,2,3-Trichloropropane—5.46E+02 sym-Trinitrobenzene—2.17E+00 Vinyl chloride—7.11E−01 Xylene (total)—8.49E+05
Goodyear Tire and Rubber Co.	Randleman, NC.	Dewatered wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electroplating operations.
Gould, Inc	McConnelsville, OH.	Wastewater treatment sludge (EPA Hazardous Waste No. F006) generated from electroplating operations after November 27, 1985.
Hoechst Celanese Corporation.	Bucks, Alabama.	Distillation bottoms generated (at a maximum annual rate of 31,500 cubic yards) from the production of sodium hydrosulfite (EPA Hazardous Waste No. F003). This exclusion was published on July 17, 1990. This exclusion does not include the waste contained in Hoechst Celanese's on-site surface impoundment.
Hoechst Celanese Corporation.	Leeds, South Carolina.	Distillation bottoms generated (at a maximum annual rate of 38,500 cubic yards) from the production of sodium hydrosulfite (EPA Hazardous Waste No. F003). This exclusion was published on July 17, 1990.
Hanover Wire Cloth Division.	Hanover, Pennsylvania.	Dewatered filter cake (EPA Hazardous Waste No. F006) generated from electroplating operations after August 15, 1986.
Holston Army Ammunition Plant.	Kingsport, Tennessee.	Dewatered wastewater treatment sludges (EPA Hazardous Waste Nos. F003, F005, and K044) generated from the manufacturing and processing of explosives and containing spent non-halogenated solvents after November 14, 1986.
Imperial Clevite	Salem, IN	Solid resin cakes containing EPA Hazardous Waste No. F002 generated after August 27, 1985, from solvent recovery operations.
Indiana Steel & Wire Corporation (formerly General Cable Co.).	Munci, IN	Dewatered wastewater treatment sludges (EPA Hazardous Waste Nos. F006 and K062) generated from electroplating operations and steel finishing operations after October 24, 1986. This exclusion does not apply to sludges in any on-site impoundments as of this date.
International Minerals and Chemical Corporation.	Terre Haute, Indiana.	Spent non-halogenated solvents and still bottoms (EPA Hazardous Waste No. F003) generated from the recovery of n-butyl alchohol after August 15, 1986.
Kawneer Company, Incorporated.	Springdale, Arkansas.	Wastewater treatment filter press sludge (EPA Hazardous Waste No. F019) generated (at a maximum annual rate of 26 cubic yards) from the chemical conversion coating of aluminum. This exclusion was published on November 13, 1990.
Kay-Fries, Inc	Stoney Point, NY.	Biological aeration lagoon sludge and filter press sludge generated after September 21, 1984, which contain EPA Hazardous Waste Nos. F003 and F005 as well as that disposed of in a holding lagoon as of September 21, 1984.
Keymark Corp	Fonda, NY	Wastewater treatment sludge (EPA Hazardous Waste No. F019) generated from chemical conversion coating of aluminum after November 27, 1985.
Keymark Corp	Fonda, NY	Wastewater treatment sludges (EPA Hazardous Waste No. F019) generated from the chemical conversion coating of aluminum and contained in an on-site impoundment on August 12, 1987. This is a one-time exclusion.
Lederle Laboratories.	Pearl River, NY.	Spent non–halogenated solvents and still bottoms (EPA Hazardous Waste Nos. F003 and F005) generated from the recovery of the following solvents: Xylene, acetone, ethyl acetate, ethyl ether, methyl isobutyl ketone, n–butyl alcohol, cyclohexanone, methanol, toluene, and pyridine after August 2, 1988. Excusion applies to primary and secondary filter press sludges and compost soils generated from these sludges.
Lincoln Plating Company.	Lincoln, NE	Wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electroplating operations after November 17, 1986.
Loxcreen Company, Inc.	Hayti, MO	Dewatered wastewater treatment sludges (EPA Hazardous Waste No. F019) generated from the chemical conversion coating of aluminum after July 16, 1986.
MAHLE, Inc. ...	Morristown, Tennessee.	Wastewater treatment sludge filter cake (EPA Hazardous Waste No. F019) generated from the chemical conversion coating of aluminum (generated at a maximum annual rate of 33 cubic yards), after August 21, 1992. In order to confirm that the characteristics of the waste do not change significantly, the facility must, on an annual basis sample and test for the constituents listed in 40 CFR 261.24 using the method specified therein. The annual analytical results (including quality control information) must be compiled, certified according to 40 CFR 260.22(i)(12), maintained on-site for a minimum of five years, and made available for inspection upon request by representatives of EPA or the State of Tennessee. Failure to maintain the required records on-site will be considered by EPA, at its discretion, sufficient basis to revoke the exclusion to the extent directed by EPA.
Marquette Electronics Incorporated.	Milwaukee, Wisconsin.	Wastewater treatment sludge (EPA Hazardous Waste No. F006) generated from electroplating operations. This exclusion was published on April 20, 1989.
Martin Marietta Aerospace.	Ocala, Florida	Dewatered wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electroplating operations after January 23, 1987.
Mason Chamberlain, Incorporated.	Bay St. Louis, Mississippi.	Wastewater treatment sludge filter cake (EPA Hazardous Waste No. F019) generated (at a maximum annual rate of 1,262 cubic yards) from the chemical conversion coating of aluminum. This exclusion was published on October 27, 1989.

TABLE 1—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Continued

Facility	Address	Waste description
Merck & Company, Incorporated.	Elkton, Virginia.	One-time exclusion for fly ash (EPA Hazardous Waste No. F002) from the incineration of wastewater treatment sludge generated from pharmaceutical production processes and stored in an on-site fly ash lagoon. This exclusion was published on May 12, 1989.
Maytag Company.	Newton, IA	Wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electroplating operations and wastewater treatment sludges (EPA Hazardous Waste No. F019) generated from the chemical conversion coating of aluminum November 17, 1986.
Metropolitan Sewer District of Greater Cincinnati.	Cincinnati, OH	Sluiced bottom ash sludge (approximately 25,000 cubic yards), contained in the North Lagoon, on September 21, 1984, which contains EPA Hazardous Wastes Nos. F001, F002, F003, F004, and F005.
Michelin Tire Corp.	Sandy Springs, South Carolina.	Dewatered wastewater treatment sludge (EPA Hazardous Wastes No. F006) generated from electroplating operations after November 14, 1986.
Monroe Auto Equipment.	Paragould, AR	Wastewater treatment sludge (EPA Hazardous Waste No. F006) generated from electroplating operations after vacuum filtration after November 27, 1985. This exclusion does not apply to the sludge contained in the on-site impoundment.
North American Philips Consumer Electronics Corporation.	Greenville, Tennessee.	Wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electroplating operations. This exclusion was published on April 20, 1989.
Philway Products, Incorporated.	Ashland, Ohio	Filter press sludge generated (at a maximum annual rate of 96 cubic yards) during the treatment of electroplating wastewaters using lime (EPA Hazardous Waste No. F006). This exclusion was published on October 26, 1990.
Plastene Supply Company.	Portageville, Missouri.	Dewatered wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electroplating operations after August 15, 1986.
POP Fasteners	Shelton, Connecticut.	Wastewater treatment sludge (EPA Hazardous Waste No. F006) generated from electroplating operations (at a maximum annual rate of 1,000 cubic yards) after September 19, 1994. In order to confirm that the characteristics of the waste do not change significantly, the facility must, on an annual basis, analyze a representative composite sample for the constituents listed in § 261.24 using the method specified therein. The annual analytical results, including quality control information, must be compiled, certified according to § 260.22(i)(12), maintained on site for a minimum of five years, and made available for inspection upon request by any employee or representative of EPA or the State of Connecticut. Failure to maintain the required records on site will be considered by EPA, at its discretion, sufficient basis to revoke the exclusion to the extent directed by EPA.
Reynolds Metals Company.	Sheffield, AL ..	Dewatered wastewater treatment sludges (EPA Hazardous Waste No. F019) generated from the chemical conversion coating of aluminum after August 15, 1986.
Reynolds Metals Company.	Sheffield, AL ..	Wastewater treatment filter press sludge (EPA Hazardous Waste No. F019) generated (at a maximum annual rate of 3,840 cubic yards) from the chemical conversion coating of aluminum. This exclusion was published on July 17, 1990.
Siegel-Robert, Inc.	St. Louis, MO	Wastewater treatment sludge (EPA Hazardous Waste No. F006) generated from electroplating operations after November 27, 1985.
Square D Company.	Oxford, Ohio ..	Dewatered filter press sludge (EPA Hazardous Waste No. F006) generated from electroplating operations after August 15, 1986.
Syntex Agribusiness.	Springfield, MO.	Kiln ash, cyclone ash, separator sludge, and filtered wastewater (except spent activiated carbon) (EPA Hazardous Waste No. F020 generated during the treatment of wastewater treatment sludge by the EPA's Mobile Incineration System at the Denney Farm Site in McDowell, Missouri after June 2, 1988, so long as: (1) The incinerator is monitored continuously and is in compliance with operating permit conditions. Should the incinerator fail to comply with the permit conditions relevant to the mechanical operation of the incinerator, Syntex must test the residues generated during the run when the failure occurred according to the requirements of Conditions (2) through (6), regardless of whether or not the demonstration in Condition (7) has been made. (2) Four grab samples of wastewater must be composited from the volume of filtered wastewater collected after each eight hour run and, prior to disposal the composite samples must be analyzed for the EP toxic metals, nickel, and cyanide. If arsenic, chromium, lead, and silver EP leachate test results exceed 0.61 ppm; barium levels exceed 12 ppm; cadmium and selenium levels exceed 0.12 ppm; mercury levels exceed 0.02 ppm; nickel levels exceed 6.1 ppm; or cyanide levels exceed 2.4 ppm, the wastewater must be retreated to achieve these levels or must be disposed in accordance with all applicable hazardous waste regulations. Analyses must be performed according to SW–846 methodologies.

TABLE 1—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		(3) One grab sample must be taken from each drum of kiln and cyclone ash generated during each eight hour run; all grabs collected during a given eight hour run must then be composited to form one composite sample. A composite sample of four grab samples of the separator sludge must be collected at the end of each eight hour run. Prior to the disposal of the residues from each eight hour run, an EP leachate test must be performed on these composite samples and the leachate analyzed for the EP toxic metals, nickel, and cyanide (using a distilled water extraction for the cyanide extraction) to demonstrate that the following maximum allowable treatment residue concentrations listed below are not exceeded. Analyses must be performed according to SW–846 methodologies. Any residues which exceed any of the levels listed below must be retreated to achieve these levels or must be disposed in accordance with all applicable hazardous waste regulations. Maximum Allowable Solids Treatment Residue EP Leachate Concentrations (mg/L) Arsenic—1.6 Barium—32 Cadmium—0.32 Chromium—1.6 Lead—1.6 Mercury—0.065 Nickel—16 Selenium—0.32 Silver—1.6 Cyanide—6.5 (4)—If Syntex stabilizes any of the kiln and cyclone ash or separator sludge, a Portland cement-type stabilization process must be used and Syntex must collect a composite sample of four grab samples from each batch of stabilized waste. An MEP leachate test must be performed on these composite samples and the leachate analyzed for the EP toxic metals, nickel, and cyanide (using a distilled water extraction for the cyanide leachate analysis) to demonstrate that the maximum allowable treatment residue concentrations listed in Condition (3) are not exceeded during any run of the MEP extraction. Analyses must be performed according to SW–846 methodologies. Any residues which exceed any of the levels listed in Condition (3) must be retreated to achieve these levels or must be disposed in accordance with all applicable hazardous waste regulations. (If the residues are stabilized, the analyses required in this condition supercede the analyses required in Condition (3).) (5) Syntex must generate, prior to disposal of residues, verification data from each eight hour run from each treatment residue (*i.e.,* kiln and cyclone ash, separator sludge, and filtered wastewater) to demonstrate that the maximum allowable treatment residue concentrations listed below are not exceeded. Samples must be collected as specified in Conditions (2) and (3). Analyses must be performed according to SW–846 methodologies. Any solid or liquid residues which exceed any of the levels listed below must be retreated to achieve these levels or must be disposed in accordance with Subtitle C of RCRA. Maximum Allowable Wastewater Concentrations (ppm): Benz(a)anthracene—1×10^{-4} Benzo(a)pyrene—4×10^{-5} Benzo(b)fluoranthene—2×10^{-4} Chloroform—0.07 Chrysene—0.002 Dibenz(a,h)anthracene—9×10^{-6} 1,2-Dichloroethane—0.06 Dichloromethane—0.06 Indeno(1,2,3-cd)pyrene—0.002 Polychlorinated biphenyls—1×10^{-4} 1,2,4,5-Tetrachlorobenzene—0.13 2,3,4,6-Tetrachlorophenol—12 Toluene—120 Trichloroethylene—0.04 2,4,5-Trichlorophenol—49 2,4,6-Trichlorophenol—0.02 Maximum Allowable Solid Treatment Residue Concentrations (ppm): Benz(a)anthracene—1.1 Benzo(a)pyrene—0.43 Benzo(b)fluoranthene—1.8 Chloroform—5.4 Chrysene—170 Dibenz(a,h)anthracene—0.083 Dichloromethane—2.4 1,2-Dichloroethane—4.1 Indeno(1,2,3-cd)pyrene—330 Polychlorinated biphenyls—0.31 1,2,4,5-Tetrachlorobenzene—720 Trichloroethylene—6.6 2,4,6-Trichlorophenol—3.9

TABLE 1—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		(6) Syntex must generate, prior to disposal of residues, verification data from each eight hour run for each treatment residue (*i.e.,* kiln and cyclone ash, separator sludge, and filtered wastewater) to demonstrate that the residues do not contain tetra-, penta-, or hexachlorodibenzo-p-dioxins or furans at levels of regulatory concern. Samples must be collected as specified in Conditions (2) and (3). The TCDD equivalent levels for wastewaters must be less than 2 ppq and less than 5 ppt for the solid treatment residues. Any residues with detected dioxins or furans in excess of these levels must be retreated or must be disposed as acutely hazardous. Method 8290, a high resolution gas chromatography and high resolution mass spectroscopy (HRGC/HRMS) analytical method, must be used. For tetra- and pentachloronated dioxin and furan homologs, the maximum practical quantitation limit must not exceed 15 ppt for solids and 120 ppq for wastewaters. For hexachlorinated homologs, the maximum practical quantitation limit must not exceed 37 ppt for solids and 300 ppq for wastewaters. (7)(A) The test data from Conditions (1), (2), (3), (4), (5) and (6) must be kept on file by Syntex for inspection purposes and must be compiled, summarized, and submitted to the Section Chief, Variances Section, PSPD/OSW (WH–563), US EPA, 401 M Street, S.W., Washington, DC 20460 by certified mail on a monthly basis and when the treatment of the lagoon sludge is concluded. All data submitted will be placed in the RCRA docket. (B) The testing requirements for Conditions (2), (3), (4), (5), and (6) will continue until Syntex provides the Section Chief, Variances Section, with the results of four consecutive batch analyses for the petitioned wastes, none of which exceed the maximum allowable treatment residue concentrations listed in these conditions and the Section Chief, Variances Section, notifies Syntex that the conditions have been lifted. (8) Syntex must provide a signed copy of the following certification statement when submitting data in response to the conditions listed above: ''Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations, I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the (those) identified section(s) of this document for which I cannot personally verify its (their) accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete.''
SR of Tennessee.	Ripley, TN	Dewatered wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from the copper, nickel, and chromium electroplating of plastic parts after November 17, 1986.
Tennessee Electroplating.	Ripley, Tennessee.	Dewatered wastewater treatment sludges (EPA Hazardous Waste Nos. F006) generated from electroplating operations after November 17, 1986. To ensure chromium levels do not exceed the regulatory standards there must be continuous batch testing of the filter press sludge for chromium for 45 days after the exclusion is granted. Each batch of treatment residue must be representatively sampled and tested using the EP toxicity test for chromium. This data must be kept on file at the facility for inspection purposes. If the extract levels exceed 0.922 ppm of chromium the waste must be managed and disposed of as hazardous. If these conditions are not met, the exclusion does not apply. This exclusion does not apply to sludges in any on-site impoundments as of this date.
Tennessee Electroplating.	Ripley, TN	Wastewater treatment sludge (EPA Hazardous Waste No. F006) generated from electroplating operations and contained in an on-site surface impoundment (maximum volume of 6,300 cubic yards). This is a one-time exclusion. This exclusion was published on April 8, 1991.
Texas Eastman	Longview, Texas.	Incinerator ash (at a maximum generation of 7,000 cubic yards per calendar year) generated from the incineration of sludge from the wastewater treatment plant (EPA Hazardous Waste No. D001, D003, D018, D019, D021, D022, D027, D028, D029, D030, D032, D033, D034, D035, D036, D038, D039, D040, F001, F002, F003, F005, and that is disposed of in Subtitle D landfills after September 25, 1996. Texas Eastman must implement a testing program that meets the following conditions for the petition to be valid: 1. *Delisting Levels:* All leachable concentrations for those metals must not exceed the following levels (mg/l). Metal concentrations must be measured in the waste leachate by the method specified in 40 CFR § 261.24. (A) Inorganic Constituents Antimony—0.27; Arsenic—2.25; Barium—90.0; Beryllium—0.0009; Cadmium—0.225; Chromium—4.5; Cobalt—94.5; Copper—58.5; Lead—0.675; Mercury—0.045; Nickel—4.5; Selenium—1.0; Silver—5.0; Thallium—0.135; Tin—945.0; Vanadium—13.5; Zinc—450.0 (B) Organic Constituents Acenaphthene—90.0; Acetone—180.0; Benzene—0.135; Benzo(a)anthracene—0.00347; Benzo(a)pyrene—0.00045; Benzo(b) fluoranthene—0.00320; Bis(2 ethylhexyl) phthalate—0.27; Butylbenzyl phthalate—315.0; Chloroform—0.45; Chlorobenzene—31.5; Carbon Disulfide—180.0; Chrysene—0.1215; 1,2–Dichlorobenzene—135.0; 1,4–Dichlorobenzene—0.18; Di-n-butyl phthalate—180.0; Di-n-octyl phthalate—35.0; 1,4 Dioxane—0.36; Ethyl Acetate—1350.0; Ethyl Ether—315.0; Ethylbenzene—180.0; Flouranthene—45.0; Fluorene—45.0; 1–Butanol—180.0; Methyl Ethyl Ketone—200.0; Methylene Chloride—0.45; Methyl Isobutyl Ketone—90.0; Naphthalene—45.0; Pyrene—45.0; Toluene—315.0; Xylenes—3150.0

TABLE 1—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		2. *Waste Holding and Handling:* Texas Eastman must store in accordance with its RCRA permit, or continue to dispose of as hazardous all FBI ash generated until the Initial and Subsequent Verification Testing described in Paragraph 4 and 5 below is completed and valid analyses demonstrate that all Verification Testing Conditions are satisfied. After completion of Initial and Subsequent Verification Testing, if the levels of constituents measured in the samples of the FBI ash do not exceed the levels set forth in Paragraph 1 above, and written notification is given by EPA, then the waste is non-hazardous and may be managed and disposed of in accordance with all applicable solid waste regulations. 3. *Verification Testing Requirements:* Sample collection and analyses, including quality control procedures, must be performed according to SW–846 methodologies. If EPA judges the incineration process to be effective under the operating conditions used during the initial verification testing described in Paragraph 4 below, Texas Eastman may replace the testing required in Paragraph 4 with the testing required in Paragraph 5 below. Texas Eastman must, however, continue to test as specified in Paragraph 4 until notified by EPA in writing that testing in Paragraph 4 may be replaced by the testing described in Paragraph 5. 4. *Initial Verification Testing:* During the first 40 operating days of the FBI incinerator after the final exclusion is granted, Texas Eastman must collect and analyze daily composites of the FBI ash. Daily composites must be composed of representative grab samples collected every 6 hours during each 24-hour FBI operating cycle. The FBI ash must be analyzed, prior to disposal of the ash, for all constituents listed in Paragraph 1. Texas Eastman must report the operational and analytical test data, including quality control information, obtained during this initial period no later than 90 days after receipt of the validated analytical results. 5. *Subsequent Verification Testing:* Following the completion of the Initial Verification Testing, Texas Eastman may request to monitor operating conditions and analyze samples representative of each quarter of operation during the first year of ash generation. The samples must represent the untreated ash generated over one quarter. Following written notification from EPA, Texas Eastman may begin the quarterly testing described in this Paragraph. 6. *Termination of Organic Testing:* Texas Eastman must continue testing as required under Paragraph 5 for organic constituents specified in Paragraph 1 until the analyses submitted under Paragraph 5 show a minimum of two consecutive quarterly samples below the delisting levels in Paragraph 1. Texas Eastman may then request that quarterly organic testing be terminated. After EPA notifies Texas Eastman in writing it may terminate quarterly organic testing. 7. *Annual Testing:* Following termination of quarterly testing under either Paragraphs 5 or 6, Texas Eastman must continue to test a representative composite sample for all constituents listed in Paragraph 1 (including organics) on an annual basis (no later than twelve months after the date that the final exclusion is effective). 8. *Changes in Operating Conditions:* If Texas Eastman significantly changes the incineration process described in its petition or implements any new manufacturing or production process(es) which generate(s) the ash and which may or could affect the composition or type of waste generated established under Paragraph 3 (by illustration {but not limitation}, use of stabilization reagents or operating conditions of the fluidized bed incinerator), Texas Eastman must notify the EPA in writing and may no longer handle the wastes generated from the new process as non-hazardous until the wastes meet the delisting levels set in Paragraph 1 and it has received written approval to do so from EPA. 9. *Data Submittals:* The data obtained through Paragraph 3 must be submitted to Mr. William Gallagher, Chief, Region 6 Delisting Program, U.S. EPA, 1445 Ross Avenue, Dallas, Texas 75202–2733, Mail Code, (6PD-O) within the time period specified. Records of operating conditions and analytical data from Paragraph 3 must be compiled, summarized, and maintained on site for a minimum of five years. These records and data must be furnished upon request by EPA, or the State of Texas, and made available for inspection. Failure to submit the required data within the specified time period or maintain the required records on site for the specified time will be considered by EPA, at its discretion, sufficient basis to revoke the exclusion to the extent directed by EPA. All data must be accompanied by a signed copy of the following certification statement to attest to the truth and accuracy of the data submitted: Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code, which include, but may not be limited to, 18 USC 1001 and 42 USC 6928), I certify that the information contained in or accompanying this document is true, accurate and complete. As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete.

TABLE 1—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		In the event that any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of waste will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion. 10. *Notification Requirements:* Texas Eastman must provide a one-time written notification to any State Regulatory Agency to which or through which the delisted waste described above will be transported for disposal at least 60 days prior to the commencement of such activities. Failure to provide such a notification will result in a violation of the delisting petition and a possible revocation of the decision.
Universal Oil Products.	Decatur, Alabama.	Wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electroplating operations and contained in two on-site lagoons on August 15, 1986. This is a one-time exclusion.
U.S. EPA Combustion Research Facility.	Jefferson, Arkansas.	One-time exclusion for scrubber water (EPA Hazardous Waste No. F020) generated in 1985 from the incineration of Vertac still bottoms. This exclusion was published on June 28, 1989.
U.S. Nameplate Company, Inc.	Mount Vernon, Iowa.	Retreated wastewater treatment sludges (EPA Hazardous Waste No. F006) previously generated from electroplating operations and currently contained in an on-site surface impoundment after September 28, 1988. This is a one-time exclusion for the reteated wastes only. This exclution does not relieve the waste unit from regulatory compliance under Subtitle C.
VAW of America Incorporated.	St. Augustine, Florida.	Wastewater treatment sludge filter cake (EPA Hazardous Waste No. F019) generated from the chemical conversion coating of aluminum. This exclusion was published on February 1, 1989.
Vermont American, Corp.	Newark, OH ...	Wastewater treatment sludge (EPA Hazardous Waste No. F006) generated from electroplating operations after November 27, 1985.
Waterloo Industries.	Pocahontas, AR.	Wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electroplating operations after dewatering and held on-site on July 17, 1986 and any such sludge generated (after dewatering) after July 17, 1986.
Watervliet Arsenal.	Watervliet, NY	Wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electroplating operations after January 10, 1986.
William L. Bonnell Co.	Newnan, Georgia.	Dewatered wastewater treatment sludges (EPA Hazardous Waste No. F019) generated from the chemical conversion coating of aluminum after November 14, 1986. This exclusion does not include sludges contained in Bonnell's on-site surface impoundments.
Windsor Plastics, Inc.	Evansville, IN	Spent non-halogenated solvents and still bottoms (EPA Hazardous Waste No. F003) generated from the recovery of acetone after November 17, 1986.

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES

Facility	Address	Waste description
American Cyanamid.	Hannibal, Missouri.	Wastewater and sludge (EPA Hazardous Waste No. K038) generated from the washing and stripping of phorate production and contained in on-site lagoons on May 8, 1987, and such wastewater and sludge generated after May 8, 1987.
Amoco Oil Co	Wood River, IL.	150 million gallons of DAF from petroleum refining contained in in four surge ponds after treatment with the Chemifix© stabilization process. This waste contains EPA Hazardous Waste No. K048. This exclusion applies to the 150 million gallons of waste after chemical stabilization as long as the mixing ratios of the reagent with the waste are monitored continuously and do not vary outside of the limits presented in the demonstration samples; one grab sample is taken each hour from each treatment unit, composited, and EP toxicity tests performed on each sample. If the levels of lead or total chromium exceed 0.5 ppm in the EP extract, then the waste that was processed during the compositing period is considered hazardous; the treatment residue shall be pumped into bermed cells to ensure that the waste is identifiable in the event that removal is necessary.
Akzo Chemicals Inc. (formerly Stauffer Chemical Company).	Axis, AL	Brine purification muds generated from their chlor-alkali manufacturing operations (EPA Hazardous Waste No. K071) and disposed of in brine mud pond HWTF: 5 EP–201.
Bekaert Steel Corporation.	Rogers, Arkansas.	Wastewater treatment sludge (EPA Hazardous Waste No. F006) generated from electroplating operations (at a maximum annual rate of 1250 cubic yards to be measured on a calendar year basis) after [insert publication date of the final rule]. In order to confirm that the characteristics of the waste do not change significantly, the facility must, on an annual basis, before July 1 of each year, analyze a representative composite sample for the constituents listed in § 261.24 as well as antimony, copper, nickel, and zinc using the method specified therein. The annual analytical results, including quality control information, must be compiled, certified according to § 260.22(i)(12) of this chapter, maintained on site for a minimum of five years, and made available for inspection upon request of any employee or representative of EPA or the State of Arkansas. Failure to maintain the required documents on site will be considered by EPA, at its discretion, sufficient basis to revoke the exclusion to the extent directed by EPA. *Notification Requirements:* Bekaert Steel Corporation must provide a one-time written notification to any State Regulatory Agency to which or through which the delisted waste described above will be transported for disposal at least 60 days prior to the commencement of such activities. Failure to provide such a notification will result in a violation of the delisting petition and a possible revocation of the decision.
Bethlehem Steel Corp.	Steelton, PA ..	Uncured and cured chemically stabilized electric arc furnace dust/sludge (CSEAFD) treatment residue (K061) generated from the primary production of steel after May 22, 1989. This exclusion is conditioned upon the data obtained from Bethlehem's full-scale CSEAFD treatment facility because Bethlehem's original data were obtained from a laboratory-scale CSEAFD treatment process. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern once the full-scale treatment facility is in operation, Bethlehem must implement a testing program for the petitioned waste. This testing program must meet the following conditions for the exclusion to be valid: (1) *Testing:* (A) *Initial Testing:* During the first four weeks of operation of the full-scale treatment system, Bethlehem must collect representative grab samples of each treated batch of the CSEAFD and composite the grab samples daily. The daily composites, prior to disposal, must be analyzed for the EP leachate concentrations of all the EP toxic metals, nickel and cyanide (using distilled water in the cyanide extractions), and the total constituent concentrations of reactive sulfide and reactive cyanide. Analyses must be performed according to SW–846 methodologies. Bethlehem must report the analytical test data obtained during this initial period no later than 90 days after the treatment of the first full-scale batch. (B) *Subsequent Testing:* Bethlehem must collect representative grab samples from every treated batch of CSEAFD generated daily and composite all of the grab samples to produce a weekly composite sample. Bethlehem then must analyze each weekly composite sample for the EP leachate concentrations of all the EP toxic metals and nickel. Analyses must be performed according to SW–846 methodologies. The analytical data, including all quality control information, must be compiled and maintained on site for a minimum of three years. These data must be furnished upon request and made available for inspection by any employee or representative of EPA or the State of Pennsylvania. (2) *Delisting Levels:* If the EP extract concentrations resulting from the testing in condition (1)(A) or (1)(B) for chromium, lead, arsenic, or silver exceed 0.315 mg/L, for barium exceeds 6.3 mg/l; for cadmium or selenium exceed 0.063 mg/l; for mercury exceeds 0.0126 mg/l; for nickel exceeds 3.15 mg/l; or for cyanide exceeds 4.42 mg/L, or total reactive cyanide or total reactive sulfide levels exceed 250 mg/kg and 500 mg/kg, respectively, the waste must either be re-treated or managed and disposed in accordance with subtitle C of RCRA.

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		(3) *Data submittals:* Within one week of system start-up, Bethlehem must notify the Section Chief, Variances Section (see address below) when their full-scale stabilization system is on-line and waste treatment has begun. All data obtained through the initial testing condition (1)(A), must be submitted to the Section Chief, Variances Section, PSPD/OSW, (OS–343), U.S. EPA, 401 M Street, S.W., Washington, DC 20460 within the time period specified in condition (1)(A). At the Section Chief's request, Bethlehem must submit analytical data obtained through condition (1)(B) to the above address, within the time period specified by the Section Chief. Failure to submit the required data obtained from either condition (1)(A) or (1)(B) within the specified time periods will be considered by the Agency sufficient basis to revoke Bethlehem's exclusion to the extent directed by EPA. All data must be accompanied by the following certification statement: ''Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code which include, but may not be limited to, 18 U.S.C. 6928), I certify that the information contained in or accompanying this document is true, accurate and complete. ''As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete. ''In the event that any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of wastes will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion.''
Bethlehem Steel Corp.	Johnstown, PA.	Uncured and cured chemically stabilized electric arc furnace dust/sludge (CSEAFD) treatment residue (K061) generated from the primary production of steel after May 22, 1989. This exclusion is conditioned upon the data obtained from Bethlehem's full-scale CSEAFD treatment facility because Bethlehem's original data were obtained from a labortory-scale CSEAFD treatment process. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern once the full-scale treatment facility is in operation, Bethlehem must implement a testing program for the petitioned waste. This testing program must meet the following conditions for the exclusion to be valid: (1) *Testing:* (A) *Initial Testing:* During the first four weeks of operation of the full-scale treatment system, Bethlehem must collect representative grab samples of each treated batch of the CSEAFD and composite the grab samples daily. The daily composites, prior to disposal, must be analyzed for the EP leachate concentrations of all the EP toxic metals, nickel and cyanide (using distilled water in the cyanide extractions), and the total constituent concentrations of reactive sulfide and reactive cyanide. Analyses must be performed according to SW–846 methodologies. Bethlehem must report the analytical test data obtained during this initial period no later than 90 days after the treatment of the first full-scale batch. (B) *Subsequent Testing:* Bethlehem must collect representative grab samples from every treated batch of CSEAFD generated daily and composite all of the grab samples to produce a weekly composite sample. Bethlehem then must analyze each weekly composite sample for the EP leachate concentrations of all the EP toxic metals and nickel. Analyses must be performed according to SW–846 methodologies. The analytical data, including all quality control information, must be compiled and maintained on site for a minimum of three years. These data must be furnished upon request and made available for inspection by any employee or representative of EPA or the State of Pennsylvania. (2) *Delisting Levels:* If the EP extract concentrations resulting from the testing in condition (1)(A) or (1)(B) for chromium, lead, arsenic, or silver exceed 0.315 mg/L, for barium exceeds 6.3 mg/l; for cadmium or selenium exceed 0.063 mg/l; for mercury exceeds 0.0126 mg/l; for nickel exceeds 3.15 mg/l; or for cyanide exceeds 4.42 mg/L, or total reactive cyanide or total reactive sulfide levels exceed 250 mg/kg and 500 mg/kg, respectively, the waste must either be re-treated or managed and disposed in accordance with subtitle C of RCRA. (3) *Data submittals:* Within one week of system start-up, Bethlehem must notify the Section Chief, Variances Section (see address below) when their full-scale stabilization system is on-line and waste treatment has begun. All data obtained through the initial testing condition (1)(A), must be submitted to the Section Chief, Variances Section, PSPD/OSW, (OS–343), U.S. EPA, 401 M Street, SW., Washington, DC 20406 within the time period specified in condition (1)(A). At the Section Chief's request, Bethlehem must submit analytical data obtained through condition (1)(B) to the above address, within the time period specified by the Section Chief. Failure to submit the required data obtained from either condition (1)(A) or (1)(B) within the specified time periods will be considered by the Agency sufficient basis to revoke Bethlehem's exclusion to the extent directed by EPA. All data must be accompanied by the following certification statement:

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		''Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code which include, but may not be limited to, 18 U.S.C. 6928), I certify that the information contained in or accompanying this document is true, accurate and complete. ''As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete. ''In the event that any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of wastes will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion.''
BF Goodrich Intermediates Company, Inc.	Calvert City, Kentucky.	Brine purification muds and saturator insolubles (EPA Hazardous Waste No. K071) after August 18, 1989. This exclusion is conditional upon the collection and submission of data obtained from BFG's full-scale treatment system because BFG's original data was based on data presented by another petitioner using an identical treatment process. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern once the full-scale treatment facility is in operation, BFG must implement a testing program. All sampling and analyses (including quality control procedures) must be performed according to SW–846 procedures. This testing program must meet the following conditions for the exclusion to be valid: (1) Initial Testing: During the first four weeks of full-scale operation, BFG must do the following: (A) Collect representative grab samples from every batch of the treated mercury brine purification muds and treated saturator insolubles on a daily basis and composite the grab samples to produce two separate daily composite samples (one of the treated mercury brine purification muds and one of the treated saturator insolubles). Prior to disposal of the treated batches, two daily composite samples must be analyzed for EP leachate concentration of mercury. BFG must report the analytical test data, including all quality control data, within 90 days after the treatment of the first full-scale batch. (B) Collect representative grab samples from every batch of the treated mercury brine purification muds and treated saturator insolubles on a daily basis and composite the grab samples to produce two separate weekly composite samples (one of the treated mercury brine muds and one of the treated saturator insolubles). Prior to disposal of the treated batches, two weekly composite samples must be analyzed for the EP leachate concentrations of all the EP toxic metals (except mercury), nickel, and cyanide (using distilled water in the cyanide extractions), and the total constituent concentrations of reactive sulfide and reactive cyanide. BFG must report the analytical test data, including all quality control data, obtained during this initial period no later than 90 days after the treatment of the first full-scale batch. (2) Subsequent Testing: After the first four weeks of full-scale operation, BFG must do the following: (A) Continue to sample and test as described in condition (1)(A). BFG must compile and store on-site for a minimum of three years all analytical data and quality control data. These data must be furnished upon request and made available for inspection by any employee or representative of EPA or the State of Kentucky. (B) Continue to sample and test as described in condition (1)(B). BFG must compile and store on-site for a minimum of three years all analytical data and quality control data. These data must be furnished upon request and made available for inspection by any employee or representative of EPA or the State of Kentucky. These testing requirements shall be terminated by EPA when the results of four consecutive weekly composite samples of both the treated mercury brine muds and treated saturator insolubles, obtained from either the initial testing or subsequent testing, show the maximum allowable levels in condition (3) are not exceeded and the Section Chief, Variances Section, notifies BFG that the requirements of this condition have been lifted. (3) If, under condition (1) or (2), the EP leachate concentrations for chromium, lead, arsenic, or silver exceed 0.316 mg/l; for barium exceeds 6.31 mg/l; for cadmium or selenium exceed 0.063 mg/l; for mercury exceeds 0.0126 mg/l, for nickel exceeds 3.16 mg/l; for cyanide exceeds 4.42 mg/l; or for total reactive cyanide or total reactive sulfide levels exceed 250 mg/kg and 500 mg/kg, respectively, the waste must either be retreated until it meets these levels or managed and disposed of in accordance with subtitle C of RCRA.

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		(4) Within one week of system start-up, BFG must notify the Section Chief, Variances Section (see address below) when the full-scale system is on-line and waste treatment has begun. All data obtained through condition (1) must be submitted to the Section Chief, Variances Section, PSPD/OSW (OS–343), U.S. EPA, 401 M Street, SW., Washington, DC 20460 within the time period specified in condition (1). At the Section Chief's request, BFG must submit any other analytical data obtained through condition (2) to the above address, within the time period specified by the Section Chief. Failure to submit the required data will be considered by the Agency sufficient basis to revoke BFG's exclusion to the extent directed by EPA. All data must be accompanied by the following certification statement: ''Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code which include, but may not be limited to, 18 U.S.C. § 6928), I certify that the information contained in or accompanying this document is true, accurate and complete. As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete. In the event that any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of wastes will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion.''
CF&I Steel Corporation.	Pueblo, Colorado.	Fully-cured chemically stabilized electric arc furnace dust/sludge (CSEAFD) treatment residue (EPA Hazardous Waste No. K061) generated from the primary production of steel after May 9, 1989. This exclusion is conditioned upon the data obtained from CF&I's full-scale CSEAFD treatment facility because CF&I's original data was obtained from a laboratory-scale CSEAFD treatment process. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern once the full-scale treatment facility is in operation, CF&I must implement a testing program for the petitioned waste. This testing program must meet the following conditions for the exclusion to be vaild: (1) *Testing:* (A) *Initial Testing:* During the first four weeks of operation of the full-scale treatment system, CF&I must collect representative grab samples of each treated batch of the CSEAFD and composite the grab samples daily. The daily composites, prior to disposal, must be analyzed for the EP leachate concentrations of all the EP toxic metals, nickel, and cyanide (using distilled water in the cyanide extractions), and the total constituent concentrations of reactive sulfide and reactive cyanide. Analyses must be performed according to SW–846 methodologies. CF&I must report the analytical test data obtained during this initial period no later than 90 days after the treatment of the first full-scale batch. (B) *Subsequent Testing:* CF&I must collect representative grab samples from every treated batch of CSEAFD generated daily and composite all of the grab samples to produce a weekly composite sample. CF&I then must analyze each weekly composite sample for the EP leachate concentrations of all of the EP toxic metals and nickel. Analyses must be performed according to SW–846 methodologies. The analytical data, including all quality control information, must be compiled and maintained on site for a minimum of three years. These data must be furnished upon request and made available for inspection by any employee or representative of EPA or the State of Colorado. (2) *Delisting levels:* If the EP extract concentrations determined in conditions (1)(A) or (1)(B) for chromium, lead, arsenic, or silver exceed 0.315 mg/1; for barium exceeds 6.3 mg/1; for cadmium or selenium exceed 0.063 mg/1; for mercury exceeds 0.0126 mg/1; for nickel exceeds 3.15 mg/1; or for cyanide exceeds 4.42 mg/1, or total reactive cyanide or total reactive sulfide levels exceed 250 mg/kg and 500 mg/kg, respectively, the waste must either be re-treated or managed and disposed in accordance with Subtitle C of RCRA.

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		(3) *Data submittals:* Within one week of system start-up, CF&I must notify the Section Chief, Variances Section (see address below) when their full-scale stabilization system is on-line and waste treatment has begun. All data obtained through the initial testing condition (1)(A), must be submitted to the Section Chief, Variances Section, PSPD/OSW, (OS–343), U.S. EPA, 401 M Street, SW., Washington, DC 20460 within the time period specified in condition (1)(A). At the Section Chief's request, CF&I must submit analytical data obtained through condition (1)(B) to the above address, within the time period specified by the Section Chief. Failure to submit the required data obtained from either condition (1)(A) or (1)(B) within the specified time periods will be considered by the Agency sufficient basis to revoke CF&I's exclusion to the extent directed by EPA. All data must be accompanied by the following certification statement: ''Under civil and criminal penalty of law for the making of submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code which include, but may not be limited to, 18 U.S.C. 6928), I certify that the information contained in or accompanying this document is true, accurate and complete. As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete. In the event that any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of wastes will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion.''
Conversion Systems, Inc.	Horsham, Pennsylvania.	Chemically Stabilized Electric Arc Furnace Dust (CSEAFD) that is generated by Conversion Systems, Inc. (CSI) (using the Super Detox™ treatment process as modified by CSI to treat EAFD (EPA Hazardous Waste No. K061)) at the following sites and that is disposed of in Subtitle D landfills: Northwestern Steel, Sterling, Illinois after June 13, 1995. CSI must implement a testing program for each site that meets the following conditions for the exclusion to be valid: (1) *Verification Testing Requirements:* Sample collection and analyses, including quality control procedures, must be performed according to SW–846 methodologies. (A) *Initial Verification Testing:* During the first 20 operating days of full-scale operation of a newly constructed Super Detox™ treatment facility, CSI must analyze a minimum of four (4) composite samples of CSEAFD representative of the full 20-day period. Composites must be comprised of representative samples collected from every batch generated. The CSEAFD samples must be analyzed for the constituents listed in Condition (3). CSI must report the operational and analytical test data, including quality control information, obtained during this initial period no later than 60 days after the generation of the first batch of CSEAFD. (B) *Addition of New Super Detox™ Treatment Facilities to Exclusion:* If the Agency's review of the data obtained during initial verification testing indicates that the CSEAFD generated by a specific Super Detox™ treatment facility consistently meets the delisting levels specified in Condition (3), the Agency will publish a notice adding to this exclusion the location of the new Super Detox™ treatment facility and the name of the steel mill contracting CSI's services. If the Agency's review of the data obtained during initial verification testing indicates that the CSEAFD generated by a specific Super Detox™ treatment facility fails to consistently meet the conditions of the exclusion, the Agency will not publish the notice adding the new facility. (C) *Subsequent Verification Testing:* For the Sterling, Illinois facility and any new facility subsequently added to CSI's conditional multiple-site exclusion, CSI must collect and analyze at least one composite sample of CSEAFD each month. The composite samples must be composed of representative samples collected from all batches treated in each month. These monthly representative samples must be analyzed, prior to the disposal of the CSEAFD, for the constituents listed in Condition (3). CSI may, at its discretion, analyze composite samples gathered more frequently to demonstrate that smaller batches of waste are nonhazardous. (2) *Waste Holding and Handling:* CSI must store as hazardous all CSEAFD generated until verification testing as specified in Conditions (1)(A) and (1)(C), as appropriate, is completed and valid analyses demonstrate that Condition (3) is satisfied. If the levels of constituents measured in the samples of CSEAFD do not exceed the levels set forth in Condition (3), then the CSEAFD is non-hazardous and may be disposed of in Subtitle D landfills. If constituent levels in a sample exceed any of the delisting levels set in Condition (3), the CSEAFD generated during the time period corresponding to this sample must be retreated until it meets these levels, or managed and disposed of in accordance with Subtitle C of RCRA. CSEAFD generated by a new CSI treatment facility must be managed as a hazardous waste prior to the addition of the name and location of the facility to the exclusion. After addition of the new facility to the exclusion, CSEAFD generated during the verification testing in Condition (1)(A) is also non-hazardous, if the delisting levels in Condition (3) are satisfied.

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		(3) *Delisting Levels:* All leachable concentrations for those metals must not exceed the following levels (ppm): Antimony—0.06; arsenic—0.50; barium—7.6; beryllium—0.010; cadmium—0.050; chromium—0.33; lead—0.15; mercury—0.009; nickel—1; selenium—0.16; silver—0.30; thallium—0.020; vanadium—2; and zinc—70. Metal concentrations must be measured in the waste leachate by the method specified in 40 CFR 261.24. (4) *Changes in Operating Conditions:* After initiating subsequent testing as described in Condition (1)(C), if CSI significantly changes the stabilization process established under Condition (1) (*e.g.,* use of new stabilization reagents), CSI must notify the Agency in writing. After written approval by EPA, CSI may handle CSEAFD wastes generated from the new process as non-hazardous, if the wastes meet the delisting levels set in Condition (3). (5) *Data Submittals:* At least one month prior to operation of a new Super Detox™ treatment facility, CSI must notify, in writing, the Chief of the Waste Identification Branch (see address below) when the Super Detox™ treatment facility is scheduled to be on-line. The data obtained through Condition (1)(A) must be submitted to the Branch Chief of the Waste Identification Branch, OSW (Mail Code 5304), U.S. EPA, 401 M Street, SW, Washington, DC 20460 within the time period specified. Records of operating conditions and analytical data from Condition (1) must be compiled, summarized, and maintained on site for a minimum of five years. These records and data must be furnished upon request by EPA, or the State in which the CSI facility is located, and made available for inspection. Failure to submit the required data within the specified time period or maintain the required records on site for the specified time will be considered by EPA, at its discretion, sufficient basis to revoke the exclusion to the extent directed by EPA. All data must be accompanied by a signed copy of the following certification statement to attest to the truth and accuracy of the data submitted: Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code, which include, but may not be limited to, 18 U.S.C. 1001 and 42 U.S.C. 6928), I certify that the information contained in or accompanying this document is true, accurate and complete. As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete. In the event that any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of waste will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion.
DOE–RL	Richland, Washington.	Effluents (EPA Hazardous Waste Nos. F001, F002, F003, F004, F005, and F039 derived from F001 through F005) generated from the 200 Area Effluent Treatment Facility (ETF) located at the Hanford site (at a maximum generation rate of 19 million gallons per year) after June 13, 1995. To ensure that hazardous constituents are not present in the wastes at levels of regulatory concern while the treatment facility is in operation, DOE must implement a testing program. This testing program must meet the following conditions for the exclusion to be valid: (1) *Testing:* Sample collection and analyses (including quality control (QC) procedures) must be performed according to SW–846 (or other EPA-approved) methodologies. If EPA judges the treatment process to be effective under the operating conditions used during the initial verification testing, DOE may replace the testing required in Condition (1)(A) with the testing required in Condition (1)(B). DOE must continue to test as specified in Condition (1)(A) until notified by EPA in writing that testing in Condition (1) (A) may be replaced by Condition (1)(B). (A) *Initial Verification Testing:* During the period required to fill the first three verification tanks (each designed to hold approximately 650,000 gallons) with effluents generated from an on-line, full-scale Effluent Treatment Facility (ETF), DOE must monitor the range of typical operating conditions for the ETF. DOE must collect a representative sample from each of the first three verification tanks filled with ETF effluents. The samples must be analyzed, prior to disposal of ETF effluents, for all constituents listed in Condition (3). DOE must report the operational and analytical test data, including quality control information, obtained during this initial period no later than 90 days after the first verification tank is filled with ETF effluents. (B) *Subsequent Verification Testing:* Following notification by EPA, DOE may substitute the testing conditions in this condition for (1)(A). DOE must continue to monitor operating conditions, and collect and analyze representative samples from every tenth verification tank filled with ETF effluents. These representative samples must be analyzed, prior to disposal of ETF effluents, for all constituents listed in Condition (3). If all constituent levels in a sample do not meet the delisting levels specified in Condition (3), DOE must analyze representative samples from the following two verification tanks generated prior to disposal. DOE may also collect and analyze representative samples more frequently.

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		(2) *Waste Holding and Handling:* DOE must store as hazardous all ETF effluents generated during verification testing (as specified in Conditions (1)(A) and (1)(B)), that is until valid analyses demonstrate that Condition (3) is satisfied. If the levels of hazardous constituents in the samples of ETF effluents are equal to or below all of the levels set forth in Condition (3), then the ETF effluents are not hazardous and may be managed and disposed of in accordance with all applicable solid waste regulations. If hazardous constituent levels in any representative sample collected from a verification tank exceed any of the delisting levels set in Condition (3), the ETF effluents in that verification tank must be re-treated until the ETF effluents meet these levels. Following re-treatment, DOE must repeat analyses in Condition (3) prior to disposal. (3) *Delisting Levels:* All total constituent concentrations in the waste samples must be measured using the appropriate methods specified in ''Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods,'' U.S. EPA Publication SW–846 (or other EPA-approved methods). All total constituent concentrations must be equal to or less than the following levels (ppm): *Inorganic Constituents* Ammonium—10.0 Antimony—0.06 Arsenic—0.5 Barium—20.0 Beryllium—0.04 Cadmium—0.05 Chromium—1.0 Cyanide—2.0 Fluoride—40.0 Lead—0.15 Mercury—0.02 Nickel—1.0 Selenium—0.5 Silver—2.0 Vanadium—2.0 Zinc—100.0 *Organic Constituents* Acetone—40.0 Benzene—0.05 Benzyl alcohol—100.0 1-Butyl alcohol—40.0 Carbon tetrachloride—0.05 Chlorobenzene—1.0 Chloroform—0.1 Cresol—20.0 1,4-Dichlorobenzene—0.75 1,2-Dichloroethane—0.05 1,1-Dichloroethylene—0.07 Di-n-octyl phthalate—7.0 Hexachloroethane—0.06 Methyl ethyl ketone—200.0 Methyl isobutyl ketone—30.0 Naphthalene—10.0 Tetrachloroethylene—0.05 Toluene—10.0 Tributyl phosphate—0.2 1,1,1-Trichloroethane—2.0 1,1,2-Trichloroethane—0.05 Trichloroethylene—0.05 Vinyl Chloride—0.02 (4) *Changes in Operating Conditions:* After completing the initial verification testing in Condition (1)(A), if DOE significantly changes the operating conditions established in Condition (1), DOE must notify the Agency in writing. After written approval by EPA, DOE must re-institute the testing required in Condition (1)(A). DOE must report the operations and test data, required by Condition (1)(A), including quality control data, obtained during this period no later than 60 days after the changes take place. Following written notification by EPA, DOE may replace testing Condition (1)(A) with (1)(B). DOE must fulfill all other requirements in Condition (1), as appropriate.

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		(5) *Data Submittals:* At least two weeks prior to system start-up, DOE must notify, in writing, the Chief of the Waste Identification Branch (see address below) when the Effluent Treatment Process will be on-line and waste treatment will begin. The data obtained through Condition (1)(A) must be submitted to the Branch Chief, Waste Identification Branch, OSW (Mail Code 5304), U.S. EPA, 401 M Street, S.W., Washington, DC 20460 within the time period specified. Records of operating conditions and analytical data from Condition (1) must be compiled, summarized, and maintained on site for a minimum of three years. These records and data must be furnished upon request by EPA or the State of Washington and made available for inspection. Failure to submit the required data within the specified time period or to maintain the required records on site for the specified time will be considered by EPA, at its discretion, sufficient basis to revoke the exclusion to the extent directed by EPA. All data must be accompanied by a signed copy of the following certification statement to attest to the truth and accuracy of the data submitted: Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code, which include, but may not be limited to, 18 USC 1001 and 42 USC 6928), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete. In the event that any of this information is determined by EPA in its sole discretion to be false, inaccurate, or incomplete, and upon conveyance of this fact to DOE, I recognize and agree that this exclusion of waste will be void as if it never had effect or to the extent directed by EPA and that the DOE will be liable for any actions taken in contravention of its RCRA and CERCLA obligations premised upon DOE's reliance on the void exclusion.
Envirite of Illinois (formerly Envirite Corporation).	Harvey, Illinois	See waste description under Envirite of Pennsylvania.
Envirite of Ohio (formerly Envirite Corporation).	Canton, Ohio	See waste description under Envirite of Pennsylvania.
Envirite of Pennsylvania (formerly Envirite Corporation).	York, Pennsylvania.	Spent pickle liquor (EPA Hazardous Waste No. K062) generated from steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332); wastewater treatment sludge (EPA Hazardous Waste No. K002) generated from the production of chrome yellow and orange pigments; wastewater treatment sludge (EPA Hazardous Waste No. K003) generated from the production of molybdate orange pigments; wastewater treatment sludge (EPA Hazardous Waste No. K004) generated from the production of zinc yellow pigments; wastewater treatment sludge (EPA Hazardous Waste K005) generated from the production of chrome green pigments; wastewater treatment sludge (EPA Hazardous Waste No. K006) generated from the production of chrome oxide green pigments (anhydrous and hydrated); wastewater treatment sludge (EPA Hazardous Waste No. K007) generated from the production of iron blue pigments; oven residues (EPA Hazardous Waste No. K008) generated from the production of chrome oxide green pigments after November 14, 1986. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern, the facility must implement a contingency testing program for the petitioned wastes. This testing program must meet the following conditions for the exclusions to be valid: (1) Each batch of treatment residue must be representatively sampled and tested using the EP Toxicity test for arsenic, barium, cadmium, chromium, lead, selenium, silver, mercury, and nickel. If the extract concentrations for chromium, lead, arsenic, and silver exceed 0.315 ppm; barium levels exceed 6.3 ppm; cadmium and selenium exceed 0.063 ppm; mercury exceeds 0.0126 ppm; or nickel levels exceed 2.205 ppm, the waste must be re-treated or managed and disposed as a hazardous waste under 40 CFR Parts 262 to 265 and the permitting standards of 40 CFR Part 270. (2) Each batch of treatment residue must be tested for reactive and leachable cyanide. If the reactive cyanide levels exceed 250 ppm; or leachable cyanide levels (using the EP Toxicity test without acetic acid adjustment) exceed 1.26 ppm, the waste must be re-treated or managed and disposed as hazardous waste under 40 CFR Parts 262 to 265 and the permitting standards of 40 CFR 270. (3) Each batch of waste must be tested for the total content of specific organic toxicants. If the total content of anthracene exceeds 76.8 ppm, 1.2-diphenyl hydrazine exceeds 0.001 ppm, methylene chloride exceeds 8.18 ppm, methyl ethyl ketone exceeds 326 ppm, n-nitrosodiphenylamine exceeds 11.9 ppm, phenol exceeds 1,566 ppm, tetrachloroethylene exceeds 0.188 ppm, or trichloroethylene exceeds 0.592 ppm, the waste must be managed and disposed as a hazardous waste under 40 CFR Parts 262 to 265 and the permitting standards of 40 CFR Part 27 0.

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		(4) A grab sample must be collected from each batch to form one monthly composite sample which must be tested using GC/MS analysis for the compounds listed in #3, above, as well as the remaining organics on the priority pollutant list. (See 47 FR 52309, November 19, 1982, for a list of the priority pollutants.) (5) The data from conditions 1–4 must be kept on file at the facility for inspection purposes and must be compiled, summarized, and submitted to the Administrator by certified mail semi-annually. The Agency will review this information and if needed will propose to modify or withdraw the exclusion. The organics testing described in conditions 3 and 4, above, is not required until six months from the date of promulgation. The Agency's decision to conditionally exclude the treatment residue generated from the wastewater treatment systems at these facilities applies only to the wastewater and solids treatment systems as they presently exist as described in the delisting petition. The exclusion does not apply to the proposed process additions described in the petition as recovery, including crystallization, electrolytic metals recovery, evaporative recovery, and ion exchange.
Giant Refining Company, Inc.	Bloomfield, New Mexico.	Waste generated during the excavation of soils from two wastewater treatment impoundments (referred to as the South and North Oily Water Ponds) used to contain water outflow from an API separator (EPA Hazardous Waste No. K051). This is a one-time exclusion for approximately 2,000 cubic yards of stockpiled waste. This exclusion was published on September 3, 1996. Notification Requirements: Giant Refining Company must provide a one-time written notification to any State Regulatory Agency to which or through which the delisted waste described above will be transported for disposal at least 60 days prior to the commencement of such activities. Failure to provide such a notification will result in a violation of the delisting petition and a possible revocation of the decision.
LCP Chemical	Orrington, ME	Brine purification muds and wastewater treatment sludges generated after August 27, 1985 from their chlor-alkali manufacturing operations (EPA Hazardous Waste Nos. K071 and K106) that have been batch tested for mercury using the EP toxicity procedures and have been found to contain less than 0.05 ppm mercury in the EP extract. Brine purification muds and wastewater treatment sludges that exceed this level will be considered a hazardous waste.
Marathon Oil Co.	Texas City, Texas.	Residual solids (at a maximum annual generation rate of 1,000 cubic yards) generated from the thermal desorption treatment and, where necessary, stabilization of wastewater treatment plant API/DAF filter cake (EPA Hazardous Waste Nos. K048 and K051), after [insert date of publication]. Marathon must implement a testing program that meets the following conditions for the exclusion to be valid: (1) *Testing*: Sample collection and analyses (including quality control (QC) procedures) must be performed according to SW–846 methodologies. If EPA judges the treatment process to be effective under the operating conditions used during the initial verification testing, Marathon may replace the testing required in Condition (1)(A) with the testing required in Condition (1)(B). Marathon must continue to test as specified in Condition (1)(A), including testing for organics in Conditions (3)(B) and (3)(C), until and unless notified by EPA in writing that testing in Condition (1)(A) may be replaced by Condition (1)(B), or that testing for organics may be terminated as described in (1)(C) (to the extent directed by EPA). (A) *Initial Verification Testing*: During at least the first 40 operating days of full-scale operation of the thermal desorption unit, Marathon must monitor the operating conditions and analyze 5-day composites of residual solids. 5-day composites must be composed of representative grab samples collected from every batch during each 5-day period of operation. The samples must be analyzed prior to disposal of the residual solids for constituents listed in Condition (3). Marathon must report the operational and analytical test data, including quality control information, obtained during this initial period no later than 90 days after the treatment of the first full-scale batch. (B) *Subsequent Verification Testing*: Following notification by EPA, Marathon may substitute the testing conditions in (1)(B) for (1)(A). Marathon must continue to monitor operating conditions, and analyze samples representative of each month of operation. The samples must be composed of representative grab samples collected during at least the first five days of operation of each month. These monthly representative samples must be analyzed for the constituents listed in Condition (3) prior to the disposal of the residual solids. Marathon may, at its discretion, analyze composite samples gathered more frequently to demonstrate that smaller batches of waste are nonhazardous. (C) *Termination of Organic Testing*: Marathon must continue testing as required under Condition (1)(B) for organic constituents specified in Conditions (3)(B) and (3)(C) until the analyses submitted under Condition (1)(B) show a minimum of four consecutive monthly representative samples with levels of specific constituents significantly below the delisting levels in Conditions (3)(B) and (3)(C), and EPA notifies Marathon in writing that monthly testing for specific organic constituents may be terminated. Following termination of monthly testing, Marathon must continue to test a representative 5-day composite sample for all constituents listed in Conditions (3)(B) and (3)(C) on an annual basis. If delisting levels for any constituents listed in Conditions (3)(B) and (3)(C) are exceeded in the annual sample, Marathon must reinstitute complete testing as required in Condition (1)(B).

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		(2) *Waste Holding and Handling*: Marathon must store as hazardous all residual solids generated until verification testing (as specified in Conditions (1)(A) and (1)(B)) is completed and valid analysis demonstrates that Condition (3) is satisfied. If the levels of hazardous constituents in the samples of residual solids are below all of the levels set forth in Condition (3), then the residual solids are non-hazardous and may be managed and disposed of in accordance with all applicable solid waste regulations. If hazardous constituent levels in any 5-day composite or other representative sample equal or exceed any of the delisting levels set in Condition (3), the residual solids generated during the corresponding time period must be retreated and/or stabilized as allowed below, until the residual solids meet these levels, or managed and disposed of in accordance with Subtitle C of RCRA. If the residual solids contain leachable inorganic concentrations at or above the delisting levels set forth in Condition (3)(A), then Marathon may stabilize the material with Type 1 portland cement as demonstrated in the petition to immobilize the metals. Following stabilization, Marathon must repeat analyses in Condition (3)(A) prior to disposal. (3) *Delisting Levels*: Leachable concentrations in Conditions (3)(A) and (3)(B) must be measured in the waste leachate by the method specified in 40 CFR 261.24. The indicator parameters in Condition (3)(C) must be measured as the total concentration in the waste. Concentrations must be less than the following levels (ppm): (A) *Inorganic Constituents*: antimony-0.6; arsenic, chromium, or silver-5.0; barium-100.0; beryllium-0.4; cadmium-0.5; lead-1.5; mercury-0.2; nickel-10.0; selenium-1.0; vanadium-20.0. (B) *Organic Constituents*: acenaphthene-200; benzene-0.5; benzo(a)anthracene-0.01; benzo(a)pyrene-0.02; benzo(b)fluoranthene-0.02; chrysene-0.02; ethyl benzene-70; fluoranthene-100; fluorene-100; naphthalene-100; pyrene-100; toluene-100. (C) *Indicator Parameters*: 1-methyl naphthalene-3; benzo(a)pyrene-3. (4) *Changes in Operating Conditions*: After completing the initial verification test period in Condition (1)(A), if Marathon significantly changes the operating conditions established under Condition (1), Marathon must notify the Agency in writing. After written approval by EPA, Marathon must re-institute the testing required in Condition (1)(A) for a minimum of four 5-day operating periods. Marathon must report the operations and test data, required by Condition (1)(A), including quality control data, obtained during this period no later than 60 days after the changes take place. Following written notification by EPA, Marathon may replace testing Condition (1)(A) with (1)(B). Marathon must fulfill all other requirements in Condition (1), as appropriate. (5) *Data Submittals*: At least two weeks prior to system start-up, Marathon must notify in writing the Section Chief Delisting Section (see address below) when the thermal desorption and stabilization units will be on-line and waste treatment will begin. The data obtained through Condition (1)(A) must be submitted to the Section Chief, Delisting Section, OSW (OS–333), U.S. EPA, 401 M Street, SW., Washington, DC 20460 within the time period specified. Records of operating conditions and analytical data from Condition (1) must be compiled, summarized, and maintained on site for a minimum of five years. These records and data must be furnished upon request by EPA or the State of Texas and made available for inspection. Failure to submit the required data within the specified time period or maintain the required records on site for the specified time will be considered by EPA, at its discretion, sufficient basis to revoke the exclusion to the extent directed by EPA. All data must be accompanied by a signed copy of the following certification statement to attest to the truth and accuracy of the data submitted: ''Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code, which include, but may not be limited to, 18 U.S.C. 1001 and 42 U.S.C 6928), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the (those) identified sections(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete. In the event that any of this information is determined by EPA in its sole discretion to be false, inaccurate, or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of waste will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion.''
Mearl Corp	Peekskill, NY	Wastewater treatment sludge (EPA Hazardous Waste Nos. K006 and K007) generated from the production of chrome oxide green and iron blue pigments after November 27, 1985.
Monsanto Industrial Chemicals Company.	Sauget, Illinois	Brine purification muds (EPA Hazardous Waste No. K071) generated from the mercury cell process in chlorine production, where separately prepurified brine is not used after August 15, 1986.

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
Occidental Chemical Corp. Muscle Shoals Plant.	Sheffield, Alabama.	Retorted wastewater treatment sludge from the mercury cell process in chlorine production (EPA Hazardous Waste No. K106) after September 19, 1989. This exclusion is conditional upon the submission of data obtained from Occidental's full-scale retort treatment system because Occidental's original data were based on a pilot-scale retort system. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern once the full-scale treatment facility is in operation, Occidental must implement a testing program. All sampling and analyses (including quality control procedures) must be performed according to SW–846 procedures. This testing program must meet the following conditions for the exclusion to be valid: (1) Initial Testing—During the first four weeks of full-scale retort operation, Occidental must do the following: (A) Collect representative grab samples from every batch of retorted material and composite the grab samples to produce a weekly composite sample. The weekly composite samples, prior to disposal or recycling, must be analyzed for the EP leachate concentrations of all the EP toxic metals (except mercury), nickel, and cyanide (using distilled water in the cyanide extractions), and the total constitutent concentrations of reactive sulfide and reactive cyanide. Occidental must report the analytical test data, including all quality control data, obtained during this initial period no later than 90 days after the treatment of the first full-scale batch. (B) Collect representative grab samples of every batch of retorted material prior to its disposal or recycling and analyze the sample for EP leachate concentration of mercury. Occidental must report the analytical test data, including all quality control data, within 90 days after the treatment of the first full-scale batch. (2) Subsequent Testing—After the first four weeks of full-scale retort operation, Occidental must do the following: (A) Continue to sample and test as described in condition (1)(A). Occidental must compile and store on-site for a minimum of three years all analytical data and quality control data. These data must be furnished upon request and made available for inspection by any employee or representative of EPA or the State of Alabama. These testing requirements shall be terminated by EPA when the results of four consecutive weekly composite samples of the petitioned waste, obtained from either the initial testing or subsequent testing show the maximum allowable levels in condition (3) are not exceeded and the Section Chief, Variances Section, notifies Occidental that the requirements of this condition have been lifted. (B) Continue to sample and test for mercury as described in condition (1)(B). Occidental must compile and store on-site for a minimum of three years all analytical data and quality control data. These data must be furnished upon request and made available for inspection by any employee or representative of EPA or the State of Alabama. These testing requirements shall remain in effect until Occidental provides EPA with analytical and quality control data for thirty consecutive batches of retorted material, collected as described in condition (1)(B), demonstrating that the EP leachable levels of mercury are below the maximum allowable level in condition (3) and the Section Chief, Variances Section, notifies Occidental that the testing in condition (2)(B) may be replaced with (2)(C). (C) [If the conditions in (2)(B) are satisfied, the testing requirements for mercury in (2)(B) shall be replaced with the following condition]. Collect representative grab samples from every batch of retorted material on a daily basis and composite the grab samples to produce a weekly composite sample. Occidental must analyze each weekly composite sample prior to its disposal or recycling for the EP leachate concentration of mercury. Occidental must compile and store on-site for a minimum of three years all analytical data and quality control data. These data must be furnished upon request and made available for inspection by any employee or representative of EPA or the State of Alabama. (3) If, under condition (1) or (2), the EP leachate concentrations for chromium, lead, arsenic, or silver exceed 1.616 mg/l; for barium exceeds 32.3 mg/l; for cadmium or selenium exceed 0.323 mg/l; for mercury exceeds 0.065 mg/l, for nickel exceeds 16.15 mg/l; for cyanide exceeds 22.61 mg/l; or for total reactive cyanide or total reactive sulfide levels exceed 250 mg/kg and 500 mg/kg, respectively, the waste must either be retreated until it meets these levels or managed and disposed of in accordance with subtitle C of RCRA. (4) Within one week of system start-up, Occidental must notify the Section Chief, Variances Section (see address below) when the full-scale retort system is on-line and waste treatment has begun. All data obtained through condition (1) must be submitted to the Section Chief, Variances Section, PSPD/OSW (OS–343), U.S. EPA, 401 M Street SW., Washington, DC 20460 within the time period specified in condition (1). At the Section Chief's request, Occidental must submit any other analytical data obtained through condition (2) to the above address, within the time period specified by the Section Chief. Failure to submit the required data will be considered by the Agency sufficient basis to revoke Occidental's exclusion to the extent directed by EPA. All data must be accompanied by the following certification statement: ''Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code which include, but may not be limited to, 18 U.S.C. 6928), I certify that the information contained in or accompanying this document is true, accurate and complete.

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete. In the event that any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of wastes will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion.''
Occidental Chemical Corporation.	Delaware City, Delaware.	Sodium chloride treatment *muds* (NaCl–TM), sodium chloride saturator cleanings (NaCl–SC), and potassium chloride treatment muds (KCl–TM) (all classified as EPA Hazardous Waste No. K071) generated at a maximum combined rate (for all three wastes) of 1,018 tons per year. This exclusion was published on April 29, 1991 and is conditioned upon the collection of data from Occidental's full-scale brine treatment system because Occidental's request for exclusion was based on data from a laboratory-scale brine treatment process. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern once the full-scale treatment system is in operation, Occidental must implement a testing program for the petitioned waste. All sampling and analyses (including quality control procedures) must be performed according to SW–846 methodologies. This testing program must meet the following conditions for the exclusion to be valid: (1) *Initial Testing:* During the first four weeks of full-scale treatment system operation, Occidental must do the following: (A) Collect representative grab samples from each batch of the three treated wastestreams (sodium chloride saturator cleanings (NaCl–SC), sodium chloride treatment muds (NaCl–TM) and potassium chloride treatment muds (KCl–TM)) on an as generated basis, and composite the samples to produce three separate weekly composite samples (of each type of K071 waste). The three weekly composite samples, prior to disposal, must be analyzed for the EP leachate concentrations of all the EP toxic metals (except mercury), nickel and cyanide (using deionized water in the cyanide extractions), and the total constituent concentrations of reactive sulfide and reactive cyanide. Occidental must report the waste volumes produced and the analytical test data, including all quality control data, obtained during this initial period, no later than 90 days after the treatment of the first full-scale batch. (B) Collect representative grab samples of each batch of the three treated wastestreams (NaCl–SC, NACl–TM and KCl–TM) and composite the grab samples to produce three separate daily composite samples (of each type of K071 waste) on an as generated basis. The three daily composite samples, prior to disposal, must be analyzed for the EP leachate concentration of mercury. Occidental must report the waste volumes produced and the analytical test data, including all quality control data, obtained during this initial period, no later than 90 days after the treatment of the first full-scale batch. (2) *Subsequent Testing:* After the first four weeks of full-scale treatment operations, Occidental must do the following (all sampling and analyses (including quality control procedures) must be performed according to SW–846 procedures): (A) Continue to sample and test as described in condition (1)(A). Occidental must compile and store on-site for a minimum of three years the records of waste volumes produced and all analytical data and quality control data. These data must be furnished upon request and made available for inspection by any employee or representative of EPA or the State of Delaware. These testing requirements shall be terminated by EPA when the results of four consecutive weekly composite samples of the petitioned waste, obtained from either the initial testing or subsequent testing, show the maximum allowable levels in condition (3) are not exceeded and the Section Chief, Variances Section, notifies Occidental that the requirements of this condition have been lifted. (B) Continue to sample and test for mercury as described in condition (1)(B). Occidental must compile and store on-site for a minimum of three years the records of waste volumes produced and all analytical data and quality control data. These data must be furnished upon request and made available for inspection by any employee or representative of EPA or the State of Delaware. These testing requirements shall be terminated and replaced with the requirements of condition (2)(C) if Occidental provides EPA with analytical and quality control data for thirty consecutive batches of treated material, collected as described in condition (1)(B), demonstrating that the EP leachable level of mercury in condition (3) is not exceeded (in all three treated wastes), and the Section Chief, Variances Section, notifies Occidental that the testing in condition (2)(B) may be replaced with (2)(C).

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		(C) [If the conditions in (2)(B) are satisfied, the testing requirements for mercury in (2)(B) shall be replaced with the following condition.] Collect representative grab samples from each batch of the three treated wastestreams (NaCl–SC, NaCl–TM and KCl–TM) on an as generated basis and composite the grab samples to produce three separate weekly composite samples (of each type of K071 waste). The three weekly composite samples, prior to disposal, must be analyzed for the EP leachate concentration of mercury. Occidental must compile and store on-site for a minimum of three years the records of waste volumes produced and all analytical data and quality control data. These data must be furnished upon request and made available for inspection by any employee or representative of EPA or the State of Delaware. (3) If under conditions (1) or (2), the EP leachate concentration for chromium, lead, arsenic, or silver exceeds 0.77 mg/L; for barium exceeds 15.5 mg/L; for cadmium or selenium exceeds 0.16 mg/L; for mercury exceeds 0.031 mg/L; for nickel or total cyanide exceeds 10.9 mg/L; or the total reactive cyanide or total reactive sulfide levels exceeds 250 mg/kg and 500 mg/kg, the waste must either be retreated or managed and disposed of in accordance with all applicable hazardous waste regulations. (4) Within one week of system start-up, Occidental must notify the Section Chief, Variances Section (see address below) when the full-scale system is on-line and waste treatment has begun. All data obtained through condition (1) must be submitted to the Section Chief, Variances Section, PSPD/OSW, (OS–333), U.S. EPA, 401 M Street, SW., Washington, DC 20460 within the time period required in condition (1). At the Section Chief's request, Occidental must submit any other analytical data obtained through conditions (1) and (2) to the above address within the time period specified by the Section Chief. Failure to submit the required data will be considered by the Agency sufficient basis to revoke Occidental's exclusion to the extent directed by EPA. All data (either submitted to EPA or maintained at the site) must be accompanied by the following statement: ''Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code, which include, but may not be limited to 18 U.S.C. 1001 and 42 U.S.C. 6926), I certify that the information contained in or accompanying this document is true, accurate and complete. As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete. In the event that any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of wastes will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion.''
Perox, Incorporated.	Sharon, Pennsylvania.	Iron oxide (EPA Hazardous Waste No. K062) generated (at a maximum annual rate of 4800 cubic yards) from a spent hydrochloric acid pickle liquor regeneration plant for spent pickle liquor generated from steel finishing operations. This exclusion was published on November 13, 1990.
Pioneer Chlor Alkai Company, Inc. (formerly Stauffer Chemical Company).	St. Gabriel, LA	Brine purification muds, which have been washed and vacuum filtered, generated after August 27, 1985 from their chlor-alkali manufacturing operations (EPA Hazardous Waste No. K071) that have been batch tested for mercury using the EP toxicity procedure and have been found to contain less than 0.05 ppm in mercury in the EP extract. Brine purification muds that exceed this level will be considered a hazardous waste.
POP Fasteners	Shelton, Connecticut.	Wastewater treatment sludge (EPA Hazardous Waste No. F006) generated from electroplating operations (at a maximum annual rate of 300 cubic yards) after December 7, 1992. In order to confirm that the characteristics of the waste do not change significantly, the facility must, on an annual basis, analyze a representative composite sample for the constituents listed in § 261.24 using the method specified therein. The annual analytical results, including quality control information, must be compiled, certified according to § 260.22(i)(12) of this chapter, maintained on site for a minimum of five years, and made available for inspection upon request by any employee or representative of EPA or the State of Connecticut. Failure to maintain the required records on site will be considered by EPA, at its discretion, sufficient basis to revoke the exclusion to the extent directed by EPA.
Reynolds Metals Company.	Gum Springs, Arkansas.	Kiln residue (generated at a maximum annual volume of 300,000 cubic yards per year) from rotary kiln treatment of spent potliners (EPA Hazardous Waste No. K088). This exclusion was published on December 30, 1991. This exclusion does not apply to electrostatic precipitator dust generated by the rotary kiln. This exclusion initially applies only to the treatment by one rotary kiln of potliners generated by Reynolds Metals' four primary aluminum facilities (Massena, New York; Longview, Washington; Troutdale, Oregon; and Baie Comeau, Quebec) described in the petition. Reynolds may only accept spent potliners from other sources, or modify its treatment

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		process, or add an additional rotary kiln in accordance with Condition (5). This exclusion is conditional upon the submission of data obtained from each rotary kiln after it is established at the R.P. Patterson facility in Gum Springs, Arkansas. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern while the treatment facility is in operation, Reynolds must implement a testing program. This testing program must meet the following conditions for the exclusion to be valid: (1) *Operating Conditions:* (A) *Initial Verification Testing:* During the first 20 days of full-scale operation of the rotary kiln, at typical operating conditions, Reynolds must monitor and submit to EPA the rotary kiln operating conditions (including, but not limited to: Temperature range of the kiln (hot and cold end), kiln residue exit temperature, spent potliner feed rate, brown sand feed rate, limestone feed rate, natural gas feed rate, oxygen/air feed rate, and rotary kiln residence time of the raw materials). The ratio of the spent potliner feed rate to the combined feed rates of the spent potliner, brown sand, and limestone must be no more than 0.35. Information on all other operating conditions should encompass all conditions used for preliminary testing runs and those anticipated for subsequent waste processing. During initial verification testing, the petitioner must also demonstrate to EPA how the range of operating conditions could affect the process (*i.e.,* submit analyses of representative grab samples, as specified under Condition (2), of the kiln residue generated under the expected range of operating conditions). The source of the brown sand must be from Reynolds' dry lake beds at the Bauxite, Arkansas facility. Reynolds must submit the information specified in this condition and obtained during this initial period no later than 90 days after the treatment of the first full-scale batch of spent potliner. (B) *Subsequent Verification Testing:* During subsequent verification testing, Reynolds must monitor the performance of the rotary kiln at all times to ensure that it falls within the range of operating conditions demonstrated during initial verification testing, to be adequate to maintain the levels of hazardous constituents below the delisting levels specified in Condition (4). The feed rates of spent potliner, lime and brown sand are to be as that described in Condition (1)(A). Records of the operating conditions of the rotary kiln (including, but not limited to: Temperature range of the kiln, kiln residue exit temperature, spent potliner feed rate, brown sand feed rate, limestone feed rate, natural gas feed rate, oxygen/air feed rate, and rotary kiln residence time of the raw materials) should be maintained on site for a minimum of five years. This information must be furnished upon request and made available for inspection by any employee or representative of EPA or the State of Arkansas. (2) *Testing:* Sample collection and analyses (including quality control (QC) procedures) must be performed according to SW–846 methodologies. For fluoride, samples must be analyzed using Method 340.2 from ''Methods for Chemical Analysis of Water and Waste''. If the EPA judges the treatment process to be effective under the operating conditions used during the initial verification testing, Reynolds may replace the testing required in Condition (2)(A) with the testing required in Condition (2)(B). Reynolds must continue to test daily composites of kiln residue generated beyond the time period specified in Condition (2)(A) until and unless notified by EPA in writing that testing in Condition (2)(A) may be replaced by Condition (2)(B) (to the extent directed by EPA). (A) *Initial Verification Testing:* During the first 20 operating days of full-scale operation of the new on-line rotary kiln, Reynolds must collect and analyze daily composites of kiln residue. Daily composites must be composed of representative grab samples collected every 6 hours during each 24-hour kiln operating cycle. The kiln residue samples must be analyzed, prior to the disposal of the kiln residue, for all constituents listed in Condition (4). Reynolds must report the analytical test data, including quality control information, obtained during this initial period no later than 90 days after the treatment of the first full-scale batch of untreated spent potliner. (B) *Subsequent Verification Testing:* Following notification by EPA, Reynolds may substitute the testing conditions in (2)(B) for (2)(A). Reynolds must collect and analyze both daily and weekly composites of kiln residue. Daily composites must be composed of representative grab samples collected every 6 hours during a 24-hour kiln operating cycle and these samples must be analyzed, prior to the disposal of the kiln residue, for leachable concentrations of cyanide and fluoride. Weekly composites must be composed of representative grab samples collected every 6 hours during a 24-hour kiln operating cycle for each day in the week that the kiln is operating. The weekly samples must be analyzed, prior to the disposal of the kiln residue, for the leachable concentrations of the inorganics listed in Condition (4)(A) and leachable levels of the semi-volatile organic compounds listed in Condition (4)(B). Analyses of both daily and weekly samples must be completed prior to the disposal of waste generated during that week as set forth in Condition (3). The analytical data, including quality control information, must be compiled, summarized, and maintained on site for a minimum of five years. These data must be furnished upon request and made available for inspection by any employee or representative of EPA or the State of Arkansas.

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		(3) *Waste Holding and Handling:* Reynolds must store, as hazardous, all kiln residue generated until verification testing (as specified in Condition (2)(A) and (2)(B)) is completed and compared, by the petitioner, with the delisting levels set forth in Condition (4). If the levels of hazardous constituents measured in the samples of kiln residue generated do not exceed any of the levels set forth in Condition (4), then the kiln residue is non-hazardous and may be managed and disposed of in accordance with all applicable solid waste regulations. If hazardous constituent levels in any daily or weekly sample exceed any of the delisting levels set in Condition (4), the kiln residue generated during the time period corresponding to this sample must be retreated until it meets these levels (analyses must be repeated) or managed and disposed of in accordance with Subtitle C of RCRA. Kiln residue which is generated but for which the required analysis is not complete or valid must be managed and disposed of in accordance with Subtitle C of RCRA, until valid analysis demonstrates that Condition (4) is satisfied. (4) *Delisting Levels:* All concentrations must be measured in the waste leachate by the method specified in 40 CFR 261.24. (A) The leachable concentrations for metals may not exceed the following levels (ppm): arsenic, selenium, or silver—0.60; barium—12.0; antimony—0.12; lead—0.18; cadmium—0.06, chromium or nickel—1.2; mercury—0.024; beryllium—0.012; fluoride—48.0; and cyanide—2.4 (cyanide extraction must be conducted using deionized water). (B) The leachable constituent concentrations for organics may not exceed the levels listed below (ppm): Acenapthene—24 Benz(a)anthracene—$1.2x10^{-4}$ Benzo(b)fluoranthene—$2.4x10^{-4}$ Benzo(a)pyrene—$2.4x10^{-3}$ Chrysene—$2.4x10^{-3}$ Fluoranthene—12 Indeno (1,2,3-cd)pyrene—$2.4x10^{-3}$ Pyrene—12 (5) *Changes in Operating Conditions and Waste Sources:* If after completing the initial verification test period in Conditions (1)(A) and (2)(A), Reynolds decides to treat spent potliner from any other primary aluminum reduction facility; or use a new source for brown sand; or otherwise significantly change the operating conditions developed under Condition (1); then Reynolds must notify EPA in writing prior to instituting the change. Reynolds must also reinstitute the testing and reporting required in Conditions (1)(A) and (2)(A) for a minimum period of four operating days and fulfill all other requirements in Conditions (1) and (2), as appropriate. Reynolds may also add one additional kiln at its R.P. Patterson facility in Gum Springs, Arkansas if it can demonstrate that the new kiln can successfully treat spent potliners. Reynolds must fulfill all requirements contained in Conditions (1) and (2) for the second kiln. Reynolds must continue to test any kiln residue generated beyond the time period specified in Condition (2)(A) until and unless notified in writing by EPA that testing Condition (2)(A) may be replaced by (2)(B) to the extent directed by EPA. (6) *Data Submittals:* Reynolds must notify in writing the Section Chief, Delisting Section (see address below) when the rotary kiln is on-line and two weeks prior to when waste treatment will begin. The data obtained through Conditions (1)(A) and (2)(A) must be submitted to the Section Chief, Delisting Section, OSW (OS–333), U.S. EPA, 401 M Street, SW., Washington, DC 20460 within the time period specified. At the Section Chief's request, Reynolds must submit any other analytical data obtained through Conditions (1)(B) and (2)(B) within the time period specified by the Section Chief. Failure to submit the required data within the specified time period or maintain the required records on site for the specified time will be considered by the Agency, at its discretion, sufficient basis to revoke the exclusion to the extent directed by EPA. All data must be accompanied by a signed copy of the following certification statement to attest to the truth and accuracy of the data submitted: ''Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code, which include, but may not be limited to, 18 USC § 1001 and 42 USC § 6928), I certify that the information contained in or accompanying this document is true, accurate and complete. ''As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete. ''In the event that any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of wastes will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion.''

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
Roanoke Electric Steel Corp.	Roanoke, VA	Fully-cured chemically stabilized electric arc furnace dust/sludge (CSEAFD) treatment residue (EPA Hazardous Waste No. K061) generated from the primary production of steel after March 22, 1989. This exclusion is conditioned upon the data obtained from Roanoke's full-scale CSEAFD treatment facility because Roanoke's original data were obtained from a laboratory-scale CSEAFD treatment process. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern once the full-scale treatment facility is in operation, Roanoke must implement a testing program for the petitioned waste. This testing program must meet the following conditions for the exclusion to be valid: (1) *Testing:* (A) *Initial testing:* During the first four weeks of operation of the full-scale treatment system, Roanoke must collect representative grab samples of each treated batch of the CSEAFD and composite the grab samples daily. The daily composites, prior to disposal, must be analyzed for the EP leachate concentrations of all the EP toxic metals, nickel and cyanide (using distilled water in the cyanide extractions), and the total constituent concentrations of reactive sulfide and reactive cyanide. Analyses must be performed according to SW–846 methodologies. Roanoke must report the analytical test data obtained during this initial period no later than 90 days after the treatment of the first full-scale batch. *(B) Subsequent testing:* Roanoke must collect representative grab samples from every treated batch of CSEAFD generated daily and composite all of the grab samples to produce a weekly composite sample. Roanoke then must analyze each weekly composite sample for all of the EP toxic metals and nickel. Analyses must be performed according to SW–846 methodologies. The analytical data, including all quality control information, must be compiled and maintained on site for a minimum of three years. These data must be furnished upon request and made available for inspection by any employee or representative of EPA or the State of Virginia. (2) *Delisting levels:* If the EP extract concentrations for chromium, lead, arsenic, or silver exceed 0.315 mg/l; for barium exceeds 6.3 mg/l; for cadmium or selenium exceed 0.063 mg/l; for mercury exceeds 0.0126 mg/l; for nickel exceeds 3.15 mg/l; or for cyanide exceeds 1.26 mg/l, or total reactive cyanide or total reactive sulfide levels exceed 250 mg/kg and 500 mg/kg, respectively, the waste must either be re-treated or managed and disposed in accordance with Subtitle C of RCRA. *(3) Data submittals: Within one week of system start-up, Roanoke must notify the Section Chief, Variances Section (see address below) when their full-scale stabilization system in on-line and waste treatment has begun. All data obtained through the initial testing condition (1)(A), must be submitted to the Section Chief, Variances Section, PSPD/OSW, (OS–343), U.S. EPA, 401 M Street, SW., Washington, DC 20460 within the time period specified in condition (1)(A). Failure to submit the required data or keep the required records will be considered by the Agency, at its discretion, sufficient basis to revoke Roanoke's exclusion.* All data must be accompanied by the following certification statement: ''Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code which include, but may not be limited to, 18 USC 6928), I certify that the information contained in or accompanying this document is true, accurate and complete. As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete. In the event that any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of wastes will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion.''
Texas Eastman	Longview, Texas.	Incinerator ash (at a maximum generation of 7,000 cubic yards per calendar year) generated from the incineration of sludge from the wastewater treatment plant (EPA Hazardous Waste No. K009 and K010, and that is disposed of in Subtitle D landfills after September 25, 1996. Texas Eastman must implement a testing program that meets conditions found in Table 1. Wastes Excluded From Non-Specific Sources for the petition to be valid.
Tricil Environmental Systems, Inc.	Hilliard, Ohio ..	Spent pickle liquor (EPA Hazardous Waste No. K062) generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332) after November 17, 1986. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern, the facility must implement a contingency testing program for the petitioned wastes. This testing program must meet the following conditions for the exclusions to be valid: (1) Each batch of treatment residue must be representatively sampled and tested using the total oil and grease test and the EP Toxicity test (or the Oily Waste EP test, if the oil and grease content of the waste exceeds one percent) for arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and nickel. If the extract concentrations for chromium, lead, arsenic, barium, and silver exceed 6.3 ppm; cadmium and selenium exceed 0.063 ppm; mercury levels exceed 0.013 ppm; or nickel levels exceed 2.2 ppm, the waste will be retreated or managed and disposed as a hazardous waste under 40 CFR parts 262 to 265 and the permitting standards of 40 CFR 270.

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		(2) Each batch of treatment residue must be tested for reactive and leachable cyanide. If the reactive cyanide levels exceed 250 ppm; or leachable cyanide levels (using ther EP Toxicity test without acetic acid adjustment) exceed 1.26 ppm, the waste must be retreated or managed and disposed as hazardous waste under 40 CFR parts 262 to 265 and the permitting standards of 40 CFR Part 270. (3) Each batch of waste must be tested for the total content of the following organic toxicants. If the total content of any of the constituents exceeds the maximum levels shown, the waste must be managed and disposed as a hazardous waste under 40 CFR parts 262 and 265 and the permitting standards of 40 CFR Part 270. Compound and Maximum Acceptable Levels (ppm) Acrolein, 56.8 Anthracene, 76.8 Benzene, 0.106 p-Chloro-m-cresol, 133 1,1–Dichloroethane, 0.01 Fluorene, 10.4 Methylenechloride, 8.2 Methyl ethyl ketone, 326 n–Nitrosodiphenylamine, 11.9 Phenanthrene, 14 Tetrachloroethylene, 0.188 Trichloroethylene, 0.59 Chloroform, 0.013 1,2-Dichloroethane, 0.0083 1,2-trans-Dichloroethylene, 231 2,4-Dimethylphenol, 12.5 Vinyl chloride, 0.18 1,2-Diphenyl hydrazine, 0.001 (4) A grab sample must be collected from each batch to form one monthy composite sample, which must be tested using GC/MS analysis for the organic compounds shown above, as well as the remaining organics on the priority pollutant list (see 47 FR 52309, November 19, 1982, Appendix A–126 Priority Pollutants). (5) The test data from conditions 1–4 must be kept on file at the facility for inspection purposes and must be compiled, summarized, and submitted to the Administrator by certified mail on a semiannual basis. The Agency will review this information and if needed, will propose to modify or withdraw the exclusion. The organics testing described in conditions 3 and 4 above is not required until May 18, 1987. The Agency's decision to conditionally exclude the treatment residue generated from the wastewater treatment system at this facility applies only to the wastewater treatment residue described in this petition.
Tricil Environmental System, Inc.	Muskegon, Michigan.	Spent pickle liquor (EPA Hazardous Waste No. K062) generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332); after November 17, 1986. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern, the facility must implement a contingency testing program for the petitioned wastes. This testing program must meet the following conditions for the exclusion to be valid: (1) Each batch of treatment residue must be representatively sampled and tested using the total oil and grease test and the EP Toxicity test (or the Oily Waste EP test, if the oil and grease content of the waste exceeds one percent) for arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and nickel. If the extract concentrations for chromium, lead, arsenic, barium, and silver exceed 6.3 ppm, cadmium and selenium exceed 0.063 ppm; mercury levels exceed 0.013 ppm; or nickel levels exceed 2.2 ppm, the waste will be retreated or managed and disposed as a hazardous waste under 40 CFR parts 262 to 265 and the permitting standards of 40 CFR 270. (2) Each batch of treatment residue must be tested for reactive and leachable cyanide. If the reactive cyanide levels exceed 250 ppm; or leachable cyanide levels (using the EP Toxicity test without acetic acid adjustment) exceed 1.26 ppm, the waste must be retreated or managed and disposed as hazardous waste under 40 CFR parts 262 to 265 and the permitting standards of 40 CFR Part 270. (3) Each batch of waste must be tested for the total content of the following organic toxicants. If the total content of any of the constituents exceeds the maximum levels shown, the waste must be managed and disposed as a hazardous waste under 40 CFR parts 262 and 265 and the permitting standards of 40 CFR Part 270: Compound and Maximum Acceptable Levels (ppm) Acrolein, 56.8 Anthracene, 76.8 Benzene, 0.106 p-Chloro-m-cresol, 133 1,1–Dichloroethane, 0.01 Fluorene, 10.4 Methylenechloride, 8.2 Methyl ethyl ketone, 326

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		n–Nitrosodiphenylamine, 11.9 Phenanthrene, 14 Tetrachloroethylene, 0.188 Trichloroethylene, 0.59 Chloroform, 0.013 1,2-Dichloroethane, 0.0083 1,2-trans-Dichloroethylene, 231 2,4-Dimethylphenol, 12.5 Vinyl chloride, 0.18 1,2-Diphenyl hydrazine, 0.001 (4) A grab sample must be collected from each batch to form one monthly composite sample, which must be tested using GC/MS analysis for the organic compounds shown above, as well as the remaining organics on the priority pollutant list (see 47 FR 52309, November 19, 1982, Appendix A–126 Priority Pollutants). (5) The test data from conditions 1–4 must be kept on file at the facility for inspection purposes and must be compiled, summarized, and submitted to the Administrator by certified mail on a semiannual basis. The Agency will review this information and if needed, will propose to modify or withdraw the exclusion. The organics testing described in conditions 3 and 4 above is not required until May 18, 1987. The Agency's decision to conditionally exclude the treatment residue generated from the wasterwater treatment system at this facility applies only to the wastewater treatment residue described in this petition.
USX Steel Corporation, USS Division, Southworks Plant, Gary Works.	Chicago, Illinois.	Fully-cured chemically stabilized electric arc furnace dust/sludge (CSEAFD) treatment residue (EPA Hazardous Waste No. K061) generated from the primary production of steel after April 29, 1991. This exclusion (for 35,000 tons of CSEAFD per year) is conditioned upon the data obtained from USX's full-scale CSEAFD treatment facility. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern once the full-scale treatment facility is in operation, USX must implement a testing program for the petitioned waste. This testing program must meet the following conditions for the exclusion to be valid: (1) *Testing:* Sample collection and analyses (including quality control (QC) procedures) must be performed according to SW–846 methodologies. (A) *Initial Testing:* During the first four weeks of operation of the full-scale treatment system, USX must collect representative grab samples of each treated batch of the CSEAFD and composite the grab samples daily. The daily composites, prior to disposal, must be analyzed for the EP leachate concentrations of all the EP toxic metals, nickel, and cyanide (using distilled water in the cyanide extractions), and the total concentrations of reactive sulfide and reactive cyanide. USX must report the analytical test data, including quality control information, obtained during this initial period no later than 90 days after the treatment of the first full-scale batch. (B) *Subsequent Testing:* USX must collect representative grab samples from every treated batch of CSEAFD generated daily and composite all of the grab samples to produce a weekly composite sample. USX then must analyze each weekly composite sample for all of the EP toxic metals, and nickel. The analytical data, including quality control information, must be compiled and maintained on site for a minimum of three years. These data must be furnished upon request and made available for inspection by any employee or representative of EPA or the State of Illinois. (2) *Delisting levels:* If the EP extract concentrations for chromium, lead, arsenic, or silver exceed 0.315 mg/l; for barium exceeds 6.3 mg/l; for cadmium or selenium exceed 0.063 mg/l; for mercury exceeds 0.0126 mg/l; for nickel exceeds 3.15 mg/l; or for cyanide exceeds 4.42 mg/l, total reactive cyanide or total reactive sulfide levels exceed 250 mg/kg and 500 mg/kg, respectively, the waste must either be re-treated until it meets these levels or managed and disposed of in accordance with Subtitle C of RCRA.

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		(3) *Data submittals:* Within one week of system start-up USX must notify the Section Chief, Delisting Section (see address below) when their full-scale stabilization system is on-line and waste treatment has begun. The data obtained through condition (1)(A) must be submitted to the Section Chief, Delisting Section, CAD/OSW (OS–333), U.S. EPA, 401 M Street, S.W., Washington, DC 20460 within the time period specified. At the Section Chief's request, USX must submit any other analytical data obtained through conditions (1)(A) or (1)(B) within the time period specified by the Section Chief. Failure to submit the required data obtained from conditions (1)(A) or (1)(B) within the specified time period or maintain the required records for the specified time will be considered by the Agency, at its discretion, sufficient basis to revoke USX's exclusion to the extent directed by EPA. All data must be accompanied by the following certification statement: ''Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code which include, but may not be limited to, 18 U.S.C. § 6928), I certify that the information contained in or accompanying this document is true, accurate and complete. As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete. In the event that any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of wastes will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion.''
Vulcan Materials Company.	Port Edwards, WI.	Brine purification muds (EPA Hazardous Waste No. K071) generated from the mercury cell process in chlorine production, where separately prepurified brine is not used after November 17, 1986. To assure that mercury levels in this waste are maintained at acceptable levels, the following conditions apply to this exclusion: Each batch of treated brine clarifier muds and saturator insolubles must be tested (by the extraction procedure) prior to disposal and the leachate concentration of mercury must be less than or equal to 0.0129 ppm. If the waste does not meet this requirement, then it must be re-treated or disposed of as hazardous. This exclusion does not apply to wastes for which either of these conditions is not satisfied.

TABLE 3—WASTES EXCLUDED FROM COMMERCIAL CHEMICAL PRODUCTS, OFF-SPECIFICATION SPECIES, CONTAINER RESIDUES, AND SOIL RESIDUES THEREOF

Facility	Address	Waste description
Texas Eastman	Longview, Texas.	Incinerator ash (at a maximum generation of 7,000 cubic yards per calendar year) generated from the incineration of sludge from the wastewater treatment plant (EPA Hazardous Waste No. U001, U002, U003, U019, U028, U031, U037, U044, U056, U069, U070, U107, U108, U112, U113, U115, U117, U122, U140, U147, U151, U154, U159, U161, U169, U190, U196, U211, U213, U226, U239, and U359, and that is disposed of in Subtitle D landfills after September 25, 1996. Texas Eastman must implement the testing program described in Table 1. Wastes Excluded From Non-Specific Sources for the petition to be valid.
Union Carbide Corp.	Taft, LA	Contaminated soil (approximately 11,000 cubic yards), which contains acrolein in concentrations of less than 9 ppm.

[49 FR 37070, Sept. 21, 1984]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting appendix IX of part 261, see the List of CFR Sections Affected in the Finding Aids section of this volume.

PART 262—STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE

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APPENDIX TO PART 262—UNIFORM HAZARDOUS WASTE MANIFEST AND INSTRUCTIONS (EPA FORMS 8700–22 AND 8700–22A AND THEIR INSTRUCTIONS)

AUTHORITY: 42 U.S.C 6906, 6912, 6922-6925, 6937, and 6938.

SOURCE: 45 FR 33142, May 19, 1980, unless otherwise noted.

Subpart A—General

§ 262.10 Purpose, scope, and applicability.

(a) These regulations establish standards for generators of hazardous waste.

(b) 40 CFR 261.5(c) and (d) must be used to determine the applicability of provisions of this part that are dependent on calculations of the quantity of hazardous waste generated per month.

(c) A generator who treats, stores, or disposes of hazardous waste on-site must only comply with the following sections of this part with respect to that waste: Section 262.11 for determining whether or not he has a hazardous waste, § 262.12 for obtaining an EPA identification number, § 262.34 for accumulation of hazardous waste, § 262.40 (c) and (d) for recordkeeping, § 262.43 for additional reporting, and if applicable, § 262.70 for farmers.

(d) Any person who exports or imports hazardous waste subject to the Federal manifesting requirements of part 262, or subject to the universal waste management standards of 40 CFR Part 273, or subject to State requirements analogous to 40 CFR Part 273, to or from the countries listed in § 262.58(a)(1) for recovery must comply with subpart H of this part.

(e) Any person who imports hazardous waste into the United States must comply with the standards applicable to generators established in this part.

(f) A farmer who generates waste pesticides which are hazardous waste and who complies with all of the requirements of § 262.70 is not required to comply with other standards in this part or 40 CFR parts 270, 264, 265, or 268 with respect to such pesticides.

(g) A person who generates a hazardous waste as defined by 40 CFR part 261 is subject to the compliance requirements and penalties prescribed in section 3008 of the Act if he does not comply with the requirements of this part.

(h) An owner or operator who initiates a shipment of hazardous waste from a treatment, storage, or disposal facility must comply with the generator standards established in this part.

(i) Persons responding to an explosives or munitions emergency in accordance with 40 CFR 264.1(g)(8)(i)(D) or (iv) or 265.1(c)(11)(i)(D) or (iv), and 270.1(c)(3)(i)(D) or (iii) are not required to comply with the standards of this part.

NOTE 1: The provisions of § 262.34 are applicable to the on-site accumulation of hazardous waste by generators. Therefore, the provisions of § 262.34 only apply to owners or operators who are shipping hazardous waste which they generated at that facility.

NOTE 2: A generator who treats, stores, or disposes of hazardous waste on-site must comply with the applicable standards and permit requirements set forth in 40 CFR parts 264, 265, 266, 268, and 270.

[45 FR 33142, May 19, 1980, as amended at 45 FR 86970, Dec. 31, 1980; 47 FR 1251, Jan. 11, 1982; 48 FR 14294, Apr. 1, 1983; 53 FR 27164, July 19, 1988; 56 FR 3877, Jan. 31, 1991; 60 FR 25541, May 11, 1995; 61 FR 16309, Apr. 12, 1996; 62 FR 6651, Feb. 12, 1997]

EFFECTIVE DATE NOTE: At 62 FR 6651, Feb. 12, 1997, § 262.10(i) was added, effective Aug. 12, 1997.

§ 262.11 Hazardous waste determination.

A person who generates a solid waste, as defined in 40 CFR 261.2, must determine if that waste is a hazardous waste using the following method:

(a) He should first determine if the waste is excluded from regulation under 40 CFR 261.4.

(b) He must then determine if the waste is listed as a hazardous waste in subpart D of 40 CFR part 261.

NOTE: Even if the waste is listed, the generator still has an opportunity under 40 CFR 260.22 to demonstrate to the Administrator that the waste from his particular facility or operation is not a hazardous waste.

(c) For purposes of compliance with 40 CFR part 268, or if the waste is not listed in subpart D of 40 CFR part 261, the generator must then determine whether the waste is identified in subpart C of 40 CFR part 261 by either:

(1) Testing the waste according to the methods set forth in subpart C of 40 CFR part 261, or according to an equivalent method approved by the Administrator under 40 CFR 260.21; or

(2) Applying knowledge of the hazard characteristic of the waste in light of the materials or the processes used.

(d) If the waste is determined to be hazardous, the generator must refer to parts 261, 264, 265, 266, 268, and 273 of this chapter for possible exclusions or restrictions pertaining to management of the specific waste.

[45 FR 33142, May 19, 1980, as amended at 45 FR 76624, Nov. 19, 1980; 51 FR 40637, Nov. 7, 1986; 55 FR 22684, June 1, 1990; 56 FR 3877, Jan. 31, 1991; 60 FR 25541, May 11, 1995]

§ 262.12 EPA identification numbers.

(a) A generator must not treat, store, dispose of, transport, or offer for transportation, hazardous waste without

having received an EPA identification number from the Administrator.

(b) A generator who has not received an EPA identification number may obtain one by applying to the Administrator using EPA form 8700–12. Upon receiving the request the Administrator will assign an EPA identification number to the generator.

(c) A generator must not offer his hazardous waste to transporters or to treatment, storage, or disposal facilities that have not received an EPA identification number.

Subpart B—The Manifest

§262.20 General requirements.

(a) A generator who transports, or offers for transportation, hazardous waste for offsite treatment, storage, or disposal must prepare a Manifest OMB control number 2050–0039 on EPA form 8700–22, and, if necessary, EPA form 8700–22A, according to the instructions included in the appendix to part 262.

(b) A generator must designate on the manifest one facility which is permitted to handle the waste described on the manifest.

(c) A generator may also designate on the manifest one alternate facility which is permitted to handle his waste in the event an emergency prevents delivery of the waste to the primary designated facility.

(d) If the transporter is unable to deliver the hazardous waste to the designated facility or the alternate facility, the generator must either designate another facility or instruct the transporter to return the waste.

(e) The requirements of this subpart do not apply to hazardous waste produced by generators of greater than 100 kg but less than 1000 kg in a calendar month where:

(1) The waste is reclaimed under a contractual agreement pursuant to which:

(i) The type of waste and frequency of shipments are specified in the agreement;

(ii) The vehicle used to transport the waste to the recycling facility and to deliver regenerated material back to the generator is owned and operated by the reclaimer of the waste; and

(2) The generator maintains a copy of the reclamation agreement in his files for a period of at least three years after termination or expiration of the agreement.

(f) The requirements of this subpart and §262.32(b) do not apply to the transport of hazardous wastes on a public or private right-of-way within or along the border of contiguous property under the control of the same person, even if such contiguous property is divided by a public or private right-of-way. Notwithstanding 40 CFR 263.10(a), the generator or transporter must comply with the requirements for transporters set forth in 40 CFR 263.30 and 263.31 in the event of a discharge of hazardous waste on a public or private right-of-way.

[45 FR 33142, May 19, 1980, as amended at 49 FR 10500, Mar. 20, 1984; 51 FR 10175, Mar. 24, 1986; 53 FR 45090, Nov. 8, 1988; 62 FR 6651, Feb. 12, 1997]

EFFECTIVE DATE NOTE: At 62 FR 6651, Feb. 12, 1997, § 262.20(f) was added, effective Aug. 12, 1997.

§262.21 Acquisition of manifests.

(a) If the State to which the shipment is manifested (consignment State) supplies the manifest and requires its use, then the generator must use that manifest.

(b) If the consignment State does not supply the manifest, but the State in which the generator is located (generator State) supplies the manifest and requires its use, then the generator must use that State's manifest.

(c) If neither the generator State nor the consignment State supplies the manifest, then the generator may obtain the manifest from any source.

[49 FR 10500, Mar. 20, 1984]

§262.22 Number of copies.

The manifest consists of at least the number of copies which will provide the generator, each transporter, and the owner or operator of the designated facility with one copy each for their records and another copy to be returned to the generator.

§262.23 Use of the manifest.

(a) The generator must:

(1) Sign the manifest certification by hand; and

(2) Obtain the handwritten signature of the initial transporter and date of acceptance on the manifest; and

(3) Retain one copy, in accordance with § 262.40(a).

(b) The generator must give the transporter the remaining copies of the manifest.

(c) For shipments of hazardous waste within the United States solely by water (bulk shipments only), the generator must send three copies of the manifest dated and signed in accordance with this section to the owner or operator of the designated facility or the last water (bulk shipment) transporter to handle the waste in the United States if exported by water. Copies of the manifest are not required for each transporter.

(d) For rail shipments of hazardous waste within the United States which originate at the site of generation, the generator must send at least three copies of the manifest dated and signed in accordance with this section to:

(1) The next non-rail transporter, if any; or

(2) The designated facility if transported solely by rail; or

(3) The last rail transporter to handle the waste in the United States if exported by rail.

(e) For shipments of hazardous waste to a designated facility in an authorized State which has not yet obtained authorization to regulate that particular waste as hazardous, the generator must assure that the designated facility agrees to sign and return the manifest to the generator, and that any out-of-state transporter signs and forwards the manifest to the designated facility.

NOTE: See § 263.20(e) and (f) for special provisions for rail or water (bulk shipment) transporters.

[45 FR 33142, May 19, 1980, as amended at 45 FR 86973, Dec. 31, 1980; 55 FR 2354, Jan. 23, 1990]

Subpart C—Pre-Transport Requirements

§ 262.30 Packaging.

Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator must package the waste in accordance with the applicable Department of Transportation regulations on packaging under 49 CFR parts 173, 178, and 179.

§ 262.31 Labeling.

Before transporting or offering hazardous waste for transportation off-site, a generator must label each package in accordance with the applicable Department of Transportation regulations on hazardous materials under 49 CFR part 172.

§ 262.32 Marking.

(a) Before transporting or offering hazardous waste for transportation off-site, a generator must mark each package of hazardous waste in accordance with the applicable Department of Transportation regulations on hazardous materials under 49 CFR part 172;

(b) Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator must mark each container of 110 gallons or less used in such transportation with the following words and information displayed in accordance with the requirements of 49 CFR 172.304:

HAZARDOUS WASTE—Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency.

Generator's Name and Address ————.

Manifest Document Number ————.

§ 262.33 Placarding.

Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator must placard or offer the initial transporter the appropriate placards according to Department of Transportation regulations for hazardous materials under 49 CFR part 172, subpart F.

§ 262.34 Accumulation time.

(a) Except as provided in paragraphs (d), (e), and (f) of this section, a generator may accumulate hazardous waste on-site for 90 days or less without a permit or without having interim status, provided that:

(1) The waste is placed:

(i) In containers and the generator complies with subpart I of 40 CFR part 265; and/or

(ii) In tanks and the generator complies with subpart J of 40 CFR part 265, except §§ 265.197(c) and 265.200; and/or

(iii) On drip pads and the generator complies with subpart W of 40 CFR part 265 and maintains the following records at the facility:

(A) A description of procedures that will be followed to ensure that all wastes are removed from the drip pad and associated collection system at least once every 90 days; and

(B) Documentation of each waste removal, including the quantity of waste removed from the drip pad and the sump or collection system and the date and time of removal; and/or

(iv) The waste is placed in containment buildings and the generator complies with subpart DD of 40 CFR part 265, has placed its professional engineer certification that the building complies with the design standards specified in 40 CFR 265.1101 in the facility's operating record no later than 60 days after the date of initial operation of the unit. After February 18, 1993, PE certification will be required prior to operation of the unit. The owner or operator shall maintain the following records at the facility:

(A) A written description of procedures to ensure that each waste volume remains in the unit for no more than 90 days, a written description of the waste generation and management practices for the facility showing that they are consistent with respecting the 90 day limit, and documentation that the procedures are complied with; or

(B) Documentation that the unit is emptied at least once every 90 days.

In addition, such a generator is exempt from all the requirements in subparts G and H of 40 CFR part 265, except for §§ 265.111 and 265.114.

(2) The date upon which each period of accumulation begins is clearly marked and visible for inspection on each container;

(3) While being accumulated on-site, each container and tank is labeled or marked clearly with the words, ''Hazardous Waste''; and

(4) The generator complies with the requirements for owners or operators in subparts C and D in 40 CFR part 265, with § 265.16, and with 40 CFR 268.7(a)(4).

(b) A generator who accumulates hazardous waste for more than 90 days is an operator of a storage facility and is subject to the requirements of 40 CFR parts 264 and 265 and the permit requirements of 40 CFR part 270 unless he has been granted an extension to the 90-day period. Such extension may be granted by EPA if hazardous wastes must remain on-site for longer than 90 days due to unforeseen, temporary, and uncontrollable circumstances. An extension of up to 30 days may be granted at the discretion of the Regional Administrator on a case-by-case basis.

(c)(1) A generator may accumulate as much as 55 gallons of hazardous waste or one quart of acutely hazardous waste listed in § 261.33(e) in containers at or near any point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste, without a permit or interim status and without complying with paragraph (a) of this section provided he:

(i) Complies with §§ 265.171, 265.172, and 265.173(a) of this chapter; and

(ii) Marks his containers either with the words ''Hazardous Waste'' or with other words that identify the contents of the containers.

(2) A generator who accumulates either hazardous waste or acutely hazardous waste listed in § 261.33(e) in excess of the amounts listed in paragraph (c)(1) of this section at or near any point of generation must, with respect to that amount of excess waste, comply within three days with paragraph (a) of this section or other applicable provisions of this chapter. During the three day period the generator must continue to comply with paragraphs (c)(1)(i) through (ii) of this section. The generator must mark the container holding the excess accumulation of hazardous waste with the date the excess amount began accumulating.

(d) A generator who generates greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month may accumulate hazardous waste on-site for 180 days or less without a permit or without having interim status provided that:

(1) The quantity of waste accumulated on-site never exceeds 6000 kilograms;

(2) The generator complies with the requirements of subpart I of part 265 of this chapter, except for §§ 265.176 and 265.178;

(3) The generator complies with the requirements of § 265.201 in subpart J of part 265;

(4) The generator complies with the requirements of paragraphs (a)(2) and (a)(3) of this section, the requirements of subpart C of part 265, the requirements of 40 CFR 268.7(a)(4); and

(5) The generator complies with the following requirements:

(i) At all times there must be at least one employee either on the premises or on call (*i.e.*, available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures specified in paragraph (d)(5)(iv) of this section. This employee is the emergency coordinator.

(ii) The generator must post the following information next to the telephone:

(A) The name and telephone number of the emergency coordinator;

(B) Location of fire extinguishers and spill control material, and, if present, fire alarm; and

(C) The telephone number of the fire department, unless the facility has a direct alarm.

(iii) The generator must ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies;

(iv) The emergency coordinator or his designee must respond to any emergencies that arise. The applicable responses are as follows:

(A) In the event of a fire, call the fire department or attempt to extinguish it using a fire extinguisher;

(B) In the event of a spill, contain the flow of hazardous waste to the extent possible, and as soon as is practicable, clean up the hazardous waste and any contaminated materials or soil;

(C) In the event of a fire, explosion, or other release which could threaten human health outside the facility or when the generator has knowledge that a spill has reached surface water, the generator must immediately notify the National Response Center (using their 24-hour toll free number 800/424–8802). The report must include the following information:

(*1*) The name, address, and U.S. EPA Identification Number of the generator;

(*2*) Date, time, and type of incident (*e.g.*, spill or fire);

(*3*) Quantity and type of hazardous waste involved in the incident;

(*4*) Extent of injuries, if any; and

(*5*) Estimated quantity and disposition of recovered materials, if any.

(e) A generator who generates greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month and who must transport his waste, or offer his waste for transportation, over a distance of 200 miles or more for off-site treatment, storage or disposal may accumulate hazardous waste on-site for 270 days or less without a permit or without having interim status provided that he complies with the requirements of paragraph (d) of this section.

(f) A generator who generates greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month and who accumulates hazardous waste in quantities exceeding 6000 kg or accumulates hazardous waste for more than 180 days (or for more than 270 days if he must transport his waste, or offer his waste for transportation, over a distance of 200 miles or more) is an operator of a storage facility and is subject to the requirements of 40 CFR parts 264 and 265 and the permit requirements of 40 CFR part 270 unless he has been granted an extension to the 180-day (or 270-day if applicable) period. Such extension may be granted by EPA if hazardous wastes must remain on-site for longer than 180 days (or 270 days if applicable) due to unforeseen, temporary, and uncontrollable circumstances. An extension of up to 30 days may be granted at the

discretion of the Regional Administrator on a case-by-case basis.

[47 FR 1251, Jan. 11, 1982, as amended at 48 FR 14294, Apr. 1, 1983; 49 FR 49571, Dec. 20, 1984; 51 FR 10175, Mar. 24, 1986; 51 FR 25472, July 14, 1986; 55 FR 22684, June 1, 1990; 55 FR 50483, Dec. 6, 1990; 56 FR 3877, Jan. 31, 1991; 56 FR 30195, July 1, 1991; 57 FR 37264, Aug. 18, 1992; 59 FR 62926, Dec. 6, 1994; 61 FR 4911, Feb. 9, 1996; 61 FR 59950, Nov. 25, 1996]

Subpart D—Recordkeeping and Reporting

§262.40 Recordkeeping.

(a) A generator must keep a copy of each manifest signed in accordance with §262.23(a) for three years or until he receives a signed copy from the designated facility which received the waste. This signed copy must be retained as a record for at least three years from the date the waste was accepted by the initial transporter.

(b) A generator must keep a copy of each Biennial Report and Exception Report for a period of at least three years from the due date of the report.

(c) A generator must keep records of any test results, waste analyses, or other determinations made in accordance with §262.11 for at least three years from the date that the waste was last sent to on-site or off-site treatment, storage, or disposal.

(d) The periods or retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Administrator.

[45 FR 33142, May 19, 1980, as amended at 48 FR 3981, Jan. 28, 1983]

§262.41 Biennial report.

(a) A generator who ships any hazardous waste off-site to a treatment, storage or disposal facility within the United States must prepare and submit a single copy of a Biennial Report to the Regional Administrator by March 1 of each even numbered year. The Biennial Report must be submitted on EPA Form 8700–13A, must cover generator activities during the previous year, and must include the following information:

(1) The EPA identification number, name, and address of the generator;

(2) The calendar year covered by the report;

(3) The EPA identification number, name, and address for each off-site treatment, storage, or disposal facility in the United States to which waste was shipped during the year;

(4) The name and EPA identification number of each transporter used during the reporting year for shipments to a treatment, storage or disposal facility within the United States;

(5) A description, EPA hazardous waste number (from 40 CFR part 261, subpart C or D), DOT hazard class, and quantity of each hazardous waste shipped off-site for shipments to a treatment, storage or disposal facility within the United States. This information must be listed by EPA identification number of each such off-site facility to which waste was shipped.

(6) A description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated.

(7) A description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent such information is available for years prior to 1984.

(8) The certification signed by the generator or authorized representative.

(b) Any generator who treats, stores, or disposes of hazardous waste on-site must submit a biennial report covering those wastes in accordance with the provisions of 40 CFR parts 270, 264, 265, and 266. Reporting for exports of hazardous waste is not required on the Biennial Report form. A separate annual report requirement is set forth at 40 CFR 262.56.

[48 FR 3981, Jan. 28, 1983, as amended at 48 FR 14294, Apr. 1, 1983; 50 FR 28746, July 15, 1985; 51 FR 28682, Aug. 8, 1986]

§262.42 Exception reporting.

(a)(1) A generator of greater than 1000 kilograms of hazardous waste in a calendar month who does not receive a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 35

days of the date the waste was accepted by the initial transporter must contact the transporter and/or the owner or operator of the designated facility to determine the status of the hazardous waste.

(2) A generator of greater than 1000 kilograms of hazardous waste in a calendar month must submit an Exception Report to the EPA Regional Administrator for the Region in which the generator is located if he has not received a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 45 days of the date the waste was accepted by the initial transporter. The Exception Report must include:

(i) A legible copy of the manifest for which the generator does not have confirmation of delivery;

(ii) A cover letter signed by the generator or his authorized representative explaining the efforts taken to locate the hazardous waste and the results of those efforts.

(b) A generator of greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month who does not receive a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 60 days of the date the waste was accepted by the initial transporter must submit a legible copy of the manifest, with some indication that the generator has not received confirmation of delivery, to the EPA Regional Administrator for the Region in which the generator is located.

NOTE: The submission to EPA need only be a handwritten or typed note on the manifest itself, or on an attached sheet of paper, stating that the return copy was not received.

[52 FR 35898, Sept. 23, 1987]

§ 262.43 Additional reporting.

The Administrator, as he deems necessary under sections 2002(a) and 3002(6) of the Act, may require generators to furnish additional reports concerning the quantities and disposition of wastes identified or listed in 40 CFR part 261.

§ 262.44 Special requirements for generators of between 100 and 1000 kg/mo.

A generator of greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month is subject only to the following requirements in this subpart:

(a) Section 262.40(a), (c), and (d), recordkeeping;

(b) Section 262.42(b), exception reporting; and

(c) Section 262.43, additional reporting.

[52 FR 35899, Sept. 23, 1987]

Subpart E—Exports of Hazardous Waste

SOURCE: 51 FR 28682, Aug. 8, 1986, unless otherwise noted.

§ 262.50 Applicability.

This subpart establishes requirements applicable to exports of hazardous waste. Except to the extent § 262.58 provides otherwise, a primary exporter of hazardous waste must comply with the special requirements of this subpart and a transporter transporting hazardous waste for export must comply with applicable requirements of part 263. Section 262.58 sets forth the requirements of international agreements between the United States and receiving countries which establish different notice, export, and enforcement procedures for the transportation, treatment, storage and disposal of hazardous waste for shipments between the United States and those countries.

§ 262.51 Definitions.

In addition to the definitions set forth at 40 CFR 260.10, the following definitions apply to this subpart:

Consignee means the ultimate treatment, storage or disposal facility in a receiving country to which the hazardous waste will be sent.

EPA Acknowledgement of Consent means the cable sent to EPA from the U.S. Embassy in a receiving country that acknowledges the written consent of the receiving country to accept the hazardous waste and describes the terms and conditions of the receiving country's consent to the shipment.

Primary Exporter means any person who is required to originate the manifest for a shipment of hazardous waste in accordance with 40 CFR part 262, subpart B, or equivalent State provision, which specifies a treatment, storage, or disposal facility in a receiving country as the facility to which the hazardous waste will be sent and any intermediary arranging for the export.

Receiving country means a foreign country to which a hazardous waste is sent for the purpose of treatment, storage or disposal (except short-term storage incidental to transportation).

Transit country means any foreign country, other than a receiving country, through which a hazardous waste is transported.

[53 FR 27164, July 19, 1988]

§262.52 General requirements.

Exports of hazardous waste are prohibited except in compliance with the applicable requirements of this subpart and part 263. Exports of hazardous waste are prohibited unless:

(a) Notification in accordance with §262.53 has been provided;

(b) The receiving country has consented to accept the hazardous waste;

(c) A copy of the EPA Acknowledgment of Consent to the shipment accompanies the hazardous waste shipment and, unless exported by rail, is attached to the manifest (or shipping paper for exports by water (bulk shipment)).

(d) The hazardous waste shipment conforms to the terms of the receiving country's written consent as reflected in the EPA Acknowledgment of Consent.

§262.53 Notification of intent to export.

(a) A primary exporter of hazardous waste must notify EPA of an intended export before such waste is scheduled to leave the United States. A complete notification should be submitted sixty (60) days before the initial shipment is intended to be shipped off site. This notification may cover export activities extending over a twelve (12) month or lesser period. The notification must be in writing, signed by the primary exporter, and include the following information:

(1) Name, mailing address, telephone number and EPA ID number of the primary exporter;

(2) By consignee, for each hazardous waste type:

(i) A description of the hazardous waste and the EPA hazardous waste number (from 40 CFR part 261, subparts C and D), U.S. DOT proper shipping name, hazard class and ID number (UN/NA) for each hazardous waste as identified in 49 CFR parts 171 through 177;

(ii) The estimated frequency or rate at which such waste is to be exported and the period of time over which such waste is to be exported.

(iii) The estimated total quantity of the hazardous waste in units as specified in the instructions to the Uniform Hazardous Waste Manifest Form (8700–22);

(iv) All points of entry to and departure from each foreign country through which the hazardous waste will pass;

(v) A description of the means by which each shipment of the hazardous waste will be transported (e.g., mode of transportation vehicle (air, highway, rail, water, etc.), type(s) of container (drums, boxes, tanks, etc.));

(vi) A description of the manner in which the hazardous waste will be treated, stored or disposed of in the receiving country (e.g., land or ocean incineration, other land disposal, ocean dumping, recycling);

(vii) The name and site address of the consignee and any alternate consignee; and

(viii) The name of any transit countries through which the hazardous waste will be sent and a description of the approximate length of time the hazardous waste will remain in such country and the nature of its handling while there;

(b) Notifications submitted by mail should be sent to the following mailing address: Office of Enforcement and Compliance Assurance, Office of Compliance, Enforcement Planning, Targeting, and Data Division (2222A), Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. Hand-delivered notifications should be sent to: Office of Enforcement and

Compliance Assurance, Office of Compliance, Enforcement Planning, Targeting, and Data Division (2222A), Environmental Protection Agency, Ariel Rios Bldg., 12th St. and Pennsylvania Ave., NW., Washington, DC. In both cases, the following shall be prominently displayed on the front of the envelope: ''Attention: Notification of Intent to Export.''

(c) Except for changes to the telephone number in paragraph (a)(1) of this section, changes to paragraph (a)(2)(v) of this section and decreases in the quantity indicated pursuant to paragraph (a)(2)(iii) of this section when the conditions specified on the original notification change (including any exceedance of the estimate of the quantity of hazardous waste specified in the original notification), the primary exporter must provide EPA with a written renotification of the change. The shipment cannot take place until consent of the receiving country to the changes (except for changes to paragraph (a)(2)(viii) of this section and in the ports of entry to and departure from transit countries pursuant to paragraph (a)(2)(iv) of this section) has been obtained and the primary exporter receives an EPA Acknowledgment of Consent reflecting the receiving country's consent to the changes.

(d) Upon request by EPA, a primary exporter shall furnish to EPA any additional information which a receiving country requests in order to respond to a notification.

(e) In conjunction with the Department of State, EPA will provide a complete notification to the receiving country and any transit countries. A notification is complete when EPA receives a notification which EPA determines satisfies the requirements of paragraph (a) of this section. Where a claim of confidentiality is asserted with respect to any notification information required by paragraph (a) of this section, EPA may find the notification not complete until any such claim is resolved in accordance with 40 CFR 260.2.

(f) Where the receiving country consents to the receipt of the hazardous waste, EPA will forward an EPA Acknowledgment of Consent to the primary exporter for purposes of § 262.54(h). Where the receiving country objects to receipt of the hazardous waste or withdraws a prior consent, EPA will notify the primary exporter in writing. EPA will also notify the primary exporter of any responses from transit countries.

[51 FR 28682, Aug. 8, 1986, as amended at 56 FR 43705, Sept. 4, 1991; 61 FR 16309, Apr. 12, 1996]

§ 262.54 Special manifest requirements.

A primary exporter must comply with the manifest requirements of 40 CFR 262.20 through 262.23 except that:

(a) In lieu of the name, site address and EPA ID number of the designated permitted facility, the primary exporter must enter the name and site address of the consignee;

(b) In lieu of the name, site address and EPA ID number of a permitted alternate facility, the primary exporter may enter the name and site address of any alternate consignee.

(c) In Special Handling Instructions and Additional Information, the primary exporter must identify the point of departure from the United States;

(d) The following statement must be added to the end of the first sentence of the certification set forth in Item 16 of the Uniform Hazardous Waste Manifest Form: ''and conforms to the terms of the attached EPA Acknowledgment of Consent'';

(e) In lieu of the requirements of § 262.21, the primary exporter must obtain the manifest form from the primary exporter's State if that State supplies the manifest form and requires its use. If the primary exporter's State does not supply the manifest form, the primary exporter may obtain a manifest form from any source.

(f) The primary exporter must require the consignee to confirm in writing the delivery of the hazardous waste to that facility and to describe any significant discrepancies (as defined in 40 CFR 264.72(a)) between the manifest and the shipment. A copy of the manifest signed by such facility may be used to confirm delivery of the hazardous waste.

(g) In lieu of the requirements of § 262.20(d), where a shipment cannot be

delivered for any reason to the designated or alternate consignee, the primary exporter must:

(1) Renotify EPA of a change in the conditions of the original notification to allow shipment to a new consignee in accordance with §262.53(c) and obtain an EPA Acknowledgment of Consent prior to delivery; or

(2) Instruct the transporter to return the waste to the primary exporter in the United States or designate another facility within the United States; and

(3) Instruct the transporter to revise the manifest in accordance with the primary exporter's instructions.

(h) The primary exporter must attach a copy of the EPA Acknowledgment of Consent to the shipment to the manifest which must accompany the hazardous waste shipment. For exports by rail or water (bulk shipment), the primary exporter must provide the transporter with an EPA Acknowledgment of Consent which must accompany the hazardous waste but which need not be attached to the manifest except that for exports by water (bulk shipment) the primary exporter must attach the copy of the EPA Acknowledgment of Consent to the shipping paper.

(i) The primary exporter shall provide the transporter with an additional copy of the manifest for delivery to the U.S. Customs official at the point the hazardous waste leaves the United States in accordance with §263.20(g)(4).

§262.55 Exception reports.

In lieu of the requirements of §262.42, a primary exporter must file an exception report with the Administrator if:

(a) He has not received a copy of the manifest signed by the transporter stating the date and place of departure from the United States within forty-five (45) days from the date it was accepted by the initial transporter;

(b) Within ninety (90) days from the date the waste was accepted by the initial transporter, the primary exporter has not received written confirmation from the consignee that the hazardous waste was received;

(c) The waste is returned to the United States.

§262.56 Annual reports.

(a) Primary exporters of hazardous waste shall file with the Administrator no later than March 1 of each year, a report summarizing the types, quantities, frequency, and ultimate destination of all hazardous waste exported during the previous calendar year. Such reports shall include the following:

(1) The EPA identification number, name, and mailing and site address of the exporter;

(2) The calendar year covered by the report;

(3) The name and site address of each consignee;

(4) By consignee, for each hazardous waste exported, a description of the hazardous waste, the EPA hazardous waste number (from 40 CFR part 261, subpart C or D), DOT hazard class, the name and US EPA ID number (where applicable) for each transporter used, the total amount of waste shipped and number of shipments pursuant to each notification;

(5) Except for hazardous waste produced by exporters of greater than 100 kg but less than 1000 kg in a calendar month, unless provided pursuant to §262.41, in even numbered years:

(i) A description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated; and

(ii) A description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent such information is available for years prior to 1984.

(6) A certification signed by the primary exporter which states:

> I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

(b) Annual reports submitted by mail should be sent to the following mailing address: Office of Enforcement and

Compliance Assurance, Office of Compliance, Enforcement Planning, Targeting, and Data Division (2222A), Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. Hand-delivered reports should be sent to: Office of Enforcement and Compliance Assurance, Office of Compliance, Enforcement Planning, Targeting, and Data Division (2222A), Environmental Protection Agency, Ariel Rios Bldg., 12th St. and Pennsylvania Ave., NW., Washington, DC.

[51 FR 28682, Aug. 8, 1986, as amended at 56 FR 43705, Sept. 4, 1991; 61 FR 16309, Apr. 12, 1996]

§ 262.57 Recordkeeping.

(a) For all exports a primary exporter must:

(1) Keep a copy of each notification of intent to export for a period of at least three years from the date the hazardous waste was accepted by the initial transporter;

(2) Keep a copy of each EPA Acknowledgment of Consent for a period of at least three years from the date the hazardous waste was accepted by the initial transporter;

(3) Keep a copy of each confirmation of delivery of the hazardous waste from the consignee for at least three years from the date the hazardous waste was accepted by the initial transporter; and

(4) Keep a copy of each annual report for a period of at least three years from the due date of the report.

(b) The periods of retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Administrator.

§ 262.58 International agreements.

(a) Any person who exports or imports hazardous waste subject to Federal manifest requirements of Part 262, or subject to the universal waste management standards of 40 CFR Part 273, or subject to State requirements analogous to 40 CFR Part 273, to or from designated member countries of the Organization for Economic Cooperation and Development (OECD) as defined in paragraph (a)(1) of this section for purposes of recovery is subject to Subpart H of this part. The requirements of Subparts E and F do not apply.

(1) For the purposes of this Subpart, the designated OECD countries consist of Australia, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States.

(2) For the purposes of this Subpart, Canada and Mexico are considered OECD member countries only for the purpose of transit.

(b) Any person who exports hazardous waste to or imports hazardous waste from: a designated OECD member country for purposes other than recovery (*e.g.*, incineration, disposal), Mexico (for any purpose), or Canada (for any purpose) remains subject to the requirements of subparts E and F of this part.

[61 FR 16310, Apr. 12, 1996]

Subpart F—Imports of Hazardous Waste

§ 262.60 Imports of hazardous waste.

(a) Any person who imports hazardous waste from a foreign country into the United States must comply with the requirements of this part and the special requirements of this subpart.

(b) When importing hazardous waste, a person must meet all the requirements of § 262.20(a) for the manifest except that:

(1) In place of the generator's name, address and EPA identification number, the name and address of the foreign generator and the importer's name, address and EPA identification number must be used.

(2) In place of the generator's signature on the certification statement, the U.S. importer or his agent must sign and date the certification and obtain the signature of the initial transporter.

(c) A person who imports hazardous waste must obtain the manifest form from the consignment State if the State supplies the manifest and requires its use. If the consignment State does not supply the manifest form,

then the manifest form may be obtained from any source.

[51 FR 28685, Aug. 8, 1986]

Subpart G—Farmers

§262.70 Farmers.

A farmer disposing of waste pesticides from his own use which are hazardous wastes is not required to comply with the standards in this part or other standards in 40 CFR parts 264, 265, 268, or 270 for those wastes provided he triple rinses each emptied pesticide container in accordance with §261.7(b)(3) and disposes of the pesticide residues on his own farm in a manner consisent with the disposal instructions on the pesticide label.

[53 FR 27165, July 19, 1988]

Subpart H—Transfrontier Shipments of Hazardous Waste for Recovery within the OECD

SOURCE: 61 FR 16310, Apr. 12, 1996, unless otherwise noted.

§262.80 Applicability.

(a) The requirements of this subpart apply to imports and exports of wastes that are considered hazardous under U.S. national procedures and are destined for recovery operations in the countries listed in §262.58(a)(1). A waste is considered hazardous under U.S. national procedures if it meets the Federal definition of hazardous waste in 40 CFR 261.3 and it is subject to either the Federal manifesting requirements at 40 CFR Part 262, Subpart B, to the universal waste management standards of 40 CFR Part 273, or to State requirements analogous to 40 CFR Part 273.

(b) Any person (notifier, consignee, or recovery facility operator) who mixes two or more wastes (including hazardous and non-hazardous wastes) or otherwise subjects two or more wastes (including hazardous and non-hazardous wastes) to physical or chemical transformation operations, and thereby creates a new hazardous waste, becomes a generator and assumes all subsequent generator duties under RCRA and any notifier duties, if applicable, under this subpart.

§262.81 Definitions.

The following definitions apply to this subpart.

(a) *Competent authorities* means the regulatory authorities of concerned countries having jurisdiction over transfrontier movements of wastes destined for recovery operations.

(b) *Concerned countries* means the exporting and importing OECD member countries and any OECD member countries of transit.

(c) *Consignee* means the person to whom possession or other form of legal control of the waste is assigned at the time the waste is received in the importing country.

(d) *Country of transit* means any designated OECD country in §262.58(a)(1) and (a)(2) other than the exporting or importing country across which a transfrontier movement of wastes is planned or takes place.

(e) *Exporting country* means any designated OECD member country in §262.58(a)(1) from which a transfrontier movement of wastes is planned or has commenced.

(f) *Importing country* means any designated OECD country in §262.58(a)(1) to which a transfrontier movement of wastes is planned or takes place for the purpose of submitting the wastes to recovery operations therein.

(g) *Notifier* means the person under the jurisdiction of the exporting country who has, or will have at the time the planned transfrontier movement commences, possession or other forms of legal control of the wastes and who proposes their transfrontier movement for the ultimate purpose of submitting them to recovery operations. When the United States (U.S.) is the exporting country, notifier is interpreted to mean a person domiciled in the U.S.

(h) *OECD area* means all land or marine areas under the national jurisdiction of any designated OECD member country in §262.58. When the regulations refer to shipments to or from an OECD country, this means OECD area.

(i) *Recognized trader* means a person who, with appropriate authorization of concerned countries, acts in the role of principal to purchase and subsequently sell wastes; this person has legal control of such wastes from time of purchase to time of sale; such a person

may act to arrange and facilitate transfrontier movements of wastes destined for recovery operations.

(j) *Recovery facility* means an entity which, under applicable domestic law, is operating or is authorized to operate in the importing country to receive wastes and to perform recovery operations on them.

(k) *Recovery operations* means activities leading to resource recovery, recycling, reclamation, direct re-use or alternative uses as listed in Table 2.B of the Annex of OECD Council Decision C(88)90(Final) of 27 May 1988, (available from the Environmental Protection Agency, RCRA Information Center (RIC), 1235 Jefferson-Davis Highway, first floor, Arlington, VA 22203 (Docket # F–94–IEHF-FFFFF) and the Organisation for Economic Co-operation and Development, Environment Direcorate, 2 rue Andre Pascal, 75775 Paris Cedex 16, France) which include:

R1 Use as a fuel (other than in direct incineration) or other means to generate energy
R2 Solvent reclamation/regeneration
R3 Recycling/reclamation of organic substances which are not used as solvents
R4 Recycling/reclamation of metals and metal compounds
R5 Recycling/reclamation of other inorganic materials
R6 Regeneration of acids or bases
R7 Recovery of components used for pollution control
R8 Recovery of components from catalysts
R9 Used oil re-refining or other reuses of previously used oil
R10 Land treatment resulting in benefit to agriculture or ecological improvement
R11 Uses of residual materials obtained from any of the operations numbered R1–R10
R12 Exchange of wastes for submission to any of the operations numbered R1–R11
R13 Accumulation of material intended for any operation in Table 2.B

(l) *Transfrontier movement* means any shipment of wastes destined for recovery operations from an area under the national jurisdiction of one OECD member country to an area under the national jurisdiction of another OECD member country.

§ 262.82 General conditions.

(a) *Scope.* The level of control for exports and imports of waste is indicated by assignment of the waste to a green, amber, or red list and by U.S. national procedures as defined in § 262.80(a). The green, amber, and red lists are incorporated by reference in § 262.89 (e).

(1) Wastes on the green list are subject to existing controls normally applied to commercial transactions, except as provided below:

(i) Green-list wastes that are considered hazardous under U.S. national procedures are subject to amber-list controls.

(ii) Green-list waste that are sufficiently contaminated or mixed with amber-list wastes, such that the waste or waste mixture is considered hazardous under U.S. national procedures, are subject to amber-list controls.

(iii) Green-list wastes that are sufficiently contaminated or mixed with other wastes subject to red-list controls such that the waste or waste mixture is considered hazardous under U.S. national procedures must be handled in accordance with the red-list controls.

(2) Wastes on the amber list that are considered hazardous under U.S. national procedures as defined in § 262.80(a) are subject to the amber-list controls of this Subpart.

(i) If amber-list wastes are sufficiently contaminated or mixed with other wastes subject to red-list controls such that the waste or waste mixture is considered hazardous under U.S. national procedures, the wastes must be handled in accordance with the red-list controls.

(ii) [Reserved].

(3) Wastes on the red list that are considered hazardous under U.S. national procedures as defined in § 262.80(a) are subject to the red-list controls of this subpart.

NOTE TO PARAGRAPH (a)(3): Some wastes on the amber or red lists are not listed or otherwise identified as hazardous under RCRA (*e.g.,* polychlorinated biphenyls) and therefore are not subject to the amber- or red-list controls of this subpart. Regardless of the status of the waste under RCRA, however, other Federal environmental statutes (e.g.,

the Toxic Substances Control Act) may restrict certain waste imports or exports. Such restrictions continue to apply without regard to this Subpart.

(4) Wastes not yet assigned to a list are eligible for transfrontier movements, as follows:

(i) If such wastes are considered hazardous under U.S. national procedures as defined in §262.80(a), these wastes are subject to the red-list controls; or

(ii) If such wastes are not considered hazardous under U.S. national procedures as defined in §262.80(a), such wastes may move as though they appeared on the green list.

(b) *General conditions applicable to transfrontier movements of hazardous waste.*

(1) The waste must be destined for recovery operations at a facility that, under applicable domestic law, is operating or is authorized to operate in the importing country;

(2) The transfrontier movement must be in compliance with applicable international transport agreements; and

NOTE TO PARAGRAPH (b)(2): These international agreements include, but are not limited to, the Chicago Convention (1944), ADR (1957), ADNR (1970), MARPOL Convention (1973/1978), SOLAS Convention (1974), IMDG Code (1985), COTIF (1985), and RID (1985).

(3) Any transit of waste through a non-OECD member country must be conducted in compliance with all applicable international and national laws and regulations.

(c) *Provisions relating to re-export for recovery to a third country.*

(1) Re-export of wastes subject to the amber-list control system from the U.S., as the importing country, to a third country listed in §262.58(a)(1) may occur only after a notifier in the U.S. provides notification to and obtains consent of the competent authorities in the third country, the original exporting country, and new transit countries. The notification must comply with the notice and consent procedures in §262.83 for all concerned countries and the original exporting country. The competent authorities of the original exporting country as well as the competent authorities of all other concerned countries have 30 days to object to the proposed movement.

(i) The 30-day period begins once the competent authorities of both the initial exporting country and new importing country issue Acknowledgements of Receipt of the notification.

(ii) The transfrontier movement may commence if no objection has been lodged after the 30-day period has passed or immediately after written consent is received from all relevant OECD importing and transit countries.

(2) Re-export of waste subject to the red-list control system from the original importing country to a third country listed in §262.58(a)(1) may occur only following notification of the competent authorities of the third country, the original exporting country, and new transit countries by a notifier in the original importing country in accordance with §262.83. The transfrontier movement may not proceed until receipt by the original importing country of written consent from the competent authorities of the third country, the original exporting country, and new transit countries.

(3) In the case of re-export of amber or red-list wastes to a country other than those in §262.58(a)(1), notification to and consent of the competent authorities of the original OECD member country of export and any OECD member countries of transit is required as specified in paragraphs (c)(1) and (c)(2) of this section in addition to compliance with all international agreements and arrangements to which the first importing OECD member country is a party and all applicable regulatory requirements for exports from the first importing country.

§262.83 Notification and consent.

(a) *Applicability.* Consent must be obtained from the competent authorities of the relevant OECD importing and transit countries prior to exporting hazardous waste destined for recovery operations subject to this Subpart. Hazardous wastes subject to amber-list controls are subject to the requirements of paragraph (b) of this section; hazardous wastes subject to red-list controls are subject to the requirements of paragraph (c) of this section; and wastes not identified on any list are subject to the requirements of paragraph (d) of this section.

(b) *Amber-list wastes.* The export from the U.S. of hazardous wastes as described in § 262.80(a) that appear on the amber list is prohibited unless the notification and consent requirements of paragraph (b)(1) or paragraph (b)(2) of this section are met.

(1) Transactions requiring specific consent:

(i) *Notification.* At least 45 days prior to commencement of the transfrontier movement, the notifier must provide written notification in English of the proposed transfrontier movement to the Office of Enforcement and Compliance Assurance, Office of Compliance, Enforcement Planning, Targeting and Data Division (2222A), Environmental Protection Agency, 401 M St., SW., Washington, DC 20460, with the words ''Attention: OECD Export Notification'' prominently displayed on the envelope. This notification must include all of the information identified in paragraph (e) of this section. In cases where wastes having similar physical and chemical characteristics, the same United Nations classification, and the same RCRA waste codes are to be sent periodically to the same recovery facility by the same notifier, the notifier may submit one notification of intent to export these wastes in multiple shipments during a period of up to one year.

(ii) *Tacit consent.* If no objection has been lodged by any concerned country (*i.e.,* exporting, importing, or transit countries) to a notification provided pursuant to paragraph (b)(1)(i) of this section within 30 days after the date of issuance of the Acknowledgment of Receipt of notification by the competent authority of the importing country, the transfrontier movement may commence. Tacit consent expires one calendar year after the close of the 30 day period; renotification and renewal of all consents is required for exports after that date.

(iii) *Written consent.* If the competent authorities of all the relevant OECD importing and transit countries provide written consent in a period less than 30 days, the transfrontier movement may commence immediately after all necessary consents are received. Written consent expires for each relevant OECD importing and transit country one calendar year after the date of that country's consent unless otherwise specified; renotification and renewal of each expired consent is required for exports after that date.

(2) Shipments to facilities pre-approved by the competent authorities of the importing countries to accept specific wastes for recovery:

(i) The notifier must provide EPA the information identified in paragraph (e) of this section in English, at least 10 days in advance of commencing shipment to a pre-approved facility. The notification should indicate that the recovery facility is pre-approved, and may apply to a single specific shipment or to multiple shipments as described in paragraph (b)(1)(i) of this section. This information must be sent to the Office of Enforcement and Compliance Assurance, Office of Compliance, Enforcement Planning, Targeting and Data Division (2222A), Environmental Protection Agency, 401 M St., SW., Washington, DC 20460, with the words ''OECD Export Notification—Pre-approved Facility'' prominently displayed on the envelope.

(ii) Shipments may commence after the notification required in paragraph (b)(1)(i) of this section has been received by the competent authorities of all concerned countries, unless the notifier has received information indicating that the competent authorities of one or more concerned countries objects to the shipment.

(c) *Red-list wastes.* The export from the U.S. of hazardous wastes as described in § 262.80(a) that appear on the red list is prohibited unless notice is given pursuant to paragraph (b)(1)(i) of this section and the notifier receives *written* consent from the importing country and any transit countries prior to commencement of the transfrontier movement.

(d) *Unlisted wastes.* Wastes not assigned to the green, amber, or red list that are considered hazardous under U.S. national procedures as defined in § 262.80(a) are subject to the notification and consent requirements established for red-list wastes in accordance with paragraph (c) of this section. Unlisted wastes that are not considered hazardous under U.S. national procedures as defined in § 262.80(a) are not

subject to amber or red controls when exported or imported.

(e) *Notification information*. Notifications submitted under this section must include:

(1) Serial number or other accepted identifier of the notification form;

(2) Notifier name and EPA identification number (if applicable), address, and telephone and telefax numbers;

(3) Importing recovery facility name, address, telephone and telefax numbers, and technologies employed;

(4) Consignee name (if not the owner or operator of the recovery facility) address, and telephone and telefax numbers; whether the consignee will engage in waste exchange or storage prior to delivering the waste to the final recovery facility and identification of recovery operations to be employed at the final recovery facility;

(5) Intended transporters and/or their agents;

(6) Country of export and relevant competent authority, and point of departure;

(7) Countries of transit and relevant competent authorities and points of entry and departure;

(8) Country of import and relevant competent authority, and point of entry;

(9) Statement of whether the notification is a single notification or a general notification. If general, include period of validity requested;

(10) Date foreseen for commencement of transfrontier movement;

(11) Designation of waste type(s) from the appropriate list (amber or red and waste list code), descriptions of each waste type, estimated total quantity of each, RCRA waste code, and United Nations number for each waste type; and

(12) Certification/Declaration signed by the notifier that states:

I certify that the above information is complete and correct to the best of my knowledge. I also certify that legally-enforceable written contractual obligations have been entered into, and that any applicable insurance or other financial guarantees are or shall be in force covering the transfrontier movement.

Name: _____

Signature: _____

Date: _____

NOTE TO PARAGRAPH (e)(12): The U.S. does not currently require financial assurance; however, U.S. exporters may be asked by other governments to provide and certify to such assurance as a condition of obtaining consent to a proposed movement.

§262.84 Tracking document.

(a) All U.S. parties subject to the contract provisions of §262.85 must ensure that a tracking document meeting the conditions of §262.84(b) accompanies each transfrontier shipment of wastes subject to amber-list or red-list controls from the initiation of the shipment until it reaches the final recovery facility, including cases in which the waste is stored and/or exchanged by the consignee prior to shipment to the final recovery facility, except as provided in §§262.84(a)(1) and (2).

(1) For shipments of hazardous waste within the U.S. solely by water (bulk shipments only) the generator must forward the tracking document with the manifest to the last water (bulk shipment) transporter to handle the waste in the U.S. if exported by water, (in accordance with the manifest routing procedures at §262.23(c)).

(2) For rail shipments of hazardous waste within the U.S. which originate at the site of generation, the generator must forward the tracking document with the manifest (in accordance with the routing procedures for the manifest in §262.23(d)) to the next non-rail transporter, if any, or the last rail transporter to handle the waste in the U.S. if exported by rail.

(b) The tracking document must include all information required under §262.83 (for notification), and the following:

(1) Date shipment commenced.

(2) Name (if not notifier), address, and telephone and telefax numbers of primary exporter.

(3) Company name and EPA ID number of all transporters.

(4) Identification (license, registered name or registration number) of means of transport, including types of packaging.

(5) Any special precautions to be taken by transporters.

(6) Certification/declaration signed by notifier that no objection to the shipment has been lodged as follows:

I certify that the above information is complete and correct to the best of my knowledge. I also certify that legally-enforceable written contractual obligations have been entered into, that any applicable insurance or other financial guarantees are or shall be in force covering the transfrontier movement, and that:

1. All necessary consents have been received; OR

2. The shipment is directed at a recovery facility within the OECD area and no objection has been received from any of the concerned countries within the 30 day tacit consent period; OR

3. The shipment is directed at a recovery facility pre-authorized for that type of waste within the OECD area; such an authorization has not been revoked, and no objection has been received from any of the concerned countries.

(delete sentences that are not applicable)

Name: _____

Signature: _____

Date: _____

(7) Appropriate signatures for each custody transfer (e.g. transporter, consignee, and owner or operator of the recovery facility).

(c) Notifiers also must comply with the special manifest requirements of 40 CFR 262.54(a), (b), (c), (e), and (i) and consignees must comply with the import requirements of 40 CFR part 262, subpart F.

(d) Each U.S. person that has physical custody of the waste from the time the movement commences until it arrives at the recovery facility must sign the tracking document (*e.g.* transporter, consignee, and owner or operator of the recovery facility).

(e) Within 3 working days of the receipt of imports subject to this Subpart, the owner or operator of the U.S. recovery facility must send signed copies of the tracking document to the notifier, to the Office of Enforcement and Compliance Assurance, Office of Compliance, Enforcement Planning, Targeting and Data Division (2222A), Environmental Protection Agency, 401 M St., SW., Washington, DC 20460, and to the competent authorities of the exporting and transit countries.

§ 262.85 Contracts.

(a) Transfrontier movements of hazardous wastes subject to amber or red control procedures are prohibited unless they occur under the terms of a valid written contract, chain of contracts, or equivalent arrangements (when the movement occurs between parties controlled by the same corporate or legal entity). Such contracts or equivalent arrangements must be executed by the notifier and the owner or operator of the recovery facility, and must specify responsibilities for each. Contracts or equivalent arrangements are valid for the purposes of this section only if persons assuming obligations under the contracts or equivalent arrangements have appropriate legal status to conduct the operations specified in the contract or equivalent arrangement.

(b) Contracts or equivalent arrangements must specify the name and EPA ID number, where available, of:

(1) The generator of each type of waste;

(2) Each person who will have physical custody of the wastes;

(3) Each person who will have legal control of the wastes; and

(4) The recovery facility.

(c) Contracts or equivalent arrangements must specify which party to the contract will assume responsibility for alternate management of the wastes if its disposition cannot be carried out as described in the notification of intent to export. In such cases, contracts must specify that:

(1) The person having actual possession or physical control over the wastes will immediately inform the notifier and the competent authorities of the exporting and importing countries and, if the wastes are located in a country of transit, the competent authorities of that country; and

(2) The person specified in the contract will assume responsibility for the adequate management of the wastes in compliance with applicable laws and regulations including, if necessary, arranging their return to the original country of export.

(d) Contracts must specify that the consignee will provide the notification required in § 262.82(c) prior to re-export of controlled wastes to a third country.

(e) Contracts or equivalent arrangements must include provisions for financial guarantees, if required by the

competent authorities of any concerned country, in accordance with applicable national or international law requirements.

NOTE TO PARAGRAPH (e): Financial guarantees so required are intended to provide for alternate recycling, disposal or other means of sound management of the wastes in cases where arrangements for the shipment and the recovery operations cannot be carried out as foreseen. The U.S. does not require such financial guarantees at this time; however, some OECD countries do. It is the responsibility of the notifier to ascertain and comply with such requirements; in some cases, transporters or consignees may refuse to enter into the necessary contracts absent specific references or certifications to financial guarantees.

(f) Contracts or equivalent arrangements must contain provisions requiring each contracting party to comply with all applicable requirements of this subpart.

(g) Upon request by EPA, U.S. notifiers, consignees, or recovery facilities must submit to EPA copies of contracts, chain of contracts, or equivalent arrangements (when the movement occurs between parties controlled by the same corporate or legal entity). Information contained in the contracts or equivalent arrangements for which a claim of confidentiality is asserted accordance with 40 CFR 2.203(b) will be treated as confidential and will be disclosed by EPA only as provided in 40 CFR 260.2.

NOTE TO PARAGRAPH (g): Although the U.S. does not require routine submission of contracts at this time, OECD Council Decision C(92)39/FINAL allows members to impose such requirements. When other OECD countries require submission of partial or complete copies of the contract as a condition to granting consent to proposed movements, EPA will request the required information; absent submission of such information, some OECD countries may deny consent for the proposed movement.

§262.86 Provisions relating to recognized traders.

(a) A recognized trader who takes physical custody of a waste and conducts recovery operations (including storage prior to recovery) is acting as the owner or operator of a recovery facility and must be so authorized in accordance with all applicable Federal laws.

(b) A recognized trader acting as a notifier or consignee for transfrontier shipments of waste must comply with all the requirements of this Subpart associated with being a notifier or consignee.

§262.87 Reporting and recordkeeping.

(a) *Annual reports.* For all waste movements subject to this Subpart, persons (*e.g.*, notifiers, recognized traders) who meet the definition of primary exporter in §262.51 shall file an annual report with the Office of Enforcement and Compliance Assurance, Office of Compliance, Enforcement Planning, Targeting and Data Division (2222A), Environmental Protection Agency, 401 M St., SW., Washington, DC 20460, no later than March 1 of each year summarizing the types, quantities, frequency, and ultimate destination of all such hazardous waste exported during the previous calendar year. (If the primary exporter is required to file an annual report for waste exports that are not covered under this Subpart, he may include all export information in one report provided the following information on exports of waste destined for recovery within the designated OECD member countries is contained in a separate section). Such reports shall include the following:

(1) The EPA identification number, name, and mailing and site address of the notifier filing the report;

(2) The calendar year covered by the report;

(3) The name and site address of each final recovery facility;

(4) By final recovery facility, for each hazardous waste exported, a description of the hazardous waste, the EPA hazardous waste number (from 40 CFR part 261, subpart C or D), designation of waste type(s) from OECD waste list and applicable waste code from the OECD lists, DOT hazard class, the name and U.S. EPA identification number (where applicable) for each transporter used, the total amount of hazardous waste shipped pursuant to this Subpart, and number of shipments pursuant to each notification;

(5) In even numbered years, for each hazardous waste exported, except for hazardous waste produced by exporters of greater than 100kg but less than

1000 kg in a calendar month, and except for hazardous waste for which information was already provided pursuant to § 262.41:

(i) A description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated; and

(ii) A description of the changes in volume and toxicity of the waste actually achieved during the year in comparison to previous years to the extent such information is available for years prior to 1984; and

(6) A certification signed by the person acting as primary exporter that states:

> I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

(b) *Exception reports.* Any person who meets the definition of primary exporter in § 262.51 must file an exception report in lieu of the requirements of § 262.42 with the Administrator if any of the following occurs:

(1) He has not received a copy of the tracking documentation signed by the transporter stating point of departure of the waste from the United States, within forty-five (45) days from the date it was accepted by the initial transporter;

(2) Within ninety (90) days from the date the waste was accepted by the initial transporter, the notifier has not received written confirmation from the recovery facility that the hazardous waste was received;

(3) The waste is returned to the United States.

(c) *Recordkeeping.* (1) Persons who meet the definition of primary exporter in § 262.51 shall keep the following records:

(i) A copy of each notification of intent to export and all written consents obtained from the competent authorities of concerned countries for a period of at least three years from the date the hazardous waste was accepted by the initial transporter;

(ii) A copy of each annual report for a period of at least three years from the due date of the report; and

(iii) A copy of any exception reports and a copy of each confirmation of delivery (*i.e.*, tracking documentation) sent by the recovery facility to the notifier for at least three years from the date the hazardous waste was accepted by the initial transporter or received by the recovery facility, whichever is applicable.

(2) The periods of retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Administrator.

§ 262.88 Pre-approval for U.S. Recovery Facilities (Reserved).

§ 262.89 OECD Waste Lists.

(a) *General.* For the purposes of this Subpart, a waste is considered hazardous under U.S. national procedures, and hence subject to this Subpart, if the waste:

(1) Meets the Federal definition of hazardous waste in 40 CFR 261.3; and

(2) Is subject to either the Federal RCRA manifesting requirements at 40 CFR part 262, subpart B, to the universal waste management standards of 40 CFR part 273, or to State requirements analogous to 40 CFR part 273.

(b) If a waste is hazardous under paragraph (a) of this section and it appears on the amber or red list, it is subject to amber- or red-list requirements respectively;

(c) If a waste is hazardous under paragraph (a) of this section and it does not appear on either amber or red lists, it is subject to red-list requirements.

(d) The appropriate control procedures for hazardous wastes and hazardous waste mixtures are addressed in § 262.82.

(e) The OECD Green List of Wastes (revised May 1994), Amber List of Wastes and Red List of Wastes (both revised May 1993) as set forth in Appendix 3, Appendix 4 and Appendix 5, respectively, to the OECD Council Decision C(92)39/FINAL (Concerning the

Control of Transfrontier Movements of Wastes Destined for Recovery Operations) are incorporated by reference. These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51 on July 11, 1996. 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 inspection at: the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC; the U.S. Environmental Protection Agency, RCRA Information Center (RIC), 1235 Jefferson-Davis Highway, first floor, Arlington, VA 22203 (Docket # F–94–IEHF–FFFFF) and may be obtained from the Organisation for Economic Co-operation and Development, Environment Direcorate, 2 rue Andre Pascal, 75775 Paris Cedex 16, France.

APPENDIX TO PART 262—UNIFORM HAZARDOUS WASTE MANIFEST AND INSTRUCTIONS (EPA FORMS 8700–22 AND 8700–22A AND THEIR INSTRUCTIONS)

U.S. EPA Form 8700–22

Read all instructions before completing this form.

This form has been designed for use on a 12-pitch (elite) typerwriter; a firm point pen may also be used—press down hard.

Federal regulations require generators and transporters of hazardous waste and owners or operators of hazardous waste treatment, storage, and disposal facilities to use this form (8700–22) and, if necessary, the continuation sheet (Form 8700–22A) for both inter and intrastate transportation.

Federal regulations also require generators and transporters of hazardous waste and owners or operators of hazardous waste treatment, storage and disposal facilities to complete the following information:

* * * * *

Please print or type. *(Form designed for use on elite (12-pitch) typewriter.)* *Form Approved. OMB No. 2050-0039. Expires 9-30-91*

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. | Manifest Document No.

2. Page 1 of | Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address

4. Generator's Phone ( )

5. Transporter 1 Company Name | 6. US EPA ID Number

7. Transporter 2 Company Name | 8. US EPA ID Number

9. Designated Facility Name and Site Address | 10. US EPA ID Number

A. State Manifest Document Number

B. State Generator's ID

C. State Transporter's ID

D. Transporter's Phone

E. State Transporter's ID

F. Transporter's Phone

G. State Facility's ID

H. Facility's Phone

GENERATOR

11. US DOT Description *(Including Proper Shipping Name, Hazard Class, and ID Number)*	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a.					
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name | Signature | Month Day Year

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name | Signature | Month Day Year

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.

The following statement must be included with each Uniform Hazardous Waste Manifest, either on the form, in the instructions to the form, or accompanying the form:

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment, storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to: Chief, Information Policy Branch, PM–223, U.S. Environmental Protection Agency, 401 M Street SW., Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

GENERATORS

Item 1. Generator's U.S. EPA ID Number—Manifest Document Number

Enter the generator's U.S. EPA twelve digit identification number and the unique five digit number assigned to this Manifest (e.g., 00001) by the generator.

Item 2. Page 1 of ——

Enter the total number of pages used to complete this Manifest, i.e., the first page (EPA Form 8700–22) plus the number of Continuation Sheets (EPA Form 8700–22A), if any.

Item 3. Generator's Name and Mailing Address

Enter the name and mailing address of the generator. The address should be the location that will manage the returned Manifest forms.

Item 4. Generator's Phone Number

Enter a telephone number where an authorized agent of the generator may be reached in the event of an emergency.

Item 5. Transporter 1 Company Name

Enter the company name of the first transporter who will transport the waste.

Item 6. U.S. EPA ID Number

Enter the U.S. EPA twelve digit identification number of the first transporter identified in item 5.

Item 7. Transporter 2 Company Name

If applicable, enter the company name of the second transporter who will transport the waste. If more than two transporters are used to transport the waste, use a Continuation Sheet(s) (EPA Form 8700–22A) and list the transporters in the order they will be transporting the waste.

Item 8. U.S. EPA ID Number

If applicable, enter the U.S. EPA twelve digit identification number of the second transporter identified in item 7.

NOTE: If more than two transporters are used, enter each additional transporter's company name and U.S. EPA twelve digit identification number in items 24–27 on the Continuation Sheet (EPA Form 8700–22A). Each Continuation Sheet has space to record two additional transporters. Every transporter used between the generator and the designated facility must be listed.

Item 9. Designated Facility Name and Site Address

Enter the company name and site address of the facility designated to receive the waste listed on this Manifest. The address must be the site address, which may differ from the company mailing address.

Item 10. U.S. EPA ID Number

Enter the U.S. EPA twelve digit identification number of the designated facility identified in item 9.

Item 11. U.S. DOT Description [Including Proper Shipping Name, Hazard Class, and ID Number (UN/NA)]

Enter the U.S. DOT Proper Shipping Name, Hazard Class, and ID Number (UN/NA) for each waste as identified in 49 CFR 171 through 177.

NOTE: If additional space is needed for waste descriptions, enter these additional descriptions in item 28 on the Continuation Sheet (EPA Form 8700–22A).

Item 12. Containers (No. and Type)

Enter the number of containers for each waste and the appropriate abbreviation from Table I (below) for the type of container.

Table I—Types of Containers

DM=Metal drums, barrels, kegs
DW=Wooden drums, barrels, kegs
DF=Fiberboard or plastic drums, barrels, kegs
TP=Tanks portable
TT=Cargo tanks (tank trucks)
TC=Tank cars
DT=Dump truck
CY=Cylinders
CM=Metal boxes, cartons, cases (including roll-offs)
CW=Wooden boxes, cartons, cases
CF=Fiber or plastic boxes, cartons, cases
BA=Burlap, cloth, paper or plastic bags

Item 13. Total Quantity

Enter the total quantity of waste described on each line.

Item 14. Unit (Wt./Vol.)

Enter the appropriate abbreviation from Table II (below) for the unit of measure.

Table II—Units of Measure

G=Gallons (liquids only)
P=Pounds
T=Tons (2000 lbs)
Y=Cubic yards
L=Liters (liquids only)
K=Kilograms
M=Metric tons (1000 kg)
N=Cubic meters

Item 15. Special Handling Instructions and Additional Information

Generators may use this space to indicate special transportation, treatment, storage, or disposal information or Bill of Lading information. States may not require additional, new, or different information in this space. For international shipments, generators must enter in this space the point of departure (City and State) for those shipments destined for treatment, storage, or disposal outside the jurisdiction of the United States.

Item 16. Generator's Certification

The generator must read, sign (by hand), and date the certification statement. If a mode *other than* highway is used, the word ''highway'' should be lined out and the appropriate mode (rail, water, or air) inserted in the space below. If another mode *in addition to* the highway mode is used, enter the appropriate additional mode (e.g., *and rail*) in the space below.

Primary exporters shipping hazardous wastes to a facility located outside of the United States must add to the end of the first sentence of the certification the following words ''and conforms to the terms of the EPA Acknowledgment of Consent to the shipment.''

In signing the waste minimization certification statement, those generators who have not been exempted by statute or regulation from the duty to make a waste minimization certification under section 3002(b) of RCRA are also certifying that they have complied with the waste minimization requirements.

Generators may preprint the words, ''On behalf of'' in the signature block or may hand write this statement in the signature block prior to signing the generator certifications.

NOTE: All of the above information *except* the handwritten signature required in item 16 may be preprinted.

* * * * *

TRANSPORTERS

Item 17. Transporter 1 Acknowledgement of Receipt of Materials

Enter the name of the person accepting the waste on behalf of the first transporter. That person must acknowledge acceptance of the waste described on the Manifest by signing and entering the date of receipt.

Item 18. Transporter 2 Acknowledgement of Receipt of Materials

Enter, if applicable, the name of the person accepting the waste on behalf of the second transporter. That person must acknowledge acceptance of the waste described on the Manifest by signing and entering the date of receipt.

NOTE: International Shipments—Transporter Responsibilities.

Exports—Transporters must sign and enter the date the waste left the United States in item 15 of Form 8700–22.

Imports—Shipments of hazardous waste regulated by RCRA and transported into the United States from another country must upon entry be accompanied by the U.S. EPA Uniform Hazardous Waste Manifest. Transporters who transport hazardous waste into the United States from another country are responsible for completing the Manifest (40 CFR 263.10(c)(1)).

Owners and Operators of Treatment, Storage, or Disposal Facilities

Item 19. Discrepancy Indication Space

The authorized representative of the designated (or alternate) facility's owner or operator must note in this space any significant discrepancy between the waste described on the Manifest and the waste actually received at the facility.

Owners and operators of facilities located in unauthorized States (i.e., the U.S. EPA administers the hazardous waste management program) who cannot resolve significant discrepancies within 15 days of receiving the waste must submit to their Regional Administrator (see list below) a letter with a copy of the Manifest at issue describing the discrepancy and attempts to reconcile it (40 CFR 264.72 and 265.72).

Owners and operators of facilities located in authorized States (i.e., those States that have received authorization from the U.S. EPA to administer the hazardous waste program) should contact their State agency for

information on State Discrepancy Report requirements.

EPA Regional Administrators

Regional Administrator, U.S. EPA Region I, J.F. Kennedy Fed. Bldg., Boston, MA 02203
Regional Administrator, U.S. EPA Region II, 26 Federal Plaza, New York, NY 10278
Regional Administrator, U.S. EPA Region III, 6th and Walnut Sts., Philadelphia, PA 19106
Regional Administrator, U.S. EPA Region IV, 345 Courtland St., NE., Atlanta, GA 30365
Regional Administrator, U.S. EPA Region V, 77 West Jackson Blvd., Chicago, IL 60604
Regional Administrator, U.S. EPA Region VI, 1201 Elm Street, Dallas, TX 75270
Regional Administrator, U.S. EPA Region VII, 324 East 11th Street, Kansas City, MO 64106
Regional Administrator, U.S. EPA Region VIII, 1860 Lincoln Street, Denver, CO 80295
Regional Administrator, U.S. EPA Region IX, 215 Freemont Street, San Francisco, CA 94105
Regional Administrator, U.S. EPA Region X, 1200 Sixth Avenue, Seattle, WA 98101

Item 20. Facility Owner or Operator: Certification of Receipt of Hazardous Materials Covered by This Manifest Except as Noted in Item 19

Print or type the name of the person accepting the waste on behalf of the owner or operator of the facility. That person must acknowledge acceptance of the waste described on the Manifest by signing and entering the date of receipt.

Items A–K are not required by Federal regulations for intra- or interstate transportation. However, States may require generators and owners or operators of treatment, storage, or disposal facilities to complete some or all of items A–K as part of State manifest reporting requirements. Generators and owners and operators of treatment, storage, or disposal facilities are advised to contact State officials for guidance on completing the shaded areas of the Manifest.

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST
(Continuation Sheet)

21. Generator's US EPA ID No. | Manifest Document No. | 22. Page | Information in the shaded areas is not required by Federal law.

23. Generator's Name | L. State Manifest Document Number | M. State Generator's ID

24. Transporter ____ Company Name | 25. US EPA ID Number | N. State Transporter's ID | O. Transporter's Phone

26. Transporter ____ Company Name | 27. US EPA ID Number | P. State Transporter's ID | Q. Transporter's Phone

28. US DOT Description *(Including Proper Shipping Name, Hazard Class, and ID Number)*	29. Containers No.	Type	30. Total Quantity	31. Unit Wt./Vol.	R. Waste No.
a.					
b.					
c.					
d.					
e.					
f.					
g.					
h.					
i.					

S. Additional Descriptions for Materials Listed Above | T. Handling Codes for Wastes Listed Above

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter ____ Acknowledgement of Receipt of Materials | Date

Printed/Typed Name | Signature | Month Day Year

34. Transporter ____ Acknowledgement of Receipt of Materials | Date

Printed/Typed Name | Signature | Month Day Year

TRANSPORTER

35. Discrepancy Indication Space

FACILITY

EPA Form 8700-22A (Rev. 9-88) Previous edition is obsolete.

INSTRUCTIONS—CONTINUATION SHEET, U.S. EPA FORM 8700–22A

Read all instructions before completing this form.

This form has been designed for use on a 12-pitch (elite) typewriter; a firm point pen may also be used—press down hard.

This form must be used as a continuation sheet to U.S. EPA Form 8700–22 if:

- More than two transporters are to be used to transport the waste;
- More space is required for the U.S. DOT description and related information in Item 11 of U.S. EPA Form 8700–22.

Federal regulations require generators and transporters of hazardous waste and owners or operators of hazardous waste treatment, storage, or disposal facilities to use the uniform hazardous waste manifest (EPA Form 8700–22) and, if necessary, this continuation sheet (EPA Form 8700–22A) for both inter- and intrastate transportation.

GENERATORS

Item 21. Generator's U.S. EPA ID Number—Manifest Document Number

Enter the generator's U.S. EPA twelve digit identification number and the unique five digit number assigned to this Manifest (e.g., 00001) as it appears in item 1 on the first page of the Manifest.

Item 22. Page ——

Enter the page number of this Continuation Sheet.

Item 23. Generator's Name

Enter the generator's name as it appears in item 3 on the first page of the Manifest.

Item 24. Transporter —— Company Name

If additional transporters are used to transport the waste described on this Manifest, enter the company name of each additional transporter in the order in which they will transport the waste. Enter after the word ''Transporter'' the order of the transporter. For example, Transporter *3* Company Name. Each Continuation Sheet will record the names of two additional transporters.

Item 25. U.S. EPA ID Number

Enter the U.S. EPA twelve digit identification number of the transporter described in item 24.

Item 26. Transporter —— Company Name

If additional transporters are used to transport the waste described on this Manifest, enter the company name of each additional transporter in the order in which they will transport the waste. Enter after the word ''Transporter'' the order of the transporter. For example, Transporter 4 Company Name. Each Continuation Sheet will record the names of two additional transporters.

Item 27. U.S. EPA ID Number

Enter the U.S. EPA twelve digit identification number of the transporter described in item 26.

Item 28. U.S. DOT Description Including Proper Shipping Name, Hazardous Class, and ID Number (UN/NA)

Refer to item 11.

Item 29. Containers (No. and Type)

Refer to item 12.

Item 30. Total Quantity

Refer to item 13.

Item 31. Unit (Wt./Vol.)

Refer to item 14.

Item 32. Special Handling Instructions

Generators may use this space to indicate special transportation, treatment, storage, or disposal information or Bill of Lading information. States are *not* authorized to require additional, new, or different information in this space.

* * * * *

TRANSPORTERS

Item 33. Transporter —— Acknowledgement of Receipt of Materials

Enter the same number of the Transporter as identified in item 24. Enter also the name of the person accepting the waste on behalf of the Transporter (Company Name) identified in item 24. That person must acknowledge acceptance of the waste described on the Manifest by signing and entering the date of receipt.

Item 34. Transporter —— Acknowledgement of Receipt of Materials

Enter the same number as identified in item 26. Enter also the name of the person accepting the waste on behalf of the Transporter (Company Name) identified in item 26. That person must acknowledge acceptance of the waste described on the Manifest by signing and entering the date of receipt.

* * * * *

OWNERS AND OPERATORS OF TREATMENT, STORAGE, OR DISPOSAL FACILITIES

Item 35. Discrepancy Indication Space

Refer to item 19.

Items L–R are not required by Federal regulations for intra- or interstate transportation. However, States may require generators and owners or operators of treatment, storage, or disposal facilities to complete some or all of items L–R as part of State manifest reporting requirements. Generators and owners and operators of treatment, storage, or disposal facilities are advised to contact State officials for guidance on completing the shaded areas of the manifest.

[49 FR 10501, Mar. 20, 1984, as amended at 51 FR 28685, Aug. 8, 1986; 51 FR 35192, Oct. 1, 1986; 53 FR 45091, Nov. 8, 1988; 62 FR 1834, Jan. 14, 1997]

PART 263—STANDARDS APPLICABLE TO TRANSPORTERS OF HAZARDOUS WASTE

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AUTHORITY: 42 U.S.C. 6906, 6912, 6922–6925, 6937, and 6938.

SOURCE: 45 FR 33151, May 19, 1980, unless otherwise noted.

Subpart A—General

§ 263.10 Scope.

(a) These regulations establish standards which apply to persons transporting hazardous waste within the United States if the transportation requires a manifest under 40 CFR part 262.

NOTE: The regulations set forth in parts 262 and 263 establish the responsibilities of generators and transporters of hazardous waste in the handling, transportation, and management of that waste. In these regulations, EPA has expressly adopted certain regulations of the Department of Transportation (DOT) governing the transportation of hazardous materials. These regulations concern, among other things, labeling, marking, placarding, using proper containers, and reporting discharges. EPA has expressly adopted these regulations in order to satisfy its statutory obligation to promulgate regulations which are necessary to protect human health and the environment in the transportation of hazardous waste. EPA's adoption of these DOT regulations ensures consistency with the requirements of DOT and thus avoids the establishment of duplicative or conflicting requirements with respect to these matters. These EPA regulations which apply to both interstate and intrastate transportation of hazardous waste are enforceable by EPA.

DOT has revised its hazardous materials transportation regulations in order to encompass the transportation of hazardous waste and to regulate intrastate, as well as interstate, transportation of hazardous waste. Transporters of hazardous waste are cautioned that DOT's regulations are fully applicable to their activities and enforceable by DOT. These DOT regulations are codified in title 49, Code of Federal Regulations, subchapter C.

EPA and DOT worked together to develop standards for transporters of hazardous waste in order to avoid conflicting requirements. Except for transporters of bulk shipments of hazardous waste by water, a transporter who meets all applicable requirements of 49 CFR parts 171 through 179 and the requirements of 40 CFR 263.11 and 263.31 will be deemed in compliance with this part. Regardless of DOT's action, EPA retains its authority to enforce these regulations.

(b) These regulations do not apply to on-site transportation of hazardous waste by generators or by owners or operators of permitted hazardous waste management facilities.

(c) A transporter of hazardous waste must also comply with 40 CFR part 262, Standards Applicable to Generators of Hazardous Waste, if he:

(1) Transports hazardous waste into the United States from abroad; or

(2) Mixes hazardous wastes of different DOT shipping descriptions by placing them into a single container.

(d) A transporter of hazardous waste subject to the Federal manifesting requirements of 40 CFR part 262, or subject to the waste management standards of 40 CFR part 273, or subject to State requirements analogous to 40 CFR part 273, that is being imported from or exported to any of the countries listed in 40 CFR 262.58(a)(1) for purposes of recovery is subject to this Subpart and to all other relevant requirements of subpart H of 40 CFR part 262, including, but not limited to, 40 CFR 262.84 for tracking documents.

(e) The regulations in this part do not apply to transportation during an explosives or munitions emergency response, conducted in accordance with 40 CFR 264.1(g)(8)(i)(D) or (iv) or 265.1(c)(11)(i)(D) or (iv), and 270.1(c)(3)(i)(D) or (iii).

(f) Section 266.203 of this chapter identifies how the requirements of this part apply to military munitions classified as solid waste under 40 CFR 266.202.

[45 FR 33151, May 19, 1980, as amended at 45 FR 86968, Dec. 31, 1980; 61 FR 16314, Apr. 12, 1996; 62 FR 6651, Feb. 12, 1997]

EFFECTIVE DATE NOTE: At 62 FR 6651, Feb. 12, 1997, paragraph (e) and (f) of §263.10(e) and (f) were added, effective Aug. 12, 1997.

§263.11 EPA identification number.

(a) A transporter must not transport hazardous wastes without having received an EPA identification number from the Administrator.

(b) A transporter who has not received an EPA identification number may obtain one by applying to the Administrator using EPA Form 8700–12. Upon receiving the request, the Administrator will assign an EPA identification number to the transporter.

§263.12 Transfer facility requirements.

A transporter who stores manifested shipments of hazardous waste in containers meeting the requirements of §262.30 at a transfer facility for a period of ten days or less is not subject to regulation under parts 270, 264, 265, and 268 of this chapter with respect to the storage of those wastes.

[45 FR 86968, Dec. 31, 1980, as amended at 48 FR 14294, Apr. 1, 1983; 51 FR 40637, Nov. 7, 1986]

Subpart B—Compliance With the Manifest System and Recordkeeping

§263.20 The manifest system.

(a) A transporter may not accept hazardous waste from a generator unless it is accompanied by a manifest signed in accordance with the provisions of 40 CFR 262.20. In the case of exports other than those subject to subpart H of 40 CFR part 262, a transporter may not accept such waste from a primary exporter or other person if he knows the shipment does not conform to the EPA Acknowledgement of Consent; and unless, in addition to a manifest signed in accordance with the provisions of 40 CFR 262.20, such waste is also accompanied by an EPA Acknowledgement of Consent which, except for shipment by rail, is attached to the manifest (or shipping paper for exports by water (bulk shipment)). For exports of hazardous waste subject to the requirements of subpart H of 40 CFR part 262, a transporter may not accept hazardous waste without a tracking document that includes all information required by 40 CFR 262.84.

(b) Before transporting the hazardous waste, the transporter must sign and date the manifest acknowledging acceptance of the hazardous waste from the generator. The transporter must return a signed copy to the generator before leaving the generator's property.

(c) The transporter must ensure that the manifest accompanies the hazardous waste. In the case of exports, the transporter must ensure that a copy of the EPA Acknowledgment of Consent also accompanies the hazardous waste.

(d) A transporter who delivers a hazardous waste to another transporter or to the designated facility must:

(1) Obtain the date of delivery and the handwritten signature of that transporter or of the owner or operator of the designated facility on the manifest; and

(2) Retain one copy of the manifest in accordance with §263.22; and

(3) Give the remaining copies of the manifest to the accepting transporter or designated facility.

(e) The requirements of paragraphs (c), (d) and (f) of this section do not apply to water (bulk shipment) transporters if:

(1) The hazardous waste is delivered by water (bulk shipment) to the designated facility; and

(2) A shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator certification, and signatures) and, for exports, an EPA Acknowledgment of Consent accompanies the hazardous waste; and

(3) The delivering transporter obtains the date of delivery and handwritten signature of the owner or operator of the designated facility on either the manifest or the shipping paper; and

(4) The person delivering the hazardous waste to the initial water (bulk shipment) transporter obtains the date of delivery and signature of the water (bulk shipment) transporter on the manifest and forwards it to the designated facility; and

(5) A copy of the shipping paper or manifest is retained by each water (bulk shipment) transporter in accordance with § 263.22.

(f) For shipments involving rail transportation, the requirements of paragraphs (c), (d) and (e) do not apply and the following requirements do apply:

(1) When accepting hazardous waste from a non-rail transporter, the initial rail transporter must:

(i) Sign and date the manifest acknowledging acceptance of the hazardous waste;

(ii) Return a signed copy of the manifest to the non-rail transporter;

(iii) Forward at least three copies of the manifest to:

(A) The next non-rail transporter, if any; or,

(B) The designated facility, if the shipment is delivered to that facility by rail; or

(C) The last rail transporter designated to handle the waste in the United States;

(iv) Retain one copy of the manifest and rail shipping paper in accordance with § 263.22.

(2) Rail transporters must ensure that a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator certification, and signatures) and, for exports an EPA Acknowledgment of Consent accompanies the hazardous waste at all times.

NOTE: Intermediate rail transporters are not required to sign either the manifest or shipping paper.

(3) When delivering hazardous waste to the designated facility, a rail transporter must:

(i) Obtain the date of delivery and handwritten signature of the owner or operator of the designated facility on the manifest or the shipping paper (if the manifest has not been received by the facility); and

(ii) Retain a copy of the manifest or signed shipping paper in accordance with § 263.22.

(4) When delivering hazardous waste to a non-rail transporter a rail transporter must:

(i) Obtain the date of delivery and the handwritten signature of the next non-rail transporter on the manifest; and

(ii) Retain a copy of the manifest in accordance with § 263.22.

(5) Before accepting hazardous waste from a rail transporter, a non-rail transporter must sign and date the manifest and provide a copy to the rail transporter.

(g) Transporters who transport hazardous waste out of the United States must:

(1) Indicate on the manifest the date the hazardous waste left the United States; and

(2) Sign the manifest and retain one copy in accordance with § 263.22(c); and

(3) Return a signed copy of the manifest to the generator; and

(4) Give a copy of the manifest to a U.S. Customs official at the point of departure from the United States.

(h) A transporter transporting hazardous waste from a generator who generates greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month need not comply with the requirements of this section or those of § 263.22 provided that:

(1) The waste is being transported pursuant to a reclamation agreement as provided for in § 262.20(e);

(2) The transporter records, on a log or shipping paper, the following information for each shipment:

(i) The name, address, and U.S. EPA Identification Number of the generator of the waste;

(ii) The quantity of waste accepted;

(iii) All DOT-required shipping information;

(iv) The date the waste is accepted; and

(3) The transporter carries this record when transporting waste to the reclamation facility; and

(4) The transporter retains these records for a period of at least three years after termination or expiration of the agreement.

[45 FR 33151, May 19, 1980, as amended at 45 FR 86973, Dec. 31, 1980; 51 FR 10176, Mar. 24, 1986; 51 FR 28685, Aug. 8, 1986; 61 FR 16315, Apr. 12, 1996]

§263.21 Compliance with the manifest.

(a) The transporter must deliver the entire quantity of hazardous waste which he has accepted from a generator or a transporter to:

(1) The designated facility listed on the manifest; or

(2) The alternate designated facility, if the hazardous waste cannot be delivered to the designated facility because an emergency prevents delivery; or

(3) The next designated transporter; or

(4) The place outside the United States designated by the generator.

(b) If the hazardous waste cannot be delivered in accordance with paragraph (a) of this section, the transporter must contact the generator for further directions and must revise the manifest according to the generator's instructions.

§263.22 Recordkeeping.

(a) A transporter of hazardous waste must keep a copy of the manifest signed by the generator, himself, and the next designated transporter or the owner or operator of the designated facility for a period of three years from the date the hazardous waste was accepted by the initial transporter.

(b) For shipments delivered to the designated facility by water (bulk shipment), each water (bulk shipment) transporter must retain a copy of the shipping paper containing all the information required in §263.20(e)(2) for a period of three years from the date the hazardous waste was accepted by the initial transporter.

(c) For shipments of hazardous waste by rail within the United States:

(1) The initial rail transporter must keep a copy of the manifest and shipping paper with all the information required in §263.20(f)(2) for a period of three years from the date the hazardous waste was accepted by the initial transporter; and

(2) The final rail transporter must keep a copy of the signed manifest (or the shipping paper if signed by the designated facility in lieu of the manifest) for a period of three years from the date the hazardous waste was accepted by the initial transporter.

NOTE: Intermediate rail transporters are not required to keep records pursuant to these regulations.

(d) A transporter who transports hazardous waste out of the United States must keep a copy of the manifest indicating that the hazardous waste left the United States for a period of three years from the date the hazardous waste was accepted by the initial transporter.

(e) The periods of retention referred to in this Section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Administrator.

[45 FR 33151, May 19, 1980, as amended at 45 FR 86973, Dec. 31, 1980]

Subpart C—Hazardous Waste Discharges

§263.30 Immediate action.

(a) In the event of a discharge of hazardous waste during transportation, the transporter must take appropriate immediate action to protect human health and the environment (e.g., notify local authorities, dike the discharge area).

(b) If a discharge of hazardous waste occurs during transportation and an official (State or local government or a Federal Agency) acting within the scope of his official responsibilities determines that immediate removal of the waste is necessary to protect human health or the environment, that official may authorize the removal of the waste by transporters who do not have EPA identification numbers and without the preparation of a manifest.

(c) An air, rail, highway, or water transporter who has discharged hazardous waste must:

(1) Give notice, if required by 49 CFR 171.15, to the National Response Center (800–424–8802 or 202–426–2675); and

(2) Report in writing as required by 49 CFR 171.16 to the Director, Office of

Hazardous Materials Regulations, Materials Transportation Bureau, Department of Transportation, Washington, DC 20590.

(d) A water (bulk shipment) transporter who has discharged hazardous waste must give the same notice as required by 33 CFR 153.203 for oil and hazardous substances.

§ 263.31 Discharge clean up.

A transporter must clean up any hazardous waste discharge that occurs during transportation or take such action as may be required or approved by Federal, State, or local officials so that the hazardous waste discharge no longer presents a hazard to human health or the environment.

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

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AUTHORITY: 42 U.S.C. 6905, 6912(a), 6924, and 6925.

SOURCE: 45 FR 33221, May 19, 1980, unless otherwise noted.

Subpart A—General

§264.1 Purpose, scope and applicability.

(a) The purpose of this part is to establish minimum national standards which define the acceptable management of hazardous waste.

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

(c) The requirements of this part apply to a person disposing of hazardous waste by means of ocean disposal subject to a permit issued under the Marine Protection, Research, and Sanctuaries Act only to the extent they are included in a RCRA permit by rule granted to such a person under part 270 of this chapter.

[*Comment:* These part 264 regulations do apply to the treatment or storage of hazardous waste before it is loaded onto an ocean vessel for incineration or disposal at sea.]

(d) The requirements of this part apply to a person disposing of hazardous waste by means of underground injection subject to a permit issued under an Underground Injection Control (UIC) program approved or promulgated under the Safe Drinking Water Act only to the extent they are required by §144.14 of this chapter.

[*Comment:* These part 264 regulations do apply to the above-ground treatment or storage of hazardous waste before it is injected underground.]

(e) The requirements of this part apply to the owner or operator of a POTW which treats, stores, or disposes of hazardous waste only to the extent they are included in a RCRA permit by rule granted to such a person under part 270 of this chapter.

(f) The requirements of this part do not apply to a person who treats, stores, or disposes of hazardous waste in a State with a RCRA hazardous waste program authorized under subpart A of part 271 of this chapter, or in a State authorized under subpart B of part 271 of this chapter for the component or components of Phase II interim authorization which correspond to the person's treatment, storage or disposal processes; except that this part will apply:

(1) As stated in paragraph (d) of this section, if the authorized State RCRA program does not cover disposal of hazardous waste by means of underground injection; and

(2) To a person who treats, stores or disposes of hazardous waste in a State authorized under subpart A of part 271 of this chapter, at a facility which was not covered by standards under this part when the State obtained authorization, and for which EPA promulgates standards under this part after the State is authorized. This paragraph will only apply until the State is authorized to permit such facilities under subpart A of part 271 of this chapter.

(3) To a person who treats, stores, or disposes of hazardous waste in a State which is authorized under subpart A or B of part 271 of this chapter if the State has not been authorized to carry out the requirements and prohibitions applicable to the treatment, storage, or disposal of hazardous waste at his facility which are imposed pursuant to the Hazardous and Solid Waste Amendments of 1984. The requirements and prohibitions that are applicable until a State receives authorization to carry them out include all Federal program requirements identified in §271.1(j).

(g) The requirements of this part do not apply to:

(1) The owner or operator of a facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the only hazardous waste the facility treats, stores, or disposes of is excluded from regulation under this part by §261.5 of this chapter;

(2) The owner or operator of a facility managing recyclable materials described in § 261.6 (a)(2), (3), and (4) of this chapter (except to the extent they are referred to in part 279 or subparts C, D, F, or G of part 266 of this chapter).

(3) A generator accumulating waste on-site in compliance with § 262.34 of this chapter;

(4) A farmer disposing of waste pesticides from his own use in compliance with § 262.70 of this chapter; or

(5) The owner or operator of a totally enclosed treatment facility, as defined in § 260.10.

(6) The owner or operator of an elementary neutralization unit or a wastewater treatment unit as defined in § 260.10 of this chapter, provided that if the owner or operator is diluting hazardous ignitable (D001) wastes (other than the D001 High TOC Subcategory defined in § 268.40 of this chapter, Table Treatment Standards for Hazardous Wastes), or reactive (D003) waste, to remove the characteristic before land disposal, the owner/operator must comply with the requirements set out in § 264.17(b).

(7) [Reserved]

(8)(i) Except as provided in paragraph (g)(8)(ii) of this section, a person engaged in treatment or containment activities during immediate response to any of the following situations:

(A) A discharge of a hazardous waste;

(B) An imminent and substantial threat of a discharge of hazardous waste;

(C) A discharge of a material which, when discharged, becomes a hazardous waste.

(D) An immediate threat to human health, public safety, property, or the environment, from the known or suspected presence of military munitions, other explosive material, or an explosive device, as determined by an explosive or munitions emergency response specialist as defined in 40 CFR 260.10.

(ii) An owner or operator of a facility otherwise regulated by this part must comply with all applicable requirements of subparts C and D.

(iii) Any person who is covered by paragraph (g)(8)(i) of this section and who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of this part and parts 122 through 124 of this chapter for those activities.

(iv) In the case of an explosives or munitions emergency response, if a Federal, State, Tribal or local official acting within the scope of his or her official responsibilities, or an explosives or munitions emergency response specialist, determines that immediate removal of the material or waste is necessary to protect human health or the environment, that official or specialist may authorize the removal of the material or waste by transporters who do not have EPA identification numbers and without the preparation of a manifest. In the case of emergencies involving military munitions, the responding military emergency response specialist's organizational unit must retain records for three years identifying the dates of the response, the responsible persons responding, the type and description of material addressed, and its disposition.

(9) A transporter storing manifested shipments of hazardous waste in containers meeting the requirements of 40 CFR 262.30 at a transfer facility for a period of ten days or less.

(10) The addition of absorbent material to waste in a container (as defined in § 260.10 of this chapter) or the addition of waste to absorbent material in a container, provided that these actions occur at the time waste is first placed in the container; and §§ 264.17(b), 264.171, and 264.172 are complied with.

(11) Universal waste handlers and universal waste transporters (as defined in 40 CFR 260.10) handling the wastes listed below. These handlers are subject to regulation under 40 CFR part 273, when handling the below listed universal wastes.

(i) Batteries as described in 40 CFR 273.2;

(ii) Pesticides as described in 40 CFR 273.3; and

(iii) Thermostats as described in 40 CFR 273.4.

(h) The requirements of this part apply to owners or operators of all facilities which treat, store, or dispose of hazardous wastes referred to in part 268.

(i) Section 266.205 of this chapter identifies when the requirements of this part apply to the storage of military munitions classified as solid waste under §266.202 of this chapter. The treatment and disposal of hazardous waste military munitions are subject to the applicable permitting, procedural, and technical standards in 40 CFR parts 260 through 270.

[45 FR 33221, May 19, 1980, as amended at 45 FR 76075, Nov. 17, 1980; 45 FR 86968, Dec. 31, 1980; 46 FR 27480, May 20, 1981; 47 FR 8306, Feb. 25, 1982; 47 FR 32384, July 26, 1982; 48 FR 2511, Jan. 19, 1983; 48 FR 14294, Apr. 1, 1983; 50 FR 665, Jan. 4, 1985; 50 FR 28746, July 15, 1985; 52 FR 21016, June 4, 1987; 53 FR 27165, July 19, 1988; 58 FR 26424, May 3, 1993; 58 FR 29884, May 24, 1993; 59 FR 48042, Sept. 19, 1994; 60 FR 25542, May 11, 1995; 62 FR 6651, Feb. 12, 1997]

EFFECTIVE DATE NOTE: At 62 FR 6651, Feb. 12, 1997, paragraphs §264.1(g)(8)(i)(D), (g)(8)(iv), and (i) were added, effective Aug. 12, 1997.

§264.2 [Reserved]

§264.3 Relationship to interim status standards.

A facility owner or operator who has fully complied with the requirements for interim status—as defined in section 3005(e) of RCRA and regulations under §270.70 of this chapter—must comply with the regulations specified in part 265 of this chapter in lieu of the regulations in this part, until final administrative disposition of his permit application is made, except as provided under 40 CFR part 264 subpart S.

[*Comment:* As stated in section 3005(a) of RCRA, after the effective date of regulations under that section, i.e., parts 270 and 124 of this chapter, the treatment, storage, or disposal of hazardous waste is prohibited except in accordance with a permit. Section 3005(e) of RCRA provides for the continued operation of an existing facility which meets certain conditions until final administrative disposition of the owner's or operator's permit application is made.]

[45 FR 33221, May 19, 1980, as amended at 48 FR 14294, Apr. 1, 1983; 58 FR 8683, Feb. 16, 1993]

§264.4 Imminent hazard action.

Notwithstanding any other provisions of these regulations, enforcement actions may be brought purusant to section 7003 of RCRA.

Subpart B—General Facility Standards

§264.10 Applicability.

(a) The regulations in this subpart apply to owners and operators of all hazardous waste facilities, except as provided in §264.1 and in paragraph (b) of this section.

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

[46 FR 2848, Jan. 12, 1981, as amended at 52 FR 46963, Dec. 10, 1987]

§264.11 Identification number.

Every facility owner or operator must apply to EPA for an EPA identification number in accordance with the EPA notification procedures (45 FR 12746).

[45 FR 33221, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985]

§264.12 Required notices.

(a)(1) The owner or operator of a facility that has arranged to receive hazardous waste from a foreign source must notify the Regional Administrator in writing at least four weeks in advance of the date the waste is expected to arrive at the facility. Notice of subsequent shipments of the same waste from the same foreign source is not required.

(2) The owner or operator of a recovery facility that has arranged to receive hazardous waste subject to 40 CFR part 262, subpart H must provide a copy of the tracking document bearing all required signatures to the notifier, to the Office of Enforcement and Compliance Assurance, Office of Compliance, Enforcement Planning, Targeting and Data Division (2222A), Environmental Protection Agency, 401 M St., SW., Washington, DC 20460; and to the competent authorities of all other concerned countries within three working days of receipt of the shipment. The original of the signed tracking document must be maintained at the facility for at least three years.

(b) The owner or operator of a facility that receives hazardous waste from an off-site source (except where the

owner or operator is also the generator) must inform the generator in writing that he has the appropriate permit(s) for, and will accept, the waste the generator is shipping. The owner or operator must keep a copy of this written notice as part of the operating record.

(c) Before transferring ownership or operation of a facility during its operating life, or of a disposal facility during the post-closure care period, the owner or operator must notify the new owner or operator in writing of the requirements of this part and part 270 of this chapter.

[*Comment:* An owner's or operator's failure to notify the new owner or operator of the requirements of this part in no way relieves the new owner or operator of his obligation to comply with all applicable requirements.]

[45 FR 33221, May 19, 1980, as amended at 48 FR 14294, Apr. 1, 1983; 50 FR 4514, Jan. 31, 1985; 61 FR 16315, Apr. 12, 1996]

§ 264.13 General waste analysis.

(a)(1) Before an owner or operator treats, stores, or disposes of any hazardous wastes, or nonhazardous wastes if applicable under § 264.113(d), he must obtain a detailed chemical and physical analysis of a representative sample of the wastes. At a minimum, the analysis must contain all the information which must be known to treat, store, or dispose of the waste in accordance with this part and part 268 of this chapter.

(2) The analysis may include data developed under part 261 of this chapter, and existing published or documented data on the hazardous waste or on hazardous waste generated from similar processes.

[*Comment:* For example, the facility's records of analyses performed on the waste before the effective date of these regulations, or studies conducted on hazardous waste generated from processes similar to that which generated the waste to be managed at the facility, may be included in the data base required to comply with paragraph (a)(1) of this section. The owner or operator of an off-site facility may arrange for the generator of the hazardous waste to supply part of the information required by paragraph (a)(1) of this section, except as otherwise specified in 40 CFR 268.7 (b) and (c). If the generator does not supply the information, and the owner or operator chooses to accept a hazardous waste, the owner or operator is responsible for obtaining the information required to comply with this section.]

(3) The analysis must be repeated as necessary to ensure that it is accurate and up to date. At a minimum, the analysis must be repeated:

(i) When the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous wastes, or non-hazardous wastes if applicable under § 264.113(d), has changed; and

(ii) For off-site facilities, when the results of the inspection required in paragraph (a)(4) of this section indicate that the hazardous waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

(4) The owner or operator of an off-site facility must inspect and, if necessary, analyze each hazardous waste movement received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.

(b) The owner or operator must develop and follow a written waste analysis plan which describes the procedures which he will carry out to comply with paragraph (a) of this section. He must keep this plan at the facility. At a minimum, the plan must specify:

(1) The parameters for which each hazardous waste, or non-hazardous waste if applicable under § 264.113(d), will be analyzed and the rationale for the selection of these parameters (i.e., how analysis for these parameters will provide sufficient information on the waste's properties to comply with paragraph (a) of this section);

(2) The test methods which will be used to test for these parameters;

(3) The sampling method which will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using either:

(i) One of the sampling methods described in appendix I of part 261 of this chapter; or

(ii) An equivalent sampling method.

[*Comment:* See § 260.21 of this chapter for related discussion.]

(4) The frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date; and

(5) For off-site facilities, the waste analyses that hazardous waste generators have agreed to supply.

(6) Where applicable, the methods that will be used to meet the additional waste analysis requirements for specific waste management methods as specified in §§264.17, 264.314, 264.341, 264.1034(d), 264.1063(d), 264.1083, and 268.7 of this chapter.

(7) For surface impoundments exempted from land disposal restrictions under §268.4(a), the procedures and schedules for:

(i) The sampling of impoundment contents;

(ii) The analysis of test data; and,

(iii) The annual removal of residues which are not delisted under §260.22 of this chapter or which exhibit a characteristic of hazardous waste and either:

(A) Do not meet applicable treatment standards of part 268, subpart D; or

(B) Where no treatment standards have been established;

(1) Such residues are prohibited from land disposal under §268.32 or RCRA section 3004(d); or

(2) Such residues are prohibited from land disposal under §268.33(f).

(8) For owners and operators seeking an exemption to the air emission standards of subpart CC in accordance with §264.1082—

(i) If direct measurement is used for the waste determination, the procedures and schedules for waste sampling and analysis, and the results of the analysis of test data to verify the exemption.

(ii) If knowledge of the waste is used for the waste determination, any information prepared by the facility owner or operator or by the generator of the hazardous waste, if the waste is received from off-site, that is used as the basis for knowledge of the waste.

(c) For off-site facilities, the waste analysis plan required in paragraph (b) of this section must also specify the procedures which will be used to inspect and, if necessary, analyze each movement of hazardous waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper. At a minimum, the plan must describe:

(1) The procedures which will be used to determine the identity of each movement of waste managed at the facility; and

(2) The sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling.

(3) The procedures that the owner or operator of an off-site landfill receiving containerized hazardous waste will use to determine whether a hazardous waste generator or treater has added a biodegradable sorbent to the waste in the container.

[*Comment:* Part 270 of this chapter requires that the waste analysis plan be submitted with part B of the permit application.]

[45 FR 33221, May 19, 1980, as amended at 46 FR 2848, Jan. 12, 1981; 50 FR 4514, Jan. 31, 1985; 51 FR 40637, Nov. 7, 1986; 53 FR 31211, Aug. 17, 1988; 54 FR 33394, Aug. 14, 1989; 55 FR 22685, June 1, 1990; 55 FR 25494, June 21, 1990; 57 FR 8088, Mar. 6, 1992; 57 FR 54460, Nov. 18, 1992; 59 FR 62926, Dec. 6, 1994; 61 FR 4911, Feb. 9, 1996]

§264.14 Security.

(a) The owner or operator must prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of his facility, *unless* he can demonstrate to the Regional Administrator that:

(1) Physical contact with the waste, structures, or equipment within the active portion of the facility will not injure unknowing or unauthorized persons or livestock which may enter the active portion of a facility; and

(2) Disturbance of the waste or equipment, by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility, will not cause a violation of the requirements of this part.

[*Comment:* Part 270 of this chapter requires that an owner or operator who wishes to make the demonstration referred to above must do so with part B of the permit application.]

(b) Unless the owner or operator has made a successful demonstration under

paragraphs (a) (1) and (2) of this section, a facility must have:

(1) A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the active portion of the facility; or

(2)(i) An artificial or natural barrier (e.g., a fence in good repair or a fence combined with a cliff), which completely surrounds the active portion of the facility; and

(ii) A means to control entry, at all times, through the gates or other entrances to the active portion of the facility (e.g., an attendant, television monitors, locked entrance, or controlled roadway access to the facility).

[*Comment:* The requirements of paragraph (b) of this section are satisfied if the facility or plant within which the active portion is located itself has a surveillance system, or a barrier and a means to control entry, which complies with the requirements of paragraph (b) (1) or (2) of this section.]

(c) Unless the owner or operator has made a successful demonstration under paragraphs (a) (1) and (2) of this section, a sign with the legend, ''Danger—Unauthorized Personnel Keep Out'', must be posted at each entrance to the active portion of a facility, and at other locations, in sufficient numbers to be seen from any approach to this active portion. The legend must be written in English and in any other language predominant in the area surrounding the facility (e.g., facilities in counties bordering the Canadian province of Quebec must post signs in French; facilities in counties bordering Mexico must post signs in Spanish), and must be legible from a distance of at least 25 feet. Existing signs with a legend other than ''Danger—Unauthorized Personnel Keep Out'' may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous.

[*Comment:* See § 264.117(b) for discussion of security requirements at disposal facilities during the post-closure care period.]

[45 FR 33221, May 19, 1980, as amended at 46 FR 2848, Jan. 12, 1981; 48 FR 14294, Apr. 1, 1983; 50 FR 4514, Jan. 31, 1985]

§ 264.15 General inspection requirements.

(a) The owner or operator must inspect his facility for malfunctions and deterioration, operator errors, and discharges which may be causing—or may lead to—(1) release of hazardous waste constituents to the environment or (2) a threat to human health. The owner or operator must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

(b)(1) The owner or operator must develop and follow a written schedule for inspecting monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards.

(2) He must keep this schedule at the facility.

(3) The schedule must identify the types of problems (e.g., malfunctions or deterioration) which are to be looked for during the inspection (e.g., inoperative sump pump, leaking fitting, eroding dike, etc.).

(4) The frequency of inspection may vary for the items on the schedule. However, it should be based on the rate of deterioration of the equipment and the probability of an environmental or human health incident if the deterioration, malfunction, or any operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, must be inspected daily when in use. At a minimum, the inspection schedule must include the items and frequencies called for in §§ 264.174, 264.193, 264.195, 264.226, 264.254, 264.278, 264.303, 264.347, 264.602, 264.1033, 264.1052, 264.1053, 264.1058, 264.1088, and 264.1091(b), where applicable.

[*Comment:* Part 270 of this chapter requires the inspection schedule to be submitted with part B of the permit application. EPA will evaluate the schedule along with the rest of the application to ensure that it adequately protects human health and the environment. As part of this review, EPA may modify or amend the schedule as may be necessary.]

(c) The owner or operator must remedy any deterioration or malfunction

of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action must be taken immediately.

(d) The owner or operator must record inspections in an inspection log or summary. He must keep these records for at least three years from the date of inspection. At a minimum, these records must include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions.

[45 FR 33221, May 19, 1980, as amended at 48 FR 14294, Apr. 1, 1983; 50 FR 4514, Jan. 31, 1985; 57 FR 3486, Jan. 29, 1992; 59 FR 62926, Dec. 6, 1994]

§ 264.16 Personnel training.

(a)(1) Facility personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of this part. The owner or operator must ensure that this program includes all the elements described in the document required under paragraph (d)(3) of this section.

[*Comment:* Part 270 of this chapter requires that owners and operators submit with part B of the RCRA permit application, an outline of the training program used (or to be used) at the facility and a brief description of how the training program is designed to meet actual job tasks.]

(2) This program must be directed by a person trained in hazardous waste management procedures, and must include instruction which teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.

(3) At a minimum, the training program must be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including, where applicable:

(i) Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;

(ii) Key parameters for automatic waste feed cut-off systems;

(iii) Communications or alarm systems;

(iv) Response to fires or explosions;

(v) Response to ground-water contamination incidents; and

(vi) Shutdown of operations.

(b) Facility personnel must successfully complete the program required in paragraph (a) of this section within six months after the effective date of these regulations or six months after the date of their employment or assignment to a facility, or to a new position at a facility, whichever is later. Employees hired after the effective date of these regulations must not work in unsupervised positions until they have completed the training requirements of paragraph (a) of this section.

(c) Facility personnel must take part in an annual review of the initial training required in paragraph (a) of this section.

(d) The owner or operator must maintain the following documents and records at the facility:

(1) The job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job;

(2) A written job description for each position listed under paragraph (d)(1) of this section. This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but must include the requisite skill, education, or other qualifications, and duties of employees assigned to each position;

(3) A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under paragraph (d)(1) of this section;

(4) Records that document that the training or job experience required under paragraphs (a), (b), and (c) of this section has been given to, and completed by, facility personnel.

(e) Training records on current personnel must be kept until closure of the facility; training records on former employees must be kept for at least

three years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

[45 FR 33221, May 19, 1980, as amended at 46 FR 2848, Jan. 12, 1981; 48 FR 14294, Apr. 1, 1983; 50 FR 4514, Jan. 31, 1985]

§ 264.17 General requirements for ignitable, reactive, or incompatible wastes.

(a) The owner or operator must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat. While ignitable or reactive waste is being handled, the owner or operator must confine smoking and open flame to specially designated locations. ''No Smoking'' signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

(b) Where specifically required by other sections of this part, the owner or operator of a facility that treats, stores or disposes ignitable or reactive waste, or mixes incompatible waste or incompatible wastes and other materials, must take precautions to prevent reactons which:

(1) Generate extreme heat or pressure, fire or explosions, or violent reactions;

(2) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;

(3) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;

(4) Damage the structural integrity of the device or facility;

(5) Through other like means threaten human health or the environment.

(c) When required to comply with paragraph (a) or (b) of this section, the owner or operator must document that compliance. This documentation may be based on references to published scientific or engineering literature, data from trial tests (e.g., bench scale or pilot scale tests), waste analyses (as specified in § 264.13), or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions.

[46 FR 2848, Jan. 12, 1981, as amended at 50 FR 4514, Jan. 31, 1985]

§ 264.18 Location standards.

(a) *Seismic considerations.* (1) Portions of new facilities where treatment, storage, or disposal of hazardous waste will be conducted must not be located within 61 meters (200 feet) of a fault which has had displacement in Holocene time.

(2) As used in paragraph (a)(1) of this section:

(i) ''Fault'' means a fracture along which rocks on one side have been displaced with respect to those on the other side.

(ii) ''Displacement'' means the relative movement of any two sides of a fault measured in any direction.

(iii) ''Holocene'' means the most recent epoch of the Quarternary period, extending from the end of the Pleistocene to the present.

[*Comment:* Procedures for demonstrating compliance with this standard in part B of the permit application are specified in § 270.14(b)(11). Facilities which are located in political jurisdictions other than those listed in appendix VI of this part, are assumed to be in compliance with this requirement.]

(b) *Floodplains.* (1) A facility located in a 100-year floodplain must be designed, constructed, operated, and maintained to prevent washout or any hazardous waste by a 100-year flood, *unless* the owner or operator can demonstrate to the Regional Administrator's satisfaction that:

(i) Procedures are in effect which will cause the waste to be removed safely, before flood waters can reach the facility, to a location where the wastes will not be vulnerable to flood waters; or

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

(A) The volume and physical and chemical characteristics of the waste in the facility;

(B) The concentration of hazardous constituents that would potentially affect surface waters as a result of washout;

(C) The impact of such concentrations on the current or potential uses of and water quality standards established for the affected surface waters; and

(D) The impact of hazardous constituents on the sediments of affected surface waters or the soils of the 100-year floodplain that could result from washout.

[*Comment:* The location where wastes are moved must be a facility which is either permitted by EPA under part 270 of this chapter, authorized to manage hazardous waste by a State with a hazardous waste management program authorized under part 271 of this chapter, or in interim status under parts 270 and 265 of this chapter.]

(2) As used in paragraph (b)(1) of this section:

(i) ''100-year floodplain'' means any land area which is subject to a one percent or greater chance of flooding in any given year from any source.

(ii) ''Washout'' means the movement of hazardous waste from the active portion of the facility as a result of flooding.

(iii) ''100-year flood'' means a flood that has a one percent chance of being equalled or exeeded in any given year.

[*Comment:* (1) Requirements pertaining to other Federal laws which affect the location and permitting of facilities are found in §270.3 of this chapter. For details relative to these laws, see EPA's manual for SEA (special environmental area) requirements for hazardous waste facility permits. Though EPA is responsible for complying with these requirements, applicants are advised to consider them in planning the location of a facility to help prevent subsequent project delays.]

(c) *Salt dome formations, salt bed formations, underground mines and caves.* The placement of any noncontainerized or bulk liquid hazardous waste in any salt dome formation, salt bed formation, underground mine or cave is prohibited, except for the Department of Energy Waste Isolation Pilot Project in New Mexico.

[46 FR 2848, Jan. 12, 1981, as amended at 47 FR 32350, July 26, 1982; 48 FR 14294, Apr. 1, 1983; 48 FR 30115, June 30, 1983; 50 FR 4514, Jan. 31, 1985; 50 FR 28746, July 15, 1985; 52 FR 46963, Dec. 10, 1987]

§264.19 Construction quality assurance program.

(a) *CQA program.* (1) A construction quality assurance (CQA) program is required for all surface impoundment, waste pile, and landfill units that are required to comply with §§264.221 (c) and (d), 264.251 (c) and (d), and 264.301 (c) and (d). The program must ensure that the constructed unit meets or exceeds all design criteria and specifications in the permit. The program must be developed and implemented under the direction of a CQA officer who is a registered professional engineer.

(2) The CQA program must address the following physical components, where applicable:

(i) Foundations;

(ii) Dikes;

(iii) Low-permeability soil liners;

(iv) Geomembranes (flexible membrane liners);

(v) Leachate collection and removal systems and leak detection systems; and

(vi) Final cover systems.

(b) *Written CQA plan.* The owner or operator of units subject to the CQA program under paragraph (a) of this section must develop and implement a written CQA plan. The plan must identify steps that will be used to monitor and document the quality of materials and the condition and manner of their installation. The CQA plan must include:

(1) Identification of applicable units, and a description of how they will be constructed.

(2) Identification of key personnel in the development and implementation of the CQA plan, and CQA officer qualifications.

(3) A description of inspection and sampling activities for all unit components identified in paragraph (a)(2) of this section, including observations and tests that will be used before, during, and after construction to ensure that the construction materials and

the installed unit components meet the design specifications. The description must cover: Sampling size and locations; frequency of testing; data evaluation procedures; acceptance and rejection criteria for construction materials; plans for implementing corrective measures; and data or other information to be recorded and retained in the operating record under § 264.73.

(c) *Contents of program.* (1) The CQA program must include observations, inspections, tests, and measurements sufficient to ensure:

(i) Structural stability and integrity of all components of the unit identified in paragraph (a)(2) of this section;

(ii) Proper construction of all components of the liners, leachate collection and removal system, leak detection system, and final cover system, according to permit specifications and good engineering practices, and proper installation of all components (e.g., pipes) according to design specifications;

(iii) Conformity of all materials used with design and other material specifications under §§ 264.221, 264.251, and 264.301.

(2) The CQA program shall include test fills for compacted soil liners, using the same compaction methods as in the full scale unit, to ensure that the liners are constructed to meet the hydraulic conductivity requirements of §§ 264.221(c)(1)(i)(B), 264.251(c)(1)(i)(B), and 264.301(c)(1)(i)(B) in the field. Compliance with the hydraulic conductivity requirements must be verified by using in-situ testing on the constructed test fill. The Regional Administrator may accept an alternative demonstration, in lieu of a test fill, where data are sufficient to show that a constructed soil liner will meet the hydraulic conductivity requirements of §§ 264.221(c)(1)(i)(B), 264.251(c)(1)(i)(B), and 264.301(c)(1)(i)(B) in the field.

(d) *Certification.* Waste shall not be received in a unit subject to § 264.19 until the owner or operator has submitted to the Regional Administrator by certified mail or hand delivery a certification signed by the CQA officer that the approved CQA plan has been successfully carried out and that the unit meets the requirements of §§ 264.221 (c) or (d), 264.251 (c) or (d), or 264.301 (c) or (d); and the procedure in § 270.30(l)(2)(ii) of this chapter has been completed. Documentation supporting the CQA officer's certification must be furnished to the Regional Administrator upon request.

[57 FR 3486, Jan. 29, 1992]

Subpart C—Preparedness and Prevention

§ 264.30 Applicability.

The regulations in this subpart apply to owners and operators of all hazardous waste facilities, except as § 264.1 provides otherwise.

§ 264.31 Design and operation of facility.

Facilities must be designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

§ 264.32 Required equipment.

All facilities must be equipped with the following, *unless* it can be demonstrated to the Regional Administrator that none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below:

(a) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;

(b) A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams;

(c) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and

(d) Water at adequate volume and pressure to supply water hose streams,

or foam producing equipment, or automatic sprinklers, or water spray systems.

[*Comment:* Part 270 of this chapter requires that an owner or operator who wishes to make the demonstration referred to above must do so with part B of the permit application.]

[45 FR 33221, May 19, 1980, as amended at 48 FR 14294, Apr. 1, 1983]

§264.33 Testing and maintenance of equipment.

All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.

§264.34 Access to communications or alarm system.

(a) Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, *unless* the Regional Administrator has ruled that such a device is not required under §264.32.

(b) If there is ever just one employee on the premises while the facility is operating, he must have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance, *unless* the Regional Administrator has ruled that such a device is not required under §264.32.

§264.35 Required aisle space.

The owner or operator must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, *unless* it can be demonstrated to the Regional Administrator that aisle space is not needed for any of these purposes.

[*Comment:* Part 270 of this chapter requires that an owner or operator who wishes to make the demonstration referred to above must do so with part B of the permit application.]

[45 FR 33221, May 19, 1980, as amended at 48 FR 14294, Apr. 1, 1983]

§264.36 [Reserved]

§264.37 Arrangements with local authorities.

(a) The owner or operator must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations:

(1) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evacuation routes;

(2) Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;

(3) Agreements with State emergency response teams, emergency response contractors, and equipment suppliers; and

(4) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

(b) Where State or local authorities decline to enter into such arrangements, the owner or operator must document the refusal in the operating record.

Subpart D—Contingency Plan and Emergency Procedures

§ 264.50 Applicability.

The regulations in this subpart apply to owners and operators of all hazardous waste facilities, except as § 264.1 provides otherwise.

§ 264.51 Purpose and implementation of contingency plan.

(a) Each owner or operator must have a contingency plan for his facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.

(b) The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

[45 FR 33221, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985]

§ 264.52 Content of contingency plan.

(a) The contingency plan must describe the actions facility personnel must take to comply with §§ 264.51 and 264.56 in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility.

(b) If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with part 112 of this chapter, or part 1510 of chapter V, or some other emergency or contingency plan, he need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this part.

(c) The plan must describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and State and local emergency response teams to coordinate emergency services, pursuant to § 264.37.

(d) The plan must list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see § 264.55), and this list must be kept up to date. Where more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates. *For new facilities,* this information must be supplied to the Regional Administrator at the time of certification, rather than at the time of permit application.

(e) The plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(f) The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires).

[45 FR 33221, May 19, 1980, as amended at 46 FR 27480, May 20, 1981; 50 FR 4514, Jan. 31, 1985]

§ 264.53 Copies of contingency plan.

A copy of the contingency plan and all revisions to the plan must be:

(a) Maintained at the facility; and

(b) Submitted to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide emergency services.

[*Comment:* The contingency plan must be submitted to the Regional Administrator with Part B of the permit application under part 270, of this chapter and, after modification or approval, will become a condition of any permit issued.]

[45 FR 33221, May 19, 1980, as amended at 48 FR 30115, June 30, 1983; 50 FR 4514, Jan. 31, 1985]

§ 264.54 Amendment of contingency plan.

The contingency plan must be reviewed, and immediately amended, if necessary, whenever:

(a) The facility permit is revised;

(b) The plan fails in an emergency;

(c) The facility changes—in its design, construction, operation, maintenance, or other circumstances—in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;

(d) The list of emergency coordinators changes; or

(e) The list of emergency equipment changes.

[45 FR 33221, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985; 53 FR 37935, Sept. 28, 1988]

§ 264.55 Emergency coordinator.

At all times, there must be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.

[*Comment:* The emergency coordinator's responsibilities are more fully spelled out in § 264.56. Applicable responsibilities for the emergency coordinator vary, depending on factors such as type and variety of waste(s) handled by the facility, and type and complexity of the facility.]

§ 264.56 Emergency procedures.

(a) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately:

(1) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

(2) Notify appropriate State or local agencies with designated response roles if their help is needed.

(b) Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and areal extent of any released materials. He may do this by observation or review of facility records or manifests, and, if necessary, by chemical analysis.

(c) Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions).

(d) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he must report his findings as follows:

(1) If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and

(2) He must immediately notify either the government official designated as the on-scene coordinator for that geographical area, (in the applicable regional contingency plan under part 1510 of this title) or the National Response Center (using their 24-hour toll free number 800/424–8802). The report must include:

(i) Name and telephone number of reporter;

(ii) Name and address of facility;

(iii) Time and type of incident (e.g., release, fire);

(iv) Name and quantity of material(s) involved, to the extent known;

(v) The extent of injuries, if any; and

(vi) The possible hazards to human health, or the environment, outside the facility.

(e) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing release waste, and removing or isolating containers.

(f) If the facility stops operations in response to a fire, explosion, or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

(g) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

[*Comment:* Unless the owner or operator can demonstrate, in accordance with § 261.3(c) or (d) of this chapter, that the recovered material is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of parts 262, 263, and 264 of this chapter.]

(h) The emergency coordinator must ensure that, in the affected area(s) of the facility:

(1) No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and

(2) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

(i) The owner or operator must notify the Regional Administrator, and appropriate State and local authorities, that the facility is in compliance with paragraph (h) of this section before operations are resumed in the affected area(s) of the facility.

(j) The owner or operator must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, he must submit a written report on the incident to the Regional Administrator. The report must include:

(1) Name, address, and telephone number of the owner or operator;

(2) Name, address, and telephone number of the facility;

(3) Date, time, and type of incident (e.g., fire, explosion);

(4) Name and quantity of material(s) involved;

(5) The extent of injuries, if any;

(6) An assessment of actual or potential hazards to human health or the environment, where this is applicable; and

(7) Estimated quantity and disposition of recovered material that resulted from the incident.

[45 FR 33221, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985]

Subpart E—Manifest System, Recordkeeping, and Reporting

§ 264.70 Applicability.

The regulations in this subpart apply to owners and operators of both on-site and off-site facilities, except as § 264.1 provides otherwise. Sections 264.71, 264.72, and 264.76 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources, and to owners and operators of off-site facilities with respect to waste military munitions exempted from manifest requirements under 40 CFR 266.203(a). Section 264.73(b) only applies to permittees who treat, store, or dispose of hazardous wastes on-site where such wastes were generated.

[62 FR 6652, Feb. 12, 1997]

EFFECTIVE DATE NOTE: At 62 FR 6652, Feb. 12, 1997, § 264.70 was revised, effective Aug. 12, 1997. For the convenience of the user, the superseded text is set forth as follows:

§ 264.70 Applicability.

The regulations in this subpart apply to owners and operators of both on-site and off-site facilities, except as § 264.1 provides otherwise. Sections 264.71, 264.72, and 264.76 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources. Section 264.73(b) only applies to permittees who treat, store, or dispose of hazardous wastes on-site where such wastes were generated.

[50 FR 28746, July 15, 1985]

§264.71 Use of manifest system.

(a) If a facility receives hazardous waste accompanied by a manifest, the owner or operator, or his agent, must:

(1) Sign and date each copy of the manifest to certify that the hazardous waste covered by the manifest was received;

(2) Note any significant discrepancies in the manifest (as defined in §264.72(a)) on each copy of the manifest;

[*Comment:* The Agency does not intend that the owner or operator of a facility whose procedures under §264.13(c) include waste analysis must perform that analysis before signing the manifest and giving it to the transporter. Section 264.72(b), however, requires reporting an unreconciled discrepancy discovered during later analysis.]

(3) Immediately give the transporter at least one copy of the signed manifest;

(4) Within 30 days after the delivery, send a copy of the manifest to the generator; and

(5) Retain at the facility a copy of each manifest for at least three years from the date of delivery.

(b) If a facility receives, from a rail or water (bulk shipment) transporter, hazardous waste which is accompanied by a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator's certification, and signatures), the owner or operator, or his agent, must:

(1) Sign and date each copy of the manifest or shipping paper (if the manifest has not been received) to certify that the hazardous waste covered by the manifest or shipping paper was received;

(2) Note any significant discrepancies (as defined in §264.72(a)) in the manifest or shipping paper (if the manifest has not been received) on each copy of the manifest or shipping paper.

[*Comment:* The Agency does not intend that the owner or operator of a facility whose procedures under §264.13(c) include waste analysis must perform that analysis before signing the shipping paper and giving it to the transporter. Section 264.72(b), however, requires reporting an unreconciled discrepancy discovered during later analysis.]

(3) Immediately give the rail or water (bulk shipment) transporter at least one copy of the manifest or shipping paper (if the manifest has not been received);

(4) Within 30 days after the delivery, send a copy of the signed and dated manifest to the generator; however, if the manifest has not been received within 30 days after delivery, the owner or operator, or his agent, must send a copy of the shipping paper signed and dated to the generator; and

[*Comment:* Section 262.23(c) of this chapter requires the generator to send three copies of the manifest to the facility when hazardous waste is sent by rail or water (bulk shipment).]

(5) Retain at the facility a copy of the manifest and shipping paper (if signed in lieu of the manifest at the time of delivery) for at least three years from the date of delivery.

(c) Whenever a shipment of hazardous waste is initiated from a facility, the owner or operator of that facility must comply with the requirements of part 262 of this chapter.

[*Comment:* The provisions of §262.34 are applicable to the on-site accumulation of hazardous wastes by generators. Therefore, the provisions of §262.34 only apply to owners or operators who are shipping hazardous waste which they generated at that facility.]

(d) Within three working days of the receipt of a shipment subject to 40 CFR part 262, subpart H, the owner or operator of the facility must provide a copy of the tracking document bearing all required signatures to the notifier, to the Office of Enforcement and Compliance Assurance, Office of Compliance, Enforcement Planning, Targeting and Data Division (2222A), Environmental Protection Agency, 401 M St., SW., Washington, DC 20460, and to competent authorities of all other concerned countries. The original copy of the tracking document must be maintained at the facility for at least three years from the date of signature.

[45 FR 33221, May 19, 1980, as amended at 45 FR 86970, 86974, Dec. 31, 1980; 61 FR 16315, Apr. 12, 1996]

§264.72 Manifest discrepancies.

(a) Manifest discrepancies are differences between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity or type of hazardous waste a

facility actually receives. Significant discrepancies in quantity are:

(1) For bulk waste, variations greater than 10 percent in weight, and (2) for batch waste, any variation in piece count, such as a discrepancy of one drum in a truckload. Significant discrepancies in type are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper.

(b) Upon discovering a significant discrepancy, the owner or operator must attempt to reconcile the discrepancy with the waste generator or transporter (e.g., with telephone conversations). If the discrepancy is not resolved within 15 days after receiving the waste, the owner or operator must immediately submit to the Regional Administrator a letter describing the discrepancy and attempts to reconcile it, and a copy of the manifest or shipping paper at issue.

[45 FR 33221, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985]

§ 264.73 Operating record.

(a) The owner or operator must keep a written operating record at his facility.

(b) The following information must be recorded, as it becomes available, and maintained in the operating record until closure of the facility:

(1) A description and the quantity of each hazardous waste received, and the method(s) and date(s) of its treatment, storage, or disposal at the facility as required by appendix I;

(2) The location of each hazardous waste within the facility and the quantity at each location. For disposal facilities, the location and quantity of each hazardous waste must be recorded on a map or diagram of each cell or disposal area. For all facilities, this information must include cross-references to specific manifest document numbers, if the waste was accompanied by a manifest;

[*Comment:* See § 264.119 for related requirements.]

(3) Records and results of waste analyses and waste determinations performed as specified in §§ 264.13, 264.17, 264.314, 264.341, 264.1034, 264.1063, 264.1083, 268.4(a), and 268.7 of this chapter.

(4) Summary reports and details of all incidents that require implementing the contingency plan as specified in § 264.56(j);

(5) Records and results of inspections as required by § 264.15(d) (except these data need be kept only three years);

(6) Monitoring, testing or analytical data, and corrective action where required by subpart F of this part and §§ 264.19, 264.191, 264.193, 264.195, 264.222, 264.223, 264.226, 264.252 through 264.254, 264.276, 264.278, 264.280, 264.302 through 264.304, 264.309, 264.347, 264.602, 264.1034(c) through 264.304(f), 264.1035, 264.1063(d) through 264.1063(i), 264.1064, 264.1088, 264.1089, and 264.1091.

(7) For off-site facilities, notices to generators as specified in § 264.12(b); and

(8) All closure cost estimates under § 264.142, and, for disposal facilities, all post-closure cost estimates under § 264.144.

(9) A certification by the permittee no less often than annually, that the permittee has a program in place to reduce the volume and toxicity of hazardous waste that he generates to the degree determined by the permittee to be economically practicable; and the proposed method of treatment, storage or disposal is that practicable method currently available to the permittee which minimizes the present and future threat to human health and the environment.

(10) Records of the quantities (and date of placement) for each shipment of hazardous waste placed in land disposal units under an extension to the effective date of any land disposal restriction granted pursuant to § 268.5, a petition pursuant to § 268.6, or a certification under § 268.8, and the applicable notice required by a generator under § 268.7(a);

(11) For an off-site treatment facility, a copy of the notice, and the certification and demonstration, if applicable, required by the generator or the owner or operator under § 268.7 or § 268.8;

(12) For an on-site treatment facility, the information contained in the notice (except the manifest number), and

the certification and demonstration if applicable, required by the generator or the owner or operator under §268.7 or §268.8;

(13) For an off-site land disposal facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator of a treatment facility under §§268.7 and 268.8, whichever is applicable; and

(14) For an on-site land disposal facility, the information contained in the notice required by the generator or owner or operator of a treatment facility under §268.7, except for the manifest number, and the certification and demonstration if applicable, required under §268.8, whichever is applicable.

(15) For an off-site storage facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator under §268.7 or §268.8; and

(16) For an on-site storage facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or the owner or operator under §268.7 or §268.8.

[45 FR 33221, May 19, 1980, as amended at 46 FR 2849, Jan. 12, 1981; 46 FR 7678, Jan. 23, 1981; 50 FR 4514, Jan. 31, 1985; 50 FR 18374, Apr. 30, 1985; 50 FR 28746, July 15, 1985; 51 FR 40637, Nov. 7, 1986; 52 FR 21016, June 4, 1987; 53 FR 31211, Aug. 17, 1988; 54 FR 26647, June 23, 1989; 55 FR 25494, June 21, 1990; 57 FR 3487, Jan. 29, 1992; 59 FR 62926, Dec. 6, 1994]

§264.74 Availability, retention, and disposition of records.

(a) All records, including plans, required under this part must be furnished upon request, and made available at all reasonable times for inspection, by any officer, employee, or representative of EPA who is duly designated by the Administrator.

(b) The retention period for all records required under this part is extended automatically during the course of any unresolved enforcement action regarding the facility or as requested by the Administrator.

(c) A copy of records of waste disposal locations and quantities under §264.73(b)(2) must be submitted to the Regional Administrator and local land authority upon closure of the facility.

§264.75 Biennial report.

The owner or operator must prepare and submit a single copy of a biennial report to the Regional Administrator by March 1 of each even numbered year. The biennial report must be submitted on EPA form 8700–13B. The report must cover facility activities during the previous calendar year and must include:

(a) The EPA identification number, name, and address of the facility;

(b) The calendar year covered by the report;

(c) For off-site facilities, the EPA identification number of each hazardous waste generator from which the facility received a hazardous waste during the year; for imported shipments, the report must give the name and address of the foreign generator;

(d) A description and the quantity of each hazardous waste the facility received during the year. For off-site facilities, this information must be listed by EPA identification number of each generator;

(e) The method of treatment, storage, or disposal for each hazardous waste;

(f) [Reserved]

(g) The most recent closure cost estimate under §264.142, and, for disposal facilities, the most recent post-closure cost estimate under §264.144; and

(h) For generators who treat, store, or dispose of hazardous waste on-site, a description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated.

(i) For generators who treat, store, or dispose of hazardous waste on-site, a description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent such information is available for the years prior to 1984.

(j) The certification signed by the owner or operator of the facility or his authorized representative.

[45 FR 33221, May 19, 1980, as amended at 46 FR 2849, Jan. 12, 1981; 48 FR 3982, Jan. 28, 1983; 50 FR 4514, Jan. 31, 1985; 51 FR 28556, Aug. 8, 1986]

§264.76 Unmanifested waste report.

If a facility accepts for treatment, storage, or disposal any hazardous waste from an off-site source without

an accompanying manifest, or without an accompanying shipping paper as described in § 263.20(e)(2) of this chapter, and if the waste is not excluded from the manifest requirement by § 261.5 of this chapter, then the owner or operator must prepare and submit a single copy of a report to the Regional Administrator within fifteen days after receiving the waste. The unmanifested waste report must be submitted on EPA form 8700–13B. Such report must be designated 'Unmanifested Waste Report' and include the following information:

(a) The EPA identification number, name, and address of the facility;

(b) The date the facility received the waste;

(c) The EPA identification number, name, and address of the generator and the transporter, if available;

(d) A description and the quantity of each unmanifested hazardous waste and facility received;

(e) The method of treatment, storage, or disposal for each hazardous waste;

(f) The certification signed by the owner or operator of the facility or his authorized representative; and

(g) A brief explanation of why the waste was unmanifested, if known.

[*Comment:* Small quantities of hazardous waste are excluded from regulation under this part and do not require a manifest. Where a facility receives unmanifested hazardous wastes, the Agency suggests that the owner or operator obtain from each generator a certification that the waste qualifies for exclusion. Otherwise, the Agency suggests that the owner or operator file an unmanifested waste report for the hazardous waste movement.]

[45 FR 33221, May 19, 1980, as amended at 48 FR 3982, Jan. 28, 1983; 50 FR 4514, Jan. 31, 1985]

§ 264.77 Additional reports.

In addition to submitting the biennial reports and unmanifested waste reports described in §§ 264.75 and 264.76, the owner or operator must also report to the Regional Administrator:

(a) Releases, fires, and explosions as specified in § 264.56(j);

(b) Facility closures specified in § 264.115; and

(c) As otherwise required by subparts F, K through N, AA, BB, and CC of this part.

[46 FR 2849, Jan. 12, 1981, as amended at 47 FR 32350, July 26, 1982; 48 FR 3982, Jan. 28, 1983; 55 FR 25494, June 21, 1990; 59 FR 62926, Dec. 6, 1994]

Subpart F—Releases From Solid Waste Management Units

SOURCE: 47 FR 32350, July 26, 1982, unless otherwise noted.

§ 264.90 Applicability.

(a)(1) Except as provided in paragraph (b) of this section, the regulations in this subpart apply to owners or operators of facilities that treat, store or dispose of hazardous waste. The owner or operator must satisfy the requirements identified in paragraph (a)(2) of this section for all wastes (or constituents thereof) contained in solid waste management units at the facility, regardless of the time at which waste was placed in such units.

(2) All solid waste management units must comply with the requirements in § 264.101. A surface impoundment, waste pile, and land treatment unit or landfill that receives hazardous waste after July 26, 1982 (hereinafter referred to as a ''regulated unit'') must comply with the requirements of §§ 264.91 through 264.100 in lieu of § 264.101 for purposes of detecting, characterizing and responding to releases to the uppermost aquifer. The financial responsibility requirements of § 264.101 apply to regulated units.

(b) The owner or operator's regulated unit or units are not subject to regulation for releases into the uppermost aquifer under this subpart if:

(1) The owner or operator is exempted under § 264.1; or

(2) He operates a unit which the Regional Administrator finds:

(i) Is an engineered structure,

(ii) Does not receive or contain liquid waste or waste containing free liquids,

(iii) Is designed and operated to exclude liquid, precipitation, and other run-on and run-off,

(iv) Has both inner and outer layers of containment enclosing the waste,

(v) Has a leak detection system built into each containment layer,

(vi) The owner or operator will provide continuing operation and maintenance of these leak detection systems during the active life of the unit and the closure and post-closure care periods, and

(vii) To a reasonable degree of certainty, will not allow hazardous constituents to migrate beyond the outer containment layer prior to the end of the post-closure care period.

(3) The Regional Administrator finds, pursuant to §264.280(d), that the treatment zone of a land treatment unit that qualifies as a regulated unit does not contain levels of hazardous constituents that are above background levels of those constituents by an amount that is statistically significant, and if an unsaturated zone monitoring program meeting the requirements of §264.278 has not shown a statistically significant increase in hazardous constituents below the treatment zone during the operating life of the unit. An exemption under this paragraph can only relieve an owner or operator of responsibility to meet the requirements of this subpart during the post-closure care period; or

(4) The Regional Administrator finds that there is no potential for migration of liquid from a regulated unit to the uppermost aquifer during the active life of the regulated unit (including the closure period) and the post-closure care period specified under §264.117. This demonstration must be certified by a qualified geologist or geotechnical engineer. In order to provide an adequate margin of safety in the prediction of potential migration of liquid, the owner or operator must base any predictions made under this paragraph on assumptions that maximize the rate of liquid migration.

(5) He designs and operates a pile in compliance with §264.250(c).

(c) The regulations under this subpart apply during the active life of the regulated unit (including the closure period). After closure of the regulated unit, the regulations in this subpart:

(1) Do not apply if all waste, waste residues, contaminated containment system components, and contaminated subsoils are removed or decontaminated at closure;

(2) Apply during the post-closure care period under §264.117 if the owner or operator is conducting a detection monitoring program under §264.98; or

(3) Apply during the compliance period under §264.96 if the owner or operator is conducting a compliance monitoring program under §264.99 or a corrective action program under §264.100.

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

[47 FR 32350, July 26, 1982, as amended at 50 FR 28746, July 15, 1985; 52 FR 46963, Dec. 10, 1987]

§264.91 Required programs.

(a) Owners and operators subject to this subpart must conduct a monitoring and response program as follows:

(1) Whenever hazardous constituents under §264.93 from a regulated unit are detected at a compliance point under §264.95, the owner or operator must institute a compliance monitoring program under §264.99. Detected is defined as statistically significant evidence of contamination as described in §264.98(f);

(2) Whenever the ground-water protection standard under §264.92 is exceeded, the owner or operator must institute a corrective action program under §264.100. Exceeded is defined as statistically significant evidence of increased contamination as described in §264.99(d);

(3) Whenever hazardous constituents under §264.93 from a regulated unit exceed concentration limits under §264.94 in ground water between the compliance point under §264.95 and the downgradient facility property boundary, the owner or operator must institute a corrective action program under §264.100; or

(4) In all other cases, the owner or operator must institute a detection monitoring program under §264.98.

(b) The Regional Administrator will specify in the facility permit the specific elements of the monitoring and response program. The Regional Administrator may include one or more of the programs identified in paragraph (a) of this section in the facility permit as may be necessary to protect human health and the environment and will

specify the circumstances under which each of the programs will be required. In deciding whether to require the owner or operator to be prepared to institute a particular program, the Regional Administrator will consider the potential adverse effects on human health and the environment that might occur before final administrative action on a permit modification application to incorporate such a program could be taken.

[47 FR 32350, July 26, 1982, as amended at 53 FR 39728, Oct. 11, 1988]

§ 264.92 Ground-water protection standard.

The owner or operator must comply with conditions specified in the facility permit that are designed to ensure that hazardous constituents under § 264.93 detected in the ground water from a regulated unit do not exceed the concentration limits under § 264.94 in the uppermost aquifer underlying the waste management area beyond the point of compliance under § 264.95 during the compliance period under § 264.96. The Regional Administrator will establish this ground-water protection standard in the facility permit when hazardous constituents have been detected in the ground water.

[53 FR 39728, Oct. 11, 1988]

§ 264.93 Hazardous constituents.

(a) The Regional Administrator will specify in the facility permit the hazardous constituents to which the ground-water protection standard of § 264.92 applies. Hazardous constituents are constituents identified in appendix VIII of part 261 of this chapter that have been detected in ground water in the uppermost aquifer underlying a regulated unit and that are reasonably expected to be in or derived from waste contained in a regulated unit, unless the Regional Administrator has excluded them under paragraph (b) of this section.

(b) The Regional Administrator will exclude an appendix VIII constituent from the list of hazardous constituents specified in the facility permit if he finds that the constituent is not capable of posing a substantial present or potential hazard to human health or the environment. In deciding whether to grant an exemption, the Regional Administrator will consider the following:

(1) Potential adverse effects on ground-water quality, considering:

(i) The physical and chemical characteristics of the waste in the regulated unit, including its potential for migration;

(ii) The hydrogeological characteristics of the facility and surrounding land;

(iii) The quantity of ground water and the direction of ground-water flow;

(iv) The proximity and withdrawal rates of ground-water users;

(v) The current and future uses of ground water in the area;

(vi) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground-water quality;

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

(viii) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;

(ix) The persistence and permanence of the potential adverse effects; and

(2) Potential adverse effects on hydraulically-connected surface water quality, considering:

(i) The volume and physical and chemical characteristics of the waste in the regulated unit;

(ii) The hydrogeological characteristics of the facility and surrounding land;

(iii) The quantity and quality of ground water, and the direction of ground-water flow;

(iv) The patterns of rainfall in the region;

(v) The proximity of the regulated unit to surface waters;

(vi) The current and future uses of surface waters in the area and any water quality standards established for those surface waters;

(vii) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface-water quality;

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

(ix) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and

(x) The persistence and permanence of the potential adverse effects.

(c) In making any determination under paragraph (b) of this section about the use of ground water in the area around the facility, the Regional Administrator will consider any identification of underground sources of drinking water and exempted aquifers made under §144.8 of this chapter.

[47 FR 32350, July 26, 1982, as amended at 48 FR 14294, Apr. 1, 1983]

§264.94 Concentration limits.

(a) The Regional Administrator will specify in the facility permit concentration limits in the ground water for hazardous constituents established under §264.93. The concentration of a hazardous constituent:

(1) Must not exceed the background level of that constituent in the ground water at the time that limit is specified in the permit; or

(2) For any of the constituents listed in Table 1, must not exceed the respective value given in that table if the background level of the constituent is below the value given in Table 1; or

TABLE 1—MAXIMUM CONCENTRATION OF CONSTITUENTS FOR GROUND-WATER PROTECTION

Constituent	Maximum concentration [1]
Arsenic	0.05
Barium	1.0
Cadmium	0.01
Chromium	0.05
Lead	0.05
Mercury	0.002
Selenium	0.01
Silver	0.05
Endrin (1,2,3,4,10,10-hexachloro-1,7-epoxy-1,4,4a,5,6,7,8,9a-octahydro-1, 4-endo, endo-5,8-dimethano naphthalene)	0.0002
Lindane (1,2,3,4,5,6-hexachlorocyclohexane, gamma isomer)	0.004
Methoxychlor (1,1,1-Trichloro-2,2-bis (p-methoxyphenylethane)	0.1
Toxaphene ($C_{10}H_{10}Cl_6$, Technical chlorinated camphene, 67–69 percent chlorine)	0.005
2,4-D (2,4-Dichlorophenoxyacetic acid)	0.1
2,4,5-TP Silvex (2,4,5-Trichlorophenoxypropionic acid)	0.01

[1] Milligrams per liter.

(3) Must not exceed an alternate limit established by the Regional Administrator under paragraph (b) of this section.

(b) The Regional Administrator will establish an alternate concentration limit for a hazardous constituent if he finds that the constituent will not pose a substantial present or potential hazard to human health or the environment as long as the alternate concentration limit is not exceeded. In establishing alternate concentration limits, the Regional Administrator will consider the following factors:

(1) Potential adverse effects on ground-water quality, considering:

(i) The physical and chemical characteristics of the waste in the regulated unit, including its potential for migration;

(ii) The hydrogeological characteristics of the facility and surrounding land;

(iii) The quantity of ground water and the direction of ground-water flow;

(iv) The proximity and withdrawal rates of ground-water users;

(v) The current and future uses of ground water in the area;

(vi) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground-water quality;

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

(viii) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;

(ix) The persistence and permanence of the potential adverse effects; and

(2) Potential adverse effects on hydraulically-connected surface-water quality, considering:

(i) The volume and physical and chemical characteristics of the waste in the regulated unit;

(ii) The hydrogeological characteristics of the facility and surrounding land;

(iii) The quantity and quality of ground water, and the direction of ground-water flow;

(iv) The patterns of rainfall in the region;

(v) The proximity of the regulated unit to surface waters;

(vi) The current and future uses of surface waters in the area and any water quality standards established for those surface waters;

(vii) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality;

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

(ix) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and

(x) The persistence and permanence of the potential adverse effects.

(c) In making any determination under paragraph (b) of this section about the use of ground water in the area around the facility the Regional Administrator will consider any identification of underground sources of drinking water and exempted aquifers made under § 144.8 of this chapter.

[47 FR 32350, July 26, 1982, as amended at 48 FR 14294, Apr. 1, 1983]

§ 264.95 Point of compliance.

(a) The Regional Administrator will specify in the facility permit the point of compliance at which the ground-water protection standard of § 264.92 applies and at which monitoring must be conducted. The point of compliance is a vertical surface located at the hydraulically downgradient limit of the waste management area that extends down into the uppermost aquifer underlying the regulated units.

(b) The waste management area is the limit projected in the horizontal plane of the area on which waste will be placed during the active life of a regulated unit.

(1) The waste management area includes horizontal space taken up by any liner, dike, or other barrier designed to contain waste in a regulated unit.

(2) If the facility contains more than one regulated unit, the waste management area is described by an imaginary line circumscribing the several regulated units.

§ 264.96 Compliance period.

(a) The Regional Administrator will specify in the facility permit the compliance period during which the ground-water protection standard of § 264.92 applies. The compliance period is the number of years equal to the active life of the waste management area (including any waste management activity prior to permitting, and the closure period.)

(b) The compliance period begins when the owner or operator initiates a compliance monitoring program meeting the requirements of § 264.99.

(c) If the owner or operator is engaged in a corrective action program at the end of the compliance period specified in paragraph (a) of this section, the compliance period is extended until the owner or operator can demonstrate that the ground-water protection standard of § 264.92 has not been exceeded for a period of three consecutive years.

§ 264.97 General ground-water monitoring requirements.

The owner or operator must comply with the following requirements for any ground-water monitoring program developed to satisfy § 264.98, § 264.99, or § 264.100:

(a) The ground-water monitoring system must consist of a sufficient number of wells, installed at appropriate locations and depths to yield ground-water samples from the uppermost aquifer that:

(1) Represent the quality of background water that has not been affected by leakage from a regulated unit;

(i) A determination of background quality may include sampling of wells that are not hydraulically upgradient of the waste management area where:

(A) Hydrogeologic conditions do not allow the owner or operator to determine what wells are hydraulically upgradient; and

(B) Sampling at other wells will provide an indication of background ground-water quality that is representative or more representative than that provided by the upgradient wells; and

(2) Represent the quality of ground water passing the point of compliance.

(3) Allow for the detection of contamination when hazardous waste or hazardous constituents have migrated

from the waste management area to the uppermost aquifer.

(b) If a facility contains more than one regulated unit, separate ground-water monitoring systems are not required for each regulated unit provided that provisions for sampling the ground water in the uppermost aquifer will enable detection and measurement at the compliance point of hazardous constituents from the regulated units that have entered the ground water in the uppermost aquifer.

(c) All monitoring wells must be cased in a manner that maintains the integrity of the monitoring-well bore hole. This casing must be screened or perforated and packed with gravel or sand, where necessary, to enable collection of ground-water samples. The annular space (i.e., the space between the bore hole and well casing) above the sampling depth must be sealed to prevent contamination of samples and the ground water.

(d) The ground-water monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide a reliable indication of ground-water quality below the waste management area. At a minimum the program must include procedures and techniques for:

(1) Sample collection;

(2) Sample preservation and shipment;

(3) Analytical procedures; and

(4) Chain of custody control.

(e) The ground-water monitoring program must include sampling and analytical methods that are appropriate for ground-water sampling and that accurately measure hazardous constituents in ground-water samples.

(f) The ground-water monitoring program must include a determination of the ground-water surface elevation each time ground water is sampled.

(g) In detection monitoring or where appropriate in compliance monitoring, data on each hazardous constituent specified in the permit will be collected from background wells and wells at the compliance point(s). The number and kinds of samples collected to establish background shall be appropriate for the form of statistical test employed, following generally accepted statistical principles. The sample size shall be as large as necessary to ensure with reasonable confidence that a contaminant release to ground water from a facility will be detected. The owner or operator will determine an appropriate sampling procedure and interval for each hazardous constituent listed in the facility permit which shall be specified in the unit permit upon approval by the Regional Administrator. This sampling procedure shall be:

(1) A sequence of at least four samples, taken at an interval that assures, to the greatest extent technically feasible, that an independent sample is obtained, by reference to the uppermost aquifer's effective porosity, hydraulic conductivity, and hydraulic gradient, and the fate and transport characteristics of the potential contaminants, or

(2) an alternate sampling procedure proposed by the owner or operator and approved by the Regional Administrator.

(h) The owner or operator will specify one of the following statistical methods to be used in evaluating ground-water monitoring data for each hazardous constituent which, upon approval by the Regional Administrator, will be specified in the unit permit. The statistical test chosen shall be conducted separately for each hazardous constituent in each well. Where practical quantification limits (pql's) are used in any of the following statistical procedures to comply with §264.97(i)(5), the pql must be proposed by the owner or operator and approved by the Regional Administrator. Use of any of the following statistical methods must be protective of human health and the environment and must comply with the performance standards outlined in paragraph (i) of this section.

(1) A parametric analysis of variance (ANOVA) followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent.

(2) An analysis of variance (ANOVA) based on ranks followed by multiple

comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent.

(3) A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit.

(4) A control chart approach that gives control limits for each constituent.

(5) Another statistical test method submitted by the owner or operator and approved by the Regional Administrator.

(i) Any statistical method chosen under § 264.97(h) for specification in the unit permit shall comply with the following performance standards, as appropriate:

(1) The statistical method used to evaluate ground-water monitoring data shall be appropriate for the distribution of chemical parameters or hazardous constituents. If the distribution of the chemical parameters or hazardous constituents is shown by the owner or operator to be inappropriate for a normal theory test, then the data should be transformed or a distribution-free theory test should be used. If the distributions for the constituents differ, more than one statistical method may be needed.

(2) If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations or a ground-water protection standard, the test shall be done at a Type I error level no less than 0.01 for each testing period. If a multiple comparisons procedure is used, the Type I experimentwise error rate for each testing period shall be no less than 0.05; however, the Type I error of no less than 0.01 for individual well comparisons must be maintained. This performance standard does not apply to tolerance intervals, prediction intervals or control charts.

(3) If a control chart approach is used to evaluate ground-water monitoring data, the specific type of control chart and its associated parameter values shall be proposed by the owner or operator and approved by the Regional Administrator if he or she finds it to be protective of human health and the environment.

(4) If a tolerance interval or a prediction interval is used to evaluate groundwater monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, shall be proposed by the owner or operator and approved by the Regional Administrator if he or she finds these parameters to be protective of human health and the environment. These parameters will be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(5) The statistical method shall account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment. Any practical quantification limit (pql) approved by the Regional Administrator under § 264.97(h) that is used in the statistical method shall be the lowest concentration level tha can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.

(6) If necessary, the statistical method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

(j) Ground-water monitoring data collected in accordance with paragraph (g) of this section including actual levels of constituents must be maintained in the facility operating record. The Regional Administrator will specify in the permit when the data must be submitted for review.

[47 FR 32350, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985; 53 FR 39728, Oct. 11, 1988]

§264.98 Detection monitoring program.

An owner or operator required to establish a detection monitoring program under this subpart must, at a minimum, discharge the following responsibilities:

(a) The owner or operator must monitor for indicator parameters (e.g., specific conductance, total organic carbon, or total organic halogen), waste constituents, or reaction products that provide a reliable indication of the presence of hazardous constituents in ground water. The Regional Administrator will specify the parameters or constituents to be monitored in the facility permit, after considering the following factors:

(1) The types, quantities, and concentrations of constituents in wastes managed at the regulated unit;

(2) The mobility, stability, and persistance of waste constituents or their reaction products in the unsaturated zone beneath the waste management area;

(3) The detectability of indicator parameters, waste constituents, and reaction products in ground water; and

(4) The concentrations or values and coefficients of variation of proposed monitoring parameters or constituents in the ground-water background.

(b) The owner or operator must install a ground-water monitoring system at the compliance point as specified under §264.95. The ground-water monitoring system must comply with §264.97(a)(2), (b), and (c).

(c) The owner or operator must conduct a ground-water monitoring program for each chemical parameter and hazardous constituent specified in the permit pursuant to paragraph (a) of this section in accordance with §264.97(g). The owner or operator must maintain a record of ground-water analytical data as measured and in a form necessary for the determination of statistical significance under §264.97(h).

(d) The Regional Administrator will specify the frequencies for collecting samples and conducting statistical tests to determine whether there is statistically significant evidence of contamination for any parameter or hazardous constituent specified in the permit under paragraph (a) of this section in accordance with §264.97(g). A sequence of at least four samples from each well (background and compliance wells) must be collected at least semi-annually during detection monitoring.

(e) The owner or operator must determine the ground-water flow rate and direction in the uppermost aquifer at least annually.

(f) The owner or operator must determine whether there is statistically significant evidence of contamination for any chemical parameter of hazardous constituent specified in the permit pursuant to paragraph (a) of this section at a frequency specified under paragraph (d) of this section.

(1) In determining whether statistically significant evidence of contamination exists, the owner or operator must use the method(s) specified in the permit under §264.97(h). These method(s) must compare data collected at the compliance point(s) to the background ground-water quality data.

(2) The owner or operator must determine whether there is statistically significant evidence of contamination at each monitoring well as the compliance point within a reasonable period of time after completion of sampling. The Regional Administrator will specify in the facility permit what period of time is reasonable, after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of ground-water samples.

(g) If the owner or operator determines pursuant to paragraph (f) of this section that there is statistically significant evidence of contamination for chemical parameters or hazardous constituents specified pursuant to paragraph (a) of this section at any monitoring well at the compliance point, he or she must:

(1) Notify the Regional Administrator of this finding in writing within seven days. The notification must indicate what chemical parameters or hazardous constituents have shown statistically significant evidence of contamination;

(2) Immediately sample the ground water in all monitoring wells and determine whether constituents in the list of appendix IX of part 264 are

present, and if so, in what concentration.

(3) For any appendix IX compounds found in the analysis pursuant to paragraph (g)(2) of this section, the owner or operator may resample within one month and repeat the analysis for those compounds detected. If the results of the second analysis confirm the initial results, then these constituents will form the basis for compliance monitoring. If the owner or operator does not resample for the compounds found pursuant to paragraph (g)(2) of this section, the hazardous constituents found during this initial appendix IX analysis will form the basis for compliance monitoring.

(4) Within 90 days, submit to the Regional Administrator an application for a permit modification to establish a compliance monitoring program meeting the requirements of § 264.99. The application must include the following information:

(i) An identification of the concentration or any appendix IX constituent detected in the ground water at each monitoring well at the compliance point;

(ii) Any proposed changes to the ground-water monitoring system at the facility necessary to meet the requirements of § 264.99;

(iii) Any proposed additions or changes to the monitoring frequency, sampling and analysis procedures or methods, or statistical methods used at the facility necessary to meet the requirements of § 264.99;

(iv) For each hazardous constituent detected at the compliance point, a proposed concentration limit under § 264.94(a) (1) or (2), or a notice of intent to seek an alternate concentration limit under § 264.94(b); and

(5) Within 180 days, submit to the Regional Administrator:

(i) All data necessary to justify an alternate concentration limit sought under § 264.94(b); and

(ii) An engineering feasibility plan for a corrective action program necessary to meet the requirement of § 264.100, unless:

(A) All hazardous constituents identified under paragraph (g)(2) of this section are listed in Table 1 of § 264.94 and their concentrations do not exceed the respective values given in that Table; or

(B) The owner or operator has sought an alternate concentration limit under § 264.94(b) for every hazardous constituent identified under paragraph (g)(2) of this section.

(6) If the owner or operator determines, pursuant to paragraph (f) of this section, that there is a statistically significant difference for chemical parameters or hazardous constituents specified pursuant to paragraph (a) of this section at any monitoring well at the compliance point, he or she may demonstrate that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis, or statistical evaluation or natural variation in the ground water. The owner operator may make a demonstration under this paragraph in addition to, or in lieu of, submitting a permit modification application under paragraph (g)(4) of this section; however, the owner or operator is not relieved of the requirement to submit a permit modification application within the time specified in paragraph (g)(4) of this section unless the demonstration made under this paragraph successfully shows that a source other than a regulated unit caused the increase, or that the increase resulted from error in sampling, analysis, or evaluation. In making a demonstration under this paragraph, the owner or operator must:

(i) Notify the Regional Administrator in writing within seven days of determining statistically significant evidence of contamination at the compliance point that he intends to make a demonstration under this paragraph;

(ii) Within 90 days, submit a report to the Regional Administrator which demonstrates that a source other than a regulated unit caused the contamination or that the contamination resulted from error in sampling, analysis, or evaluation;

(iii) Within 90 days, submit to the Regional Administrator an application for a permit modification to make any appropriate changes to the detection monitoring program facility; and

(iv) Continue to monitor in accordance with the detection monitoring program established under this section.

(h) If the owner or operator determines that the detection monitoring program no longer satisfies the requirements of this section, he or she must, within 90 days, submit an application for a permit modification to make any appropriate changes to the program.

[47 FR 32350, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985; 52 FR 25946, July 9, 1987; 53 FR 39729, Oct. 11, 1988]

§264.99 Compliance monitoring program.

An owner or operator required to establish a compliance monitoring program under this subpart must, at a minimum, discharge the following responsibilities:

(a) The owner or operator must monitor the ground water to determine whether regulated units are in compliance with the ground-water protection standard under §264.92. The Regional Administrator will specify the ground-water protection standard in the facility permit, including:

(1) A list of the hazardous constituents identified under §264.93;

(2) Concentration limits under §264.94 for each of those hazardous constituents;

(3) The compliance point under §264.95; and

(4) The compliance period under §264.96.

(b) The owner or operator must install a ground-water monitoring system at the compliance point as specified under §264.95. The ground-water monitoring system must comply with §264.97(a)(2), (b), and (c).

(c) The Regional Administrator will specify the sampling procedures and statistical methods appropriate for the constituents and the facility, consistent with §264.97 (g) and (h).

(1) The owner or operator must conduct a sampling program for each chemical parameter or hazardous constituent in accordance with §264.97(g).

(2) The owner or operator must record ground-water analytical data as measured and in form necessary for the determination of statistical significance under §264.97(h) for the compliance period of the facility.

(d) The owner or operator must determine whether there is statistically significant evidence of increased contamination for any chemical parameter or hazardous constituent specified in the permit, pursuant to paragraph (a) of this section, at a frequency specified under paragraph (f) under this section.

(1) In determining whether statistically significant evidence of increased contamination exists, the owner or operator must use the method(s) specified in the permit under §264.97(h). The methods(s) must compare data collected at the compliance point(s) to a concentration limit developed in accordance with §264.94.

(2) The owner or operator must determine whether there is statistically significant evidence of increased contamination at each monitoring well at the compliance point within a reasonable time period after completion of sampling. The Regional Administrator will specify that time period in the facility permit, after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of ground-water samples.

(e) The owner or operator must determine the ground-water flow rate and direction in the uppermost aquifer at least annually.

(f) The Regional Administrator will specify the frequencies for collecting samples and conducting statistical tests to determine statistically significant evidence of increased contamination in accordance with §264.97(g). A sequence of at least four samples from each well (background and compliance wells) must be collected at least semi-annually during the compliance period of the facility.

(g) The owner or operator must analyze samples from all monitoring wells at the compliance point for all constituents contained in appendix IX of part 264 at least annually to determine whether additional hazardous constituents are present in the uppermost aquifer and, if so, at what concentration, pursuant to procedures in §264.98(f). If the owner or operator finds appendix IX constituents in the ground water that are not already identified in the permit as monitoring constituents, the owner or operator may resample within one month and repeat the appendix IX

analysis. If the second analysis confirms the presence of new constituents, the owner or operator must report the concentration of these additional constituents to the Regional Administrator within seven days after the completion of the second analysis and add them to the monitoring list. If the owner or operator chooses not to resample, then he or she must report the concentrations of these additional constituents to the Regional Administrator within seven days after completion of the intiial analysis and add them to the monitoring list.

(h) If the owner or operator determines pursuant to paragraph (d) of this section that any concentration limits under § 264.94 are being exceeded at any monitoring well at the point of compliance he or she must:

(1) Notify the Regional Administrator of this finding in writing within seven days. The notification must indicate what concentration limits have been exceeded.

(2) Submit to the Regional Administrator an application for a permit modification to establish a corrective action program meeting the requirements of § 264.100 within 180 days, or within 90 days if an engineering feasibility study has been previously submitted to the Regional Administrator under § 264.98(h)(5). The application must at a minimum include the following information:

(i) A detailed description of corrective actions that will achieve compliance with the ground–water protection standard specified in the permit under paragraph (a) of this section; and

(ii) A plan for a ground-water monitoring program that will demonstrate the effectiveness of the corrective action. Such a ground-water monitoring program may be based on a compliance monitoring program developed to meet the requirements of this section.

(i) If the owner or operator determines, pursuant to paragraph (d) of this section, that the ground-water concentration limits under this section are being exceeded at any monitoring well at the point of compliance, he or she may demonstrate that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis, or statistical evaluation or natural variation in the ground water. In making a demonstration under this paragraph, the owner or operator must:

(1) Notify the Regional Administrator in writing within seven days that he intends to make a demonstration under this paragraph;

(2) Within 90 days, submit a report to the Regional Administrator which demonstrates that a source other than a regulated unit caused the standard to be exceeded or that the apparent noncompliance with the standards resulted from error in sampling, analysis, or evaluation;

(3) Within 90 days, submit to the Regional Administrator an application for a permit modification to make any appropriate changes to the compliance monitoring program at the facility; and

(4) Continue to monitor in accord with the compliance monitoring program established under this section.

(j) If the owner or operator determines that the compliance monitoring program no longer satisfies the requirements of this section, he must, within 90 days, submit an application for a permit modification to make any appropriate changes to the program.

[47 FR 32350, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985; 52 FR 25946, July 9, 1987; 53 FR 39730, Oct. 11, 1988]

§ 264.100 Corrective action program.

An owner or operator required to establish a corrective action program under this subpart must, at a minimum, discharge the following responsibilities:

(a) The owner or operator must take corrective action to ensure that regulated units are in compliance with the ground-water protection standard under § 264.92. The Regional Administrator will specify the ground-water protection standard in the facility permit, including:

(1) A list of the hazardous constituents identified under § 264.93;

(2) Concentration limits under § 264.94 for each of those hazardous constituents;

(3) The compliance point under § 264.95; and

(4) The compliance period under § 264.96.

(b) The owner or operator must implement a corrective action program that prevents hazardous constituents from exceeding their respective concentration limits at the compliance point by removing the hazardous waste constituents or treating them in place. The permit will specify the specific measures that will be taken.

(c) The owner or operator must begin corrective action within a reasonable time period after the ground-water protection standard is exceeded. The Regional Administrator will specify that time period in the facility permit. If a facility permit includes a corrective action program in addition to a compliance monitoring program, the permit will specify when the corrective action will begin and such a requirement will operate in lieu of § 264.99(i)(2).

(d) In conjunction with a corrective action program, the owner or operator must establish and implement a ground-water monitoring program to demonstrate the effectiveness of the corrective action program. Such a monitoring program may be based on the requirements for a compliance monitoring program under § 264.99 and must be as effective as that program in determining compliance with the ground-water protection standard under § 264.92 and in determining the success of a corrective action program under paragraph (e) of this section, where appropriate.

(e) In addition to the other requirements of this section, the owner or operator must conduct a corrective action program to remove or treat in place any hazardous constituents under § 264.93 that exceed concentration limits under § 264.94 in groundwater:

(1) Between the compliance point under § 264.95 and the downgradient property boundary; and

(2) Beyond the facility boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates to the satisfaction of the Regional Administrator that, despite the owner's or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake such action. The owner/operator is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases will be determined on a case-by-case basis.

(3) Corrective action measures under this paragraph must be initiated and completed within a reasonable period of time considering the extent of contamination.

(4) Corrective action measures under this paragraph may be terminated once the concentration of hazardous constituents under § 264.93 is reduced to levels below their respective concentration limits under § 264.94.

(f) The owner or operator must continue corrective action measures during the compliance period to the extent necessary to ensure that the ground-water protection standard is not exceeded. If the owner or operator is conducting corrective action at the end of the compliance period, he must continue that corrective action for as long as necessary to achieve compliance with the ground-water protection standard. The owner or operator may terminate corrective action measures taken beyond the period equal to the active life of the waste management area (including the closure period) if he can demonstrate, based on data from the ground-water monitoring program under paragraph (d) of this section, that the ground-water protection standard of § 264.92 has not been exceeded for a period of three consecutive years.

(g) The owner or operator must report in writing to the Regional Administrator on the effectiveness of the corrective action program. The owner or operator must submit these reports semi-annually.

(h) If the owner or operator determines that the corrective action program no longer satisfies the requirements of this section, he must, within 90 days, submit an application for a permit modification to make any appropriate changes to the program.

[47 FR 32350, July 26, 1985, as amended at 50 FR 4514, Jan. 31, 1985; 52 FR 45798, Dec. 1, 1987]

§ 264.101 Corrective action for solid waste management units.

(a) The owner or operator of a facility seeking a permit for the treatment, storage or disposal of hazardous waste must institute corrective action as necessary to protect human health and the environment for all releases of hazardous waste or constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in such unit.

(b) Corrective action will be specified in the permit in accordance with this section and subpart S of this part. The permit will contain schedules of compliance for such corrective action (where such corrective action cannot be completed prior to issuance of the permit) and assurances of financial responsibility for completing such corrective action.

(c) The owner or operator must implement corrective actions beyond the facility property boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates to the satisfaction of the Regional Administrator that, despite the owner's or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake such actions. The owner/operator is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases will be determined on a case-by-case basis. Assurances of financial responsibility for such corrective action must be provided.

[50 FR 28747, July 15, 1985, as amended at 52 FR 45798, Dec. 1, 1987; 58 FR 8683, Feb. 16, 1993]

Subpart G—Closure and Post-Closure

SOURCE: 51 FR 16444, May 2, 1986, unless otherwise noted.

§ 264.110 Applicability.

Except as § 264.1 provides otherwise:

(a) Sections 264.111 through 264.115 (which concern closure) apply to the owners and operators of all hazardous waste management facilities; and

(b) Sections 264.116 through 264.120 (which concern post-closure care) apply to the owners and operators of:

(1) All hazardous waste disposal facilities;

(2) Waste piles and surface impoundments from which the owner or operator intends to remove the wastes at closure to the extent that these sections are made applicable to such facilities in § 264.228 or § 264.258;

(3) Tank systems that are required under § 264.197 to meet the requirements for landfills; and

(4) Containment buildings that are required under § 264.1102 to meet the requirement for landfills.

[51 FR 16444, May 2, 1986, as amended at 51 FR 25472, July 14, 1986; 57 FR 37264, Aug. 18, 1992]

§ 264.111 Closure performance standard.

The owner or operator must close the facility in a manner that:

(a) Minimizes the need for further maintenance; and

(b) Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere; and

(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, 264.601 through 264.603, and 264.1102.

[51 FR 16444, May 2, 1986, as amended at 52 FR 46963, Dec. 10, 1987; 57 FR 37265, Aug. 18, 1992]

§ 264.112 Closure plan; amendment of plan.

(a) *Written plan.* (1) The owner or operator of a hazardous waste management facility must have a written closure plan. In addition, certain surface impoundments and waste piles from which the owner or operator intends to remove or decontaminate the hazardous waste at partial or final closure are required by §§ 264.228(c)(1)(i) and 264.258(c)(1)(i) to have contingent closure plans. The plan must be submitted

with the permit application, in accordance with § 270.14(b)(13) of this chapter, and approved by the Regional Administrator as part of the permit issuance procedures under part 124 of this chapter. In accordance with § 270.32 of this chapter, the approved closure plan will become a condition of any RCRA permit.

(2) The Director'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 subpart F of this part, §§ 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, 264.601, and 264.1102. 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 Director upon request, including requests by mail.

(b) *Content of plan.* The plan must identify steps necessary to perform partial and/or final closure of the facility at any point during its active life. The closure plan must include, at least:

(1) A description of how each hazardous waste management unit at the facility will be closed in accordance with § 264.111;

(2) A description of how final closure of the facility will be conducted in accordance with § 264.111. The description must identify the maximum extent of the operations which will be unclosed during the active life of the facility; and

(3) An estimate of the maximum inventory of hazardous wastes ever onsite over the active life of the facility and a detailed description of the methods to be used during partial closures and final closure, including, but not limited to, methods for removing, transporting, treating, storing, or disposing of all hazardous wastes, and identification of the type(s) of the offsite hazardous waste management units to be used, if applicable; and

(4) A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial and final closure, including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination required to satisfy the closure performance standard; and

(5) A detailed description of other activities necessary during the closure period to ensure that all partial closures and final closure satisfy the closure performance standards, including, but not limited to, ground-water monitoring, leachate collection, and run-on and run-off control; and

(6) A schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule must include, at a minimum, the total time required to close each hazardous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure. (For example, in the case of a landfill unit, estimates of the time required to treat or dispose of all hazardous waste inventory and of the time required to place a final cover must be included.)

(7) For facilities that use trust funds to establish financial assurance under § 264.143 or § 264.145 and that are expected to close prior to the expiration of the permit, an estimate of the expected year of final closure.

(c) *Amendment of plan.* The owner or operator must submit a written notification of or request for a permit modification to authorize a change in operating plans, facility design, or the approved closure plan in accordance with the applicable procedures in parts 124 and 270. The written notification or request must include a copy of the amended closure plan for review or approval by the Regional Administrator.

(1) The owner or operator may submit a written notification or request to the Regional Administrator for a permit modification to amend the closure plan at any time prior to the notification of partial or final closure of the facility.

(2) The owner or operator must submit a written notification of or request for a permit modification to authorize a change in the approved closure plan whenever:

(i) Changes in operating plans or facility design affect the closure plan, or

(ii) There is a change in the expected year of closure, if applicable, or

(iii) In conducting partial or final closure activities, unexpected events require a modification of the approved closure plan.

(3) The owner or operator must submit a written request for a permit modification including a copy of the amended closure plan for approval at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the closure plan. If an unexpected event occurs during the partial or final closure period, the owner or operator must request a permit modification no later than 30 days after the unexpected event. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous waste at closure and is not otherwise required to prepare a contingent closure plan under § 264.228(c)(1)(i) or § 264.258(c)(1)(i), must submit an amended closure plan to the Regional Administrator no later than 60 days from the date that the owner or operator or Regional Administrator determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of § 264.310, or no later than 30 days from that date if the determination is made during partial or final closure. The Regional Administrator will approve, disapprove, or modify this amended plan in accordance with the procedures in parts 124 and 270. In accordance with § 270.32 of this chapter, the approved closure plan will become a condition of any RCRA permit issued.

(4) The Regional Administrator may request modifications to the plan under the conditions described in § 264.112(c)(2). The owner or operator must submit the modified plan within 60 days of the Regional Administrator's request, or within 30 days if the change in facility conditions occurs during partial or final closure. Any modifications requested by the Regional Administrator will be approved in accordance with the procedures in parts 124 and 270.

(d) *Notification of partial closure and final closure.* (1) The owner or operator must notify the Regional Administrator in writing at least 60 days prior to the date on which he expects to begin closure of a surface impoundment, waste pile, land treatment or landfill unit, or final closure of a facility with such a unit. The owner or operator must notify the Regional Administrator in writing at least 45 days prior to the date on which he expects to begin final closure of a facility with only treatment or storage tanks, container storage, or incinerator units to be closed. The owner or operator must notify the Regional Administrator in writing at least 45 days prior to the date on which he expects to begin partial or final closure of a boiler or industrial furnace, whichever is earlier.

(2) The date when he ''expects to begin closure'' must be either:

(i) No later than 30 days after the date on which any hazardous waste management unit receives the known final volume of hazardous wastes, or if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, no later than one year after the date on which the unit received the most recent volume of hazardous wastes. If the owner or operator of a hazardous waste management unit can demonstrate to the Regional Administrator that the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes and he has taken all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements, the Regional Administrator may approve an extension to this one-year limit; or

(ii) For units meeting the requirements of § 264.113(d), no later than 30 days after the date on which the hazardous waste management unit receives the known final volume of non-hazardous wastes, or if there is a reasonable possibility that the hazardous waste management unit will receive additional non-hazardous wastes, no later than one year after the date on which the unit received the most recent volume of non-hazardous wastes. If the owner or operator can demonstrate to the Regional Administrator that the hazardous waste management

unit has the capacity to receive additional non-hazardous wastes and he has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements, the Regional Administrator may approve an extension to this one-year limit.

(3) If the facility's permit is terminated, or if the facility is otherwise ordered, by judicial decree or final order under section 3008 of RCRA, to cease receiving hazardous wastes or to close, then the requirements of this paragraph do not apply. However, the owner or operator must close the facility in accordance with the deadlines established in § 264.113.

(e) *Removal of wastes and decontamination or dismantling of equipment.* Nothing in this section shall preclude the owner or operator from removing hazardous wastes and decontaminating or dismantling equipment in accordance with the approved partial or final closure plan at any time before or after notification of partial or final closure.

[51 FR 16444, May 2, 1986, as amended at 52 FR 46963, Dec. 10, 1987; 53 FR 37935, Sept. 28, 1988; 54 FR 33394, Aug. 14, 1989; 56 FR 7207, Feb. 21, 1991; 57 FR 37265, Aug. 18, 1992]

§ 264.113 Closure; time allowed for closure.

(a) Within 90 days after receiving the final volume of hazardous wastes, or the final volume of non-hazardous wastes if the owner or operator complies with all applicable requirements in paragraphs (d) and (e) of this section, at a hazardous waste management unit or facility, the owner or operator must treat, remove from the unit or facility, or dispose of on-site, all hazardous wastes in accordance with the approved closure plan. The Regional Administrator may approve a longer period if the owner or operator complies with all applicable requirements for requesting a modification to the permit and demonstrates that:

(1)(i) The activities required to comply with this paragraph will, of necessity, take longer than 90 days to complete; or

(ii)(A) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive non-hazardous wastes if the owner or operator complies with paragraphs (d) and (e) of this section; and

(B) There is a reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and

(C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(2) He has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements.

(b) The owner or operator must complete partial and final closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of hazardous wastes, or the final volume of non-hazardous wastes if the owner or operator complies with all applicable requirements in paragraphs (d) and (e) of this section, at the hazardous waste management unit or facility. The Regional Administrator may approve an extension to the closure period if the owner or operator complies with all applicable requirements for requesting a modification to the permit and demonstrates that:

(1)(i) The partial or final closure activities will, of necessity, take longer than 180 days to complete; or

(ii)(A) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive non-hazardous wastes if the owner or operator complies with paragraphs (d) and (e) of this section; and

(B) There is reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and

(C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(2) He has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed but not operating hazardous waste management unit or

facility, including compliance with all applicable permit requirements.

(c) The demonstrations referred to in paragraphs (a)(1) and (b)(1) of this section must be made as follows:

(1) The demonstrations in paragraph (a)(1) of this section must be made at least 30 days prior to the expiration of the 90-day period in paragraph (a) of this section; and

(2) The demonstration in paragraph (b)(1) of this section must be made at least 30 days prior to the expiration of the 180-day period in paragraph (b) of this section, unless the owner or operator is otherwise subject to the deadlines in paragraph (d) of this section.

(d) The Regional Administrator may allow an owner or operator to receive only non-hazardous wastes in a landfill, land treatment, or surface impoundment unit after the final receipt of hazardous wastes at that unit if:

(1) The owner or operator requests a permit modification in compliance with all applicable requirements in parts 270 and 124 of this title and in the permit modification request demonstrates that:

(i) The unit has the existing design capacity as indicated on the part A application to receive non-hazardous wastes; and

(ii) There is a reasonable likelihood that the owner or operator or another person will receive non-hazardous wastes in the unit within one year after the final receipt of hazardous wastes; and

(iii) The non-hazardous wastes will not be incompatible with any remaining wastes in the unit, or with the facility design and operating requirements of the unit or facility under this part; and

(iv) Closure of the hazardous waste management unit would be incompatible with continued operation of the unit or facility; and

(v) The owner or operator is operating and will continue to operate in compliance with all applicable permit requirements; and

(2) The request to modify the permit includes an amended waste analysis plan, ground-water monitoring and response program, human exposure assessment required under RCRA section 3019, and closure and post-closure plans, and updated cost estimates and demonstrations of financial assurance for closure and post-closure care as necessary and appropriate, to reflect any changes due to the presence of hazardous constituents in the non-hazardous wastes, and changes in closure activities, including the expected year of closure if applicable under § 264.112(b)(7), as a result of the receipt of non-hazardous wastes following the final receipt of hazardous wastes; and

(3) The request to modify the permit includes revisions, as necessary and appropriate, to affected conditions of the permit to account for the receipt of non-hazardous wastes following receipt of the final volume of hazardous wastes; and

(4) The request to modify the permit and the demonstrations referred to in paragraphs (d)(1) and (d)(2) of this section are submitted to the Regional Administrator no later than 120 days prior to the date on which the owner or operator of the facility receives the known final volume of hazardous wastes at the unit, or no later than 90 days after the effective date of this rule in the state in which the unit is located, whichever is later.

(e) In addition to the requirements in paragraph (d) of this section, an owner or operator of a hazardous waste surface impoundment that is not in compliance with the liner and leachate collection system requirements in 42 U.S.C. 3004(o)(1) and 3005(j)(1) or 42 U.S.C. 3004(o) (2) or (3) or 3005(j) (2), (3), (4) or (13) must:

(1) Submit with the request to modify the permit:

(i) A contingent corrective measures plan, unless a corrective action plan has already been submitted under § 264.99; and

(ii) A plan for removing hazardous wastes in compliance with paragraph (e)(2) of this section; and

(2) Remove all hazardous wastes from the unit by removing all hazardous liquids, and removing all hazardous sludges to the extent practicable without impairing the integrity of the liner(s), if any.

(3) Removal of hazardous wastes must be completed no later than 90

days after the final receipt of hazardous wastes. The Regional Administrator may approve an extension to this deadline if the owner or operator demonstrates that the removal of hazardous wastes will, of necessity, take longer than the allotted period to complete and that an extension will not pose a threat to human health and the environment.

(4) If a release that is a statistically significant increase (or decrease in the case of pH) over background values for detection monitoring parameters or constituents specified in the permit or that exceeds the facility's ground-water protection standard at the point of compliance, if applicable, is detected in accordance with the requirements in subpart F of this part, the owner or operator of the unit:

(i) Must implement corrective measures in accordance with the approved contingent corrective measures plan required by paragraph (e)(1) of this section no later than one year after detection of the release, or approval of the contingent corrective measures plan, whichever is later;

(ii) May continue to receive wastes at the unit following detection of the release only if the approved corrective measures plan includes a demonstration that continued receipt of wastes will not impede corrective action; and

(iii) May be required by the Regional Administrator to implement corrective measures in less than one year or to cease the receipt of wastes until corrective measures have been implemented if necessary to protect human health and the environment.

(5) During the period of corrective action, the owner or operator shall provide semi-annual reports to the Regional Administrator that describe the progress of the corrective action program, compile all ground-water monitoring data, and evaluate the effect of the continued receipt of non-hazardous wastes on the effectiveness of the corrective action.

(6) The Regional Administrator may require the owner or operator to commence closure of the unit if the owner or operator fails to implement corrective action measures in accordance with the approved contingent corrective measures plan within one year as required in paragraph (e)(4) of this section, or fails to make substantial progress in implementing corrective action and achieving the facility's ground-water protection standard or background levels if the facility has not yet established a ground-water protection standard.

(7) If the owner or operator fails to implement corrective measures as required in paragraph (e)(4) of this section, or if the Regional Administrator determines that substantial progress has not been made pursuant to paragraph (e)(6) of this section he shall:

(i) Notify the owner or operator in writing that the owner or operator must begin closure in accordance with the deadlines in paragraphs (a) and (b) of this section and provide a detailed statement of reasons for this determination, and

(ii) Provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the decision no later than 20 days after the date of the notice.

(iii) If the Regional Administrator receives no written comments, the decision will become final five days after the close of the comment period. The Regional Administrator will notify the owner or operator that the decision is final, and that a revised closure plan, if necessary, must be submitted within 15 days of the final notice and that closure must begin in accordance with the deadlines in paragraphs (a) and (b) of this section.

(iv) If the Regional Administrator receives written comments on the decision, he shall make a final decision within 30 days after the end of the comment period, and provide the owner or operator in writing and the public through a newspaper notice, a detailed statement of reasons for the final decision. If the Regional Administrator determines that substantial progress has not been made, closure must be initiated in accordance with the deadlines in paragraphs (a) and (b) of this section.

(v) The final determinations made by the Regional Administrator under paragraphs (e)(7) (iii) and (iv) of this

section are not subject to administrative appeal.

[51 FR 16444, May 2, 1986, as amended at 54 FR 33394, Aug. 14, 1989]

§ 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 §§ 264.197, 264.228, 264.258, 264.280 or § 264.310. By removing any hazardous wastes or hazardous constituents during partial and final closure, the owner or operator may become a generator of hazardous waste and must handle that waste in accordance with all applicable requirements of part 262 of this chapter.

[51 FR 16444, May 2, 1986, as amended at 52 FR 46963, Dec. 10, 1987; 53 FR 34086, Sept. 2, 1988]

§ 264.115 Certification of closure.

Within 60 days of completion of closure of each hazardous waste surface impoundment, waste pile, land treatment, and landfill unit, and within 60 days of the completion of final closure, the owner or operator must submit to the Regional Administrator, by registered mail, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan. The certification must be signed by the owner or operator and by an independent registered professional engineer. Documentation supporting the independent registered professional engineer's certification must be furnished to the Regional Administrator upon request until he releases the owner or operator from the financial assurance requirements for closure under § 264.143(i).

§ 264.116 Survey plat.

No later than the submission of the certification of closure of each hazardous waste disposal unit, the owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Regional Administrator, a survey plat indicating the location and dimensions of landfills cells or other hazardous waste disposal units with respect to permanently surveyed benchmarks. This plat must be prepared and certified by a professional land surveyor. The plat filed with the local zoning authority, or the authority with jurisdiction over local land use, must contain a note, prominently displayed, which states the owner's or operator's obligation to restrict disturbance of the hazardous waste disposal unit in accordance with the applicable subpart G regulations.

§ 264.117 Post-closure care and use of property.

(a)(1) Post-closure care for each hazardous waste management unit subject to the requirements of §§ 264.117 through 264.120 must begin after completion of closure of the unit and continue for 30 years after that date and must consist of at least the following:

(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.

(2) Any time preceding partial closure of a hazardous waste management unit subject to post-closure care requirements or final closure, or any time during the post-closure period for a particular unit, the Regional Administrator may, in accordance with the permit modification procedures in parts 124 and 270:

(i) Shorten the post-closure care period applicable to the hazardous waste management unit, or facility, if all disposal units have been closed, if he finds that the reduced period is sufficient to protect human health and the environment (e.g., leachate or ground-water monitoring results, characteristics of the hazardous wastes, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the hazardous waste management unit or facility is secure); or

(ii) Extend the post-closure care period applicable to the hazardous waste management unit or facility if he finds that the extended period is necessary

to protect human health and the environment (e.g., leachate or groundwater monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment).

(b) The Regional Administrator may require, at partial and final closure, continuation of any of the security requirements of § 264.14 during part or all of the post-closure period when:

(1) Hazardous wastes may remain exposed after completion of partial or final closure; or

(2) Access by the public or domestic livestock may pose a hazard to human health.

(c) Post-closure use of property on or in which hazardous wastes remain after partial or final closure must never be allowed to disturb the integrity of the final cover, liner(s), or any other components of the containment system, or the function of the facility's monitoring systems, unless the Regional Administrator finds that the disturbance:

(1) Is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or

(2) Is necessary to reduce a threat to human health or the environment.

(d) All post-closure care activities must be in accordance with the provisions of the approved post-closure plan as specified in § 264.118.

[51 FR 16444, May 2, 1986, as amended at 52 FR 46963, Dec. 10, 1987]

§ 264.118 Post-closure plan; amendment of plan.

(a) *Written Plan.* The owner or operator of a hazardous waste disposal unit must have a written post-closure plan. In addition, certain surface impoundments and waste piles from which the owner or operator intends to remove or decontaminate the hazardous wastes at partial or final closure are required by §§ 264.228(c)(1)(ii) and 264.258(c)(1)(ii) to have contingent post-closure plans. Owners or operators of surface impoundments and waste piles not otherwise required to prepare contingent post-closure plans under §§ 264.228(c)(1)(ii) and 264.258(c)(1)(ii) must submit a post-closure plan to the Regional Administrator within 90 days from the date that the owner or operator or Regional administrator determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of §§ 264.117 through 264.120. The plan must be submitted with the permit application, in accordance with § 270.14(b)(13) of this chapter, and approved by the Regional Administrator as part of the permit issuance procedures under part 124 of this chapter. In accordance with § 270.32 of this chapter, the approved post-closure plan will become a condition of any RCRA permit issued.

(b) For each hazardous waste management unit subject to the requirements of this section, the post-closure plan must identify the activities that will be carried on after closure of each disposal unit and the frequency of these activities, and include at least:

(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) A description of the planned maintenance activities, and frequencies at which they will be performed, to ensure:

(i) The integrity of the cap and final cover or other containment systems in accordance with the requirements of subparts F, 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

(3) The name, address, and phone number of the person or office to contact about the hazardous waste disposal unit or facility during the post-closure care period.

(c) Until final closure of the facility, a copy of the approved post-closure plan must be furnished to the Regional Administrator upon request, including request by mail. After final closure has been certified, the person or office specified in § 264.188(b)(3) must keep the approved post-closure plan during the remainder of the post-closure period.

(d) *Amendment of plan.* The owner or operator must submit a written notification of or request for a permit modification to authorize a change in the

approved post-closure plan in accordance with the applicable requirements in parts 124 and 270. The written notification or request must include a copy of the amended post-closure plan for review or approval by the Regional Administrator.

(1) The owner or operator may submit a written notification or request to the Regional Administrator for a permit modification to amend the post-closure plan at any time during the active life of the facility or during the post-closure care period.

(2) The owner or operator must submit a written notification of or request for a permit modification to authorize a change in the approved post-closure plan whenever:

(i) Changes in operating plans or facility design affect the approved post-closure plan, or

(ii) There is a change in the expected year of final closure, if applicable, or

(iii) Events which occur during the active life of the facility, including partial and final closures, affect the approved post-closure plan.

(3) The owner or operator must submit a written request for a permit modification at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the post-closure plan. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous waste at closure and is not otherwise required to submit a contingent post-closure plan under §§ 264.228(c)(1)(ii) and 264.258(c)(1)(ii) must submit a post-closure plan to the Regional Administrator no later than 90 days after the date that the owner or operator or Regional Administrator determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of § 264.310. The Regional Administrator will approve, disapprove or modify this plan in accordance with the procedures in parts 124 and 270. In accordance with § 270.32 of this chapter, the approved post-closure plan will become a permit condition.

(4) The Regional Administrator may request modifications to the plan under the conditions described in § 264.118(d)(2). The owner or operator must submit the modified plan no later than 60 days after the Regional Administrator's request, or no later than 90 days if the unit is a surface impoundment or waste pile not previously required to prepare a contingent post-closure plan. Any modifications requested by the Regional Administrator will be approved, disapproved, or modified in accordance with the procedures in parts 124 and 270.

[51 FR 16444, May 2, 1986, as amended at 52 FR 46964, Dec. 10, 1987; 53 FR 37935, Sept. 28,1988]

§ 264.119 Post-closure notices.

(a) No later than 60 days after certification of closure of each hazardous waste disposal unit, the owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Regional Administrator a record of the type, location, and quantity of hazardous wastes disposed of within each cell or other disposal unit of the facility. For hazardous wastes disposed of before January 12, 1981, the owner or operator must identify the type, location, and quantity of the hazardous wastes to the best of his knowledge and in accordance with any records he has kept.

(b) Within 60 days of certification of closure of the first hazardous waste disposal unit and within 60 days of certification of closure of the last hazardous waste disposal unit, the owner or operator must:

(1) Record, in accordance with State law, a notation on the deed to the facility property—or on some other instrument which is normally examined during title search—that will in perpetuity notify any potential purchaser of the property that:

(i) The land has been used to manage hazardous wastes; and

(ii) Its use is restricted under 40 CFR subpart G regulations; and

(iii) The survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell or other hazardous waste disposal unit of the facility required by §§ 264.116 and 264.119(a) have been filed with the local zoning authority or the authority with jurisdiction over local land use and with the Regional Administrator; and

(2) Submit a certification, signed by the owner or operator, that he has recorded the notation specified in paragraph (b)(1) of this section, including a copy of the document in which the notation has been placed, to the Regional Administrator.

(c) If the owner or operator or any subsequent owner or operator of the land upon which a hazardous waste disposal unit is located wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, or contaminated soils, he must request a modification to the post-closure permit in accordance with the applicable requirements in parts 124 and 270. The owner or operator must demonstrate that the removal of hazardous wastes will satisfy the criteria of § 264.117(c). By removing hazardous waste, the owner or operator may become a generator of hazardous waste and must manage it in accordance with all applicable requirements of this chapter. If he is granted a permit modification or otherwise granted approval to conduct such removal activities, the owner or operator may request that the Regional Administrator approve either:

(1) The removal of the notation on the deed to the facility property or other instrument normally examined during title search; or

(2) The addition of a notation to the deed or instrument indicating the removal of the hazardous waste.

§ 264.120 Certification of completion of post-closure care.

No later than 60 days after completion of the established post-closure care period for each hazardous waste disposal unit, the owner or operator must submit to the Regional Administrator, by registered mail, a certification that the post-closure care period for the hazardous waste disposal unit was performed in accordance with the specifications in the approved post-closure plan. The certification must be signed by the owner or operator and an independent registered professional engineer. Documentation supporting the independent registered professional engineer's certification must be furnished to the Regional Administrator upon request until he releases the owner or operator from the financial assurance requirements for post-closure care under § 264.145(i).

Subpart H—Financial Requirements

SOURCE: 47 FR 15047, Apr. 7, 1982, unless otherwise noted.

§ 264.140 Applicability.

(a) The requirements of §§ 264.142, 264.143, and 264.147 through 264.151 apply to owners and operators of all hazardous waste facilities, except as provided otherwise in this section or in § 264.1.

(b) The requirements of §§ 264.144 and 264.145 apply only to owners and operators of:

(1) Disposal facilities;

(2) Piles, and surface impoundments from which the owner or operator intends to remove the wastes at closure, to the extent that these sections are made applicable to such facilities in §§ 264.228 and 264.258;

(3) Tank systems that are required under § 264.197 to meet the requirements for landfills; and

(4) Containment buildings that are required under § 264.1102 to meet the requirements for landfills.

(c) States and the Federal government are exempt from the requirements of this subpart.

[47 FR 15047, Apr. 7, 1982, as amended at 47 FR 32357, July 26, 1982; 51 FR 25472, July 14, 1986; 57 FR 37265, Aug. 18, 1992]

§ 264.141 Definitions of terms as used in this subpart.

(a) *Closure plan* means the plan for closure prepared in accordance with the requirements of § 264.112.

(b) *Current closure cost estimate* means the most recent of the estimates prepared in accordance with § 264.142 (a), (b), and (c).

(c) *Current post-closure cost estimate* means the most recent of the estimates prepared in accordance with § 264.144 (a), (b), and (c).

(d) *Parent corporation* means a corporation which directly owns at least 50 percent of the voting stock of the corporation which is the facility owner or operator; the latter corporation is deemed a ''subsidiary'' of the parent corporation.

(e) *Post-closure plan* means the plan for post-closure care prepared in accordance with the requirements of §§ 264.117 through 264.120.

(f) The following terms are used in the specifications for the financial tests for closure, post-closure care, and liability coverage. The definitions are intended to assist in the understanding of these regulations and are not intended to limit the meanings of terms in a way that conflicts with generally accepted accounting practices.

Assets means all existing and all probable future economic benefits obtained or controlled by a particular entity.

Current assets means cash or other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.

Current liabilities means obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities.

Current plugging and abandonment cost estimate means the most recent of the estimates prepared in accordance with § 144.62(a), (b), and (c) of this title.

Independently audited refers to an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.

Liabilities means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.

Net working capital means current assets minus current liabilities.

Net worth means total assets minus total liabilities and is equivalent to owner's equity.

Tangible net worth means the tangible assets that remain after deducting liabilities; such assets would not include intangibles such as goodwill and rights to patents or royalties.

(g) In the liability insurance requirements the terms *bodily injury* and *property damage* shall have the meanings given these terms by applicable State law. However, these terms do not include those liabilities which, consistent with standard industry practices, are excluded from coverage in liability policies for bodily injury and property damage. The Agency intends the meanings of other terms used in the liability insurance requirements to be consistent with their common meanings within the insurance industry. The definitions given below of several of the terms are intended to assist in the understanding of these regulations and are not intended to limit their meanings in a way that conflicts with general insurance industry usage.

Accidental occurrence means an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage neither expected nor intended from the standpoint of the insured.

Legal defense costs means any expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

Nonsudden accidental occurrence means an occurrence which takes place over time and involves continuous or repeated exposure.

Sudden accidental occurrence means an occurrence which is not continuous or repeated in nature.

(h) *Substantial business relationship* means the extent of a business relationship necessary under applicable State law to make a guarantee contract issued incident to that relationship valid and enforceable. A ''substantial business relationship'' must arise from a pattern of recent or ongoing business transactions, in addition to the guarantee itself, such that a currently existing business relationship between the guarantor and the owner or operator is demonstrated to the satisfaction of the applicable EPA Regional Administrator.

[47 FR 16554, Apr. 16, 1982, as amended at 51 FR 16447, May 2, 1986; 53 FR 33950, Sept. 1, 1988]

§ 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, 264.601 through 264.603, and 264.1102.

(1) The estimate must equal the cost of final closure at the point in the facility's active life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan (see § 264.112(b)); and

(2) The closure cost estimate must be based on the costs to the owner or operator of hiring a third party to close the facility. A third party is a party who is neither a parent nor a subsidiary of the owner or operator. (See definition of parent corporation in § 264.141(d).) The owner or operator may use costs for on-site disposal if he can demonstrate that on-site disposal capacity will exist at all times over the life of the facility.

(3) The closure cost estimate may not incorporate any salvage value that may be realized with the sale of hazardous wastes, or non-hazardous wastes if applicable under § 264.113(d), facility structures or equipment, land, or other assets associated with the facility at the time of partial or final closure.

(4) The owner or operator may not incorporate a zero cost for hazardous wastes, or non-hazardous wastes if applicable under § 264.113(d), that might have economic value.

(b) During the active life of the facility, the owner or operator must adjust the closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with § 264.143. For owners and operators using the financial test or corporate guarantee, the closure cost estimate must be updated for inflation within 30 days after the close of the firm's fiscal year and before submission of updated information to the Regional Administrator as specified in § 264.143(f)(3). The adjustment may be made by recalculating the maximum costs of closure in current dollars, or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its *Survey of Current Business,* as specified in paragraphs (b)(1) and (2) of this section. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(1) The first adjustment is made by multiplying the closure cost estimate by the inflation factor. The result is the adjusted closure cost estimate.

(2) Subsequent adjustments are made by mutliplying the latest adjusted closure cost estimate by the latest inflation factor.

(c) During the active life of the facility, the owner or operator must revise the closure cost estimate no later than 30 days after the Regional Administrator has approved the request to modify the closure plan, if the change in the closure plan increases the cost of closure. The revised closure cost estimate must be adjusted for inflation as specified in § 264.142(b).

(d) The owner or operator must keep the following at the facility during the operating life of the facility: The latest closure cost estimate prepared in accordance with § 264.142 (a) and (c) and, when this estimate has been adjusted in accordance with § 264.142(b), the latest adjusted closure cost estimate.

[47 FR 15047, Apr. 7, 1982, as amended at 50 FR 4514, Jan. 31, 1985; 51 FR 16447, May 2, 1986; 52 FR 46964, Dec. 10, 1987; 54 FR 33395, Aug. 14, 1989; 57 FR 37265, Aug. 18, 1992]

§ 264.143 Financial assurance for closure.

An owner or operator of each facility must establish financial assurance for closure of the facility. He must choose from the options as specified in paragraphs (a) through (f) of this section.

(a) *Closure trust fund.* (1) An owner or operator may satisfy the requirements of this section by establishing a closure trust fund which conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Regional Administrator. An owner or operator of a new facility must submit the originally signed duplicate of the trust agreement to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(2) The wording of the trust agreement must be identical to the wording specified in § 264.151(a)(1), and the trust agreement must be accompanied by a formal certification of acknowledgment (for example, see § 264.151(a)(2)). Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current closure cost estimate covered by the agreement.

(3) Payments into the trust fund must be made annually by the owner or operator over the term of the initial RCRA permit or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the ''pay-in period.'' The payments into the closure trust fund must be made as follows:

(i) For a new facility, the first payment must be made before the initial receipt of hazardous waste for treatment, storage, or disposal. A receipt from the trustee for this payment must be submitted by the owner or operator to the Regional Administrator before this initial receipt of hazardous waste. The first payment must be at least equal to the current closure cost estimate, except as provided in § 264.143(g), divided by the number of years in the pay-in period. Subsequent payments must be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment must be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(ii) If an owner or operator establishes a trust fund as specified in § 265.143(a) of this chapter, and the value of that trust fund is less than the current closure cost estimate when a permit is awarded for the facility, the amount of the current closure cost estimate still to be paid into the trust fund must be paid in over the pay-in period as defined in paragraph (a)(3) of this section. Payments must continue to be made no later than 30 days after each anniversary date of the first payment made pursuant to part 265 of this chapter. The amount of each payment must be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the current closure cost estimate at the time the fund is established. However, he must maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in paragraph (a)(3) of this section.

(5) If the owner or operator establishes a closure trust fund after having used one or more alternate mechanisms specified in this section or in § 265.143 of this chapter, his first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to specifications of this paragraph and § 265.143(a) of this chapter, as applicable.

(6) After the pay-in period is completed, whenever the current closure cost estimate changes, the owner or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(7) If the value of the trust fund is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the Regional Administrator for release of the amount in excess of the current closure cost estimate.

(8) If an owner or operator substitutes other financial assurance as

specified in this section for all or part of the trust fund, he may submit a written request to the Regional Administrator for release of the amount in excess of the current closure cost estimate covered by the trust fund.

(9) Within 60 days after receiving a request from the owner or operator for release of funds as specified in paragraph (a) (7) or (8) of this section, the Regional Administrator will instruct the trustee to release to the owner or operator such funds as the Regional Administrator specifies in writing.

(10) After beginning partial or final closure, an owner or operator or another person authorized to conduct partial or final closure may request reimbursements for partial or final closure expenditures by submitting itemized bills to the Regional Administrator. The owner or operator may request reimbursements for partial closure only if sufficient funds are remaining in the trust fund to cover the maximum costs of closing the facility over its remaining operating life. Within 60 days after receiving bills for partial or final closure activities, the Regional Administrator will instruct the trustee to make reimbursements in those amounts as the Regional Administrator specifies in writing, if the Regional Administrator determines that the partial or final closure expenditures are in accordance with the approved closure plan, or otherwise justified. If the Regional Administrator has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the value of the trust fund, he may withhold reimbursements of such amounts as he deems prudent until he determines, in accordance with § 264.143(i) that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the Regional Administrator does not instruct the trustee to make such reimbursements, he will provide the owner or operator with a detailed written statement of reasons.

(11) The Regional Administrator will agree to termination of the trust when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.143(i).

(b) *Surety bond guaranteeing payment into a closure trust fund.* (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Regional Administrator. An owner or operator of a new facility must submit the bond to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in § 264.151(b).

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust fund must meet the requirements specified in § 264.143(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Regional Administrator with the surety bond; and

(ii) Until the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 264.143(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(ii) Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin final closure issued by the Regional Administrator becomes final, or within 15 days after an order to begin final closure is issued by a U.S. district court or other court of competent jurisdiction; or

(iii) Provide alternate financial assurance as specified in this section, and obtain the Regional Administrator's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond must be in an amount at least equal to the current closure cost estimate, except as provided in § 264.143(g).

(7) Whenever the current closure cost estimate increases to an amount greater then the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the Regional Administrator.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidence by the return receipts.

(9) The owner or operator may cancel the bond if the Regional Administrator has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this section.

(c) *Surety bond guaranteeing performance of closure.* (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Regional Administrator. An owner or operator of a new facility must submit the bond to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in § 264.151(c).

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust must meet the requirements specified in § 264.143(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Regional Administrator with the surety bond; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 264.143(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Perform final closure in accordance with the closure plan and other requirements of the permit for the facility whenever required to do so; or

(ii) Provide alternate financial assurance as specified in this section, and obtain the Regional Administrator's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a final administrative determination pursuant to section 3008 of RCRA that the owner or operator has failed to perform final closure in accordance with the approved closure plan and other permit requirements when required to do so, under the terms of the bond the surety will perform final closure as guaranteed by the bond or will deposit the amount of the penal sum into the standby trust fund.

(6) The penal sum of the bond must be in an amount at least equal to the current closure cost estimate.

(7) Whenever the current closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the Regional Administrator.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the Regional Administrator has given prior written consent. The Regional Administrator will provide such written consent when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.143(i).

(10) The surety will not be liable for deficiencies in the performance of closure by the owner or operator after the Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.143(i).

(d) *Closure letter of credit.* (1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph and submitting the letter to the Regional Administrator. An owner or operator of a new facility must submit the letter of credit to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The letter of credit must be effective before this initial receipt of hazardous waste. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(2) The wording of the letter of credit must be identical to the wording specified in § 264.151(d).

(3) An owner or operator who uses a letter of credit to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Regional Administrator will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust fund must meet the requirements of the trust fund specified in § 264.143(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted

to the Regional Administrator with the letter of credit; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 264.143(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the EPA Identification Number, name, and address of the facility, and the amount of funds assured for closure of the facility by the letter of credit.

(5) The letter of credit must be irrevocable and issued for a period of at least 1 year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least 1 year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the Regional Administrator by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the Regional Administrator have received the notice, as evidenced by the return receipts.

(6) The letter of credit must be issued in an amount at least equal to the current closure cost estimate, except as provided in § 264.143(g).

(7) Whenever the current closure cost estimate increases to an amount greater than the amount of the credit, the owner or operator, within 60 days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the amount of the credit may be reduced to the amount of the current closure cost estimate following written approval by the Regional Administrator.

(8) Following a final administrative determination pursuant to section 3008 of RCRA that the owner or operator has failed to perform final closure in accordance with the closure plan and other permit requirements when required to do so, the Regional Administrator may draw on the letter of credit.

(9) If the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of such alternate assurance from the Regional Administrator within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice from issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Regional Administrator will draw on the letter of credit. The Regional Administrator may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any such extension the Regional Administrator will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of such assurance from the Regional Administrator.

(10) The Regional Administrator will return the letter of credit to the issuing institution for termination when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.143(i).

(e) *Closure insurance.* (1) An owner or operator may satisfy the requirements of this section by obtaining closure insurance which conforms to the requirements of this paragraph and submitting a certificate of such insurance to the Regional Administrator. An owner or operator of a new facility must submit the certificate of insurance to the Regional Administrator at least 60

days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) The wording of the certificate of insurance must be identical to the wording specified in § 264.151(e).

(3) The closure insurance policy must be issued for a face amount at least equal to the current closure cost estimate, except as provided in § 264.143(g). The term ''face amount'' means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) The closure insurance policy must guarantee that funds will be available to close the facility whenever final closure occurs. The policy must also guarantee that once final closure begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Regional Administrator, to such party or parties as the Regional Administrator specifies.

(5) After beginning partial or final closure, an owner or operator or any other person authorized to conduct closure may request reimbursements for closure expenditures by submitting itemized bills to the Regional Administrator. The owner or operator may request reimbursements for partial closure only if the remaining value of the policy is sufficient to cover the maximum costs of closing the facility over its remaining operating life. Within 60 days after receiving bills for closure activities, the Regional Administrator will instruct the insurer to make reimbursements in such amounts as the Regional Administrator specifies in writing, if the Regional Administrator determines that the partial or final closure expenditures are in accordance with the approved closure plan or otherwise justified. If the Regional Administrator has reason to believe that the maximum cost of closure over the remaining life of the facility will be signficantly greater than the face amount of the policy, he may withhold reimbursements of such amounts as he deems prudent until he determines, in accordance with § 264.143(i), that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the Regional Administrator does not instruct the insurer to make such reimbursements, he will provide the owner or operator with a detailed written statement of reasons.

(6) The owner or operator must maintain the policy in full force and effect until the Regional Administrator consents to termination of the policy by the owner or operator as specified in paragraph (e)(10) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in this section, will constitute a significant violation of these regulations, warranting such remedy as the Regional Administrator deems necessary. Such violation will be deemed to begin upon receipt by the Regional Administrator of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(8) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Regional Administrator. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the Regional Administrator and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or

failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

(i) The Regional Administrator deems the facility abandoned; or

(ii) The permit is terminated or revoked or a new permit is denied; or

(iii) Closure is ordered by the Regional Administrator or a U.S. district court or other court of competent jurisdiction; or

(iv) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

(v) The premium due is paid.

(9) Whenever the current closure cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the face amount may be reduced to the amount of the current closure cost estimate following written approval by the Regional Administrator.

(10) The Regional Administrator will give written consent to the owner or operator that he may terminate the insurance policy when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.143(i).

(f) *Financial test and corporate guarantee for closure.* (1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria of either paragraph (f)(1)(i) or (ii) of this section:

(i) The owner or operator must have:

(A) Two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(B) Net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) Tangible net worth at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(2) The phrase ''current closure and post-closure cost estimates'' as used in paragraph (f)(1) of this section refers to the cost estimates required to be shown in paragraphs 1–4 of the letter from the owner's or operator's chief financial officer (§ 264.151(f)). The phrase ''current plugging and abandonment cost estimates'' as used in paragraph (f)(1) of this section refers to the cost estimates required to be shown in paragraphs 1–4 of the letter from the owner's or operator's chief financial officer (§ 144.70(f) of this title).

(3) To demonstrate that he meets this test, the owner or operator must submit the following items to the Regional Administrator:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in § 264.151(f); and

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) An owner or operator of a new facility must submit the items specified in paragraph (f)(3) of this section to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal.

(5) After the initial submission of items specified in paragraph (f)(3) of this section, the owner or operator must send updated information to the Regional Administrator within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (f)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, he must send notice to the Regional Administrator of intent to establish alternate financial assurance as specified in this section. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within 120 days after the end of such fiscal year.

(7) The Regional Administrator may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (f)(1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in paragraph (f)(3) of this section. If the Regional Administrator finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, the owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of such a finding.

(8) The Regional Administrator may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (f)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Regional Administrator will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of the disallowance.

(9) The owner or operator is no longer required to submit the items specified in paragraph (f)(3) of this section when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.143(i).

(10) An owner or operator may meet the requirements of this section by obtaining a written guarantee. The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a ''substantial business relationship'' with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (f)(1) through (8) of this section and must comply with the terms of the guarantee. The wording of the guarantee must be identical to the wording specified in § 264.151(h). The certified copy of the guarantee must accompany the items sent to the Regional Administrator as specified in paragraph (f)(3) of this section. One of these items must be the

letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, the letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a ''substantial business relationship'' with the owner or operator, this letter must describe this ''substantial business relationship'' and the value received in consideration of the guarantee. The terms of the guarantee must provide that:

(i) If the owner or operator fails to perform final closure of a facility covered by the corporate guarantee in accordance with the closure plan and other permit requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in § 264.143(a) in the name of the owner or operator.

(ii) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidenced by the return receipts.

(iii) If the owner or operator fails to provide alternate financial assurance as specified in this section and obtain the written approval of such alternate assurance from the Regional Administrator within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternative financial assurance in the name of the owner or operator.

(g) *Use of multiple financial mechanisms.* An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, and insurance. The mechanisms must be as specified in paragraphs (a), (b), (d), and (e), respectively, of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The Regional Administrator may use any or all of the mechanisms to provide for closure of the facility.

(h) *Use of a financial mechanism for multiple facilities.* An owner or operator may use a financial assurance mechanism specified in this section to meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the Regional Administrator must include a list showing, for each facility, the EPA Identification Number, name, address, and the amount of funds for closure assured by the mechanism. If the facilities covered by the mechanism are in more than one Region, identical evidence of financial assurance must be submitted to and maintained with the Regional Administrators of all such Regions. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for closure of any of the facilities covered by the mechanism, the Regional Administrator may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(i) *Release of the owner or operator from the requirements of this section.* Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that final closure has been completed in accordance with the approved closure plan, the Regional Administrator will notify the owner or operator in writing that he is no longer required by this section to maintain financial assurance for final closure of the facility, unless the Regional Administrator has reason to believe that

final closure has not been in accordance with the approved closure plan. The Regional Administrator shall provide the owner or operator a detailed written statement of any such reason to believe that closure has not been in accordance with the approved closure plan.

[47 FR 15047, Apr. 7, 1982, as amended at 51 FR 16448, May 2, 1986; 57 FR 42835, Sept. 16, 1992]

§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.

(1) The post-closure cost estimate must be based on the costs to the owner or operator of hiring a third party to conduct post-closure care activities. A third party is a party who is neither a parent nor a subsidiary of the owner or operator. (See definition of parent corporation in §264.141(d).)

(2) The post-closure cost estimate is calculated by multiplying the annual post-closure cost estimate by the number of years of post-closure care required under §264.117.

(b) During the active life of the facility, the owner or operator must adjust the post-closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with §264.145. For owners or operators using the financial test or corporate guarantee, the post-closure cost estimate must be updated for inflation within 30 days after the close of the firm's fiscal year and before the submission of updated information to the Regional Administrator as specified in §264.145(f)(5). The adjustment may be made by recalculating the post-closure cost estimate in current dollars or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its *Survey of Current Business* as specified in §264.145(b)(1) and (2). The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(1) The first adjustment is made by multiplying the post-closure cost estimate by the inflation factor. The result is the adjusted post-closure cost estimate.

(2) Subsequent adjustments are made by multiplying the latest adjusted post-closure cost estimate by the latest inflation factor.

(c) During the active life of the facility, the owner or operator must revise the post-closure cost estimate within 30 days after the Regional Administrator has approved the request to modify the post-closure plan, if the change in the post-closure plan increases the cost of post-closure care. The revised post-closure cost estimate must be adjusted for inflation as specified in §264.144(b).

(d) The owner or operator must keep the following at the facility during the operating life of the facility: The latest post-closure cost estimate prepared in accordance with §264.144 (a) and (c) and, when this estimate has been adjusted in accordance with §264.144(b), the latest adjusted post-closure cost estimate.

[47 FR 15047, Apr. 7, 1982, as amended at 47 FR 32357, July 26, 1982; 50 FR 4514, Jan. 31, 1985; 51 FR 16449, May 2, 1986; 52 FR 46964, Dec. 10, 1987]

§264.145 Financial assurance for post-closure care.

The owner or operator of a hazardous waste management unit subject to the requirements of §264.144 must establish financial assurance for post-closure care in accordance with the approved post-closure plan for the facility 60 days prior to the initial receipt of hazardous waste or the effective date of the regulation, whichever is later. He must choose from the following options:

(a) *Post-closure trust fund.* (1) An owner or operator may satisfy the requirements of this section by establishing a post-closure trust fund which conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Regional Administrator. An owner or operator of a new facility must submit the originally signed duplicate of the trust agreement to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for disposal. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(2) The wording of the trust agreement must be identical to the wording specified in § 264.151(a)(1), and the trust agreement must be accompanied by a formal certification of acknowledgment (for example, see § 264.151(a)(2)). Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current post-closure cost estimate covered by the agreement.

(3) Payments into the trust fund must be made annually by the owner or operator over the term of the initial RCRA permit or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the ''pay-in period.'' The payments into the post-closure trust fund must be made as follows:

(i) For a new facility, the first payment must be made before the initial receipt of hazardous waste for disposal. A receipt from the trustee for this payment must be submitted by the owner or operator to the Regional Administrator before this initial receipt of hazardous waste. The first payment must be at least equal to the current post-closure cost estimate, except as provided in § 264.145(g), divided by the number of years in the pay-in period. Subsequent payments must be made no later than 30 days after each anniversay date of the first payment. The amount of each subsequent payment must be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current post-closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(ii) If an owner or operator establishes a trust fund as specified in § 265.145(a) of this chapter, and the value of that trust fund is less than the current post-closure cost estimate when a permit is awarded for the facility, the amount of the current post-closure cost estimate still to be paid into the fund must be paid in over the pay-in period as defined in paragraph (a)(3) of this section. Payments must continue to be made no later than 30 days after each anniversary date of the first payment made pursuant to Part 265 of this chapter. The amount of each payment must be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current post-closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the current post-closure cost estimate at the time the fund is established. However, he must maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in paragraph (a)(3) of this section.

(5) If the owner or operator establishes a post-closure trust fund after having used one or more alternate mechanisms specified in this section or in § 265.145 of this chapter, his first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to specifications of this paragraph and § 265.145(a) of this chapter, as applicable.

(6) After the pay-in period is completed, whenever the current post-closure cost estimate changes during the operating life of the facility, the owner

or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current post-closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(7) During the operating life of the facility, if the value of the trust fund is greater than the total amount of the current post-closure cost estimate, the owner or operator may submit a written request to the Regional Administrator for release of the amount in excess of the current post-closure cost estimate.

(8) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, he may submit a written request to the Regional Administrator for release of the amount in excess of the current post-closure cost estimate covered by the trust fund.

(9) Within 60 days after receiving a request from the owner or operator for release of funds as specified in paragraph (a) (7) or (8) of this section, the Regional Administrator will instruct the trustee to release to the owner or operator such funds as the Regional Administrator specifies in writing.

(10) During the period of post-closure care, the Regional Administrator may approve a release of funds if the owner or operator demonstrates to the Regional Administrator that the value of the trust fund exceeds the remaining cost of post-closure care.

(11) An owner or operator or any other person authorized to conduct post-closure care may request reimbursements for post-closure care expenditures by submitting itemized bills to the Regional Administrator. Within 60 days after receiving bills for post-closure care activities, the Regional Administrator will instruct the trustee to make reimbursements in those amounts as the Regional Administrator specifies in writing, if the Regional Administrator determines that the post-closure care expenditures are in accordance with the approved post-closure plan or otherwise justified. If the Regional Administrator does not instruct the trustee to make such reimbursements, he will provide the owner or operator with a detailed written statement of reasons.

(12) The Regional Administrator will agree to termination of the trust when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

(b) *Surety bond guaranteeing payment into a post-closure trust fund.* (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Regional Administrator. An owner or operator of a new facility must submit the bond to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in § 264.151(b).

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust fund must meet the requirements specified in § 264.145(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Regional Administrator with the surety bond; and

(ii) Until the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 264.145(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current post-closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(ii) Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin final closure issued by the Regional Administrator becomes final, or within 15 days after an order to begin final closure is issued by a U.S. district court or other court of competent jurisdiction; or

(iii) Provide alternate financial assurance as specified in this section, and obtain the Regional Administrator's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond must be in an amount at least equal to the current post-closure cost estimate, except as provided in § 264.145(g).

(7) Whenever the current post-closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate decreases, the penal sum may be reduced to the amount of the current post-closure cost estimate following written approval by the Regional Administrator.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the Regional Administrator has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this section.

(c) *Surety bond guaranteeing performance of post-closure care.* (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Regional Administrator. An owner or operator of a new facility must submit the bond to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in § 264.151(c).

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust fund must meet the requirements specified in § 264.145(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Regional Administrator with the surety bond; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of

this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 264.145(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current post-closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Perform post-closure care in accordance with the post-closure plan and other requirements of the permit for the facility; or

(ii) Provide alternate financial assurance as specified in this section, and obtain the Regional Administrator's written approval of the assurance provided, within 90 days of receipt by both the owner or operator and the Regional Administrator of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a final administrative determination pursuant to section 3008 of RCRA that the owner or operator has failed to perform post-closure care in accordance with the approved post-closure plan and other permit requirements, under the terms of the bond the surety will perform post-closure care in accordance with the post-closure plan and other permit requirements or will deposit the amount of the penal sum into the standby trust fund.

(6) The penal sum of the bond must be in an amount at least equal to the current post-closure cost estimate.

(7) Whenever the current post-closure cost estimate increases to an amount greater than the penal sum during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the penal sum may be reduced to the amount of the current post-closure cost estimate following written approval by the Regional Administrator.

(8) During the period of post-closure care, the Regional Administrator may approve a decrease in the penal sum if the owner or operator demonstrates to the Regional Administrator that the amount exceeds the remaining cost of post-closure care.

(9) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidenced by the return receipts.

(10) The owner or operator may cancel the bond if the Regional Administrator has given prior written consent. The Regional Administrator will provide such written consent when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

(11) The surety will not be liable for deficiencies in the performance of post-closure care by the owner or operator after the Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

(d) *Post-closure letter of credit.* (1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph and submitting the letter to the Regional Administrator. An owner or operator of a new facility must submit the letter of credit to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for disposal. The letter of credit must be effective before this initial receipt of hazardous waste. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-

of-credit operations are regulated and examined by a Federal or State agency.

(2) The wording of the letter of credit must be identical to the wording specified in § 264.151(d).

(3) An owner or operator who uses a letter of credit to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Regional Administrator will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust fund must meet the requirements of the trust fund specified in § 264.145(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Regional Administrator with the letter of credit; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 264.145(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current post-closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the EPA Identification Number, name, and address of the facility, and the amount of funds assured for post-closure care of the facility by the letter of credit.

(5) The letter of credit must be irrevocable and issued for a period of at least 1 year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least 1 year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the Regional Administrator by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the Regional Administrator have received the notice, as evidenced by the return receipts.

(6) The letter of credit must be issued in a amount at least equal to the current post-closure cost estimate, except as provided in § 264.145(g).

(7) Whenever the current post-closure cost estimate increases to an amount greater than the amount of the credit during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current post-closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the amount of the credit may be reduced to the amount of the current post-closure cost estimate following written approval by the Regional Administrator.

(8) During the period of post-closure care, the Regional Administrator may approve a decrease in the amount of the letter of credit if the owner or operator demonstrates to the Regional Administrator that the amount exceeds the remaining cost of post-closure care.

(9) Following a final administrative determination pursuant to section 3008 of RCRA that the owner or operator has failed to perform post-closure care in accordance with the approved post-closure plan and other permit requirements, the Regional Administrator may draw on the letter of credit.

(10) If the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of such alternate assurance from the Regional Administrator within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Regional Administrator will draw on the letter of credit. The Regional Administrator may delay the drawing if

the issuing institution grants an extension of the term of the credit. During the last 30 days of any such extension the Regional Administrator will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of such assurance from the Regional Administrator.

(11) The Regional Administrator will return the letter of credit to the issuing institution for termination when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

(e) *Post-closure insurance.* (1) An owner or operator may satisfy the requirements of this section by obtaining post-closure insurance which conforms to the requirements of this paragraph and submitting a certificate of such insurance to the Regional Administrator. An owner or operator of a new facility must submit the certificate of insurance to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for disposal. The insurance must be effective before this initial receipt of hazardous waste. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) The wording of the certificate of insurance must be identical to the wording specified in § 264.151(e).

(3) The post-closure insurance policy must be issued for a face amount at least equal to the current post-closure cost estimate, except as provided in § 264.145(g). The term ''face amount'' means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) The post-closure insurance policy must guarantee that funds will be available to provide post-closure care of the facility whenever the post-closure period begins. The policy must also guarantee that once post-closure care begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Regional Administrator, to such party or parties as the Regional Administrator specifies.

(5) An owner or operator or any other person authorized to conduct post-closure care may request reimbursements for post-closure care expenditures by submitting itemized bills to the Regional Administrator. Within 60 days after receiving bills for post-closure care activities, the Regional Administrator will instruct the insurer to make reimbursements in those amounts as the Regional Administrator specifies in writing, if the Regional Administrator determines that the post-closure care expenditures are in accordance with the approved post-closure plan or otherwise justified. If the Regional Administrator does not instruct the insurer to make such reimbursements, he will provide the owner or operator with a detailed written statement of reasons.

(6) The owner or operator must maintain the policy in full force and effect until the Regional Administrator consents to termination of the policy by the owner or operator as specified in paragraph (e)(11) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in this section, will constitute a significant violation of these regulations, warranting such remedy as the Regional Administrator deems necessary. Such violation will be deemed to begin upon receipt by the Regional Administrator of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(8) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a

minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Regional Administrator. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the Regional Administrator and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

(i) The Regional Administrator deems the facility abandoned; or

(ii) The permit is terminated or revoked or a new permit is denied; or

(iii) Closure is ordered by the Regional Administrator or a U.S. district court or other court of competent jurisdiction; or

(iv) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

(v) The premium due is paid.

(9) Whenever the current post-closure cost estimate increases to an amount greater than the face amount of the policy during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the face amount may be reduced to the amount of the current post-closure cost estimate following written approval by the Regional Administrator.

(10) Commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. Such increase must be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to 85 percent of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. Treasury for 26-week Treasury securities.

(11) The Regional Administrator will give written consent to the owner or operator that he may terminate the insurance policy when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

(f) *Financial test and corporate guarantee for post-closure care.* (1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria of either paragraph (f)(1)(i) or (ii) of this section:

(i) The owner or operator must have:

(A) Two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(B) Net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A or Baa as issued by Moody's; and

(B) Tangible net worth at least six times the sum of the current closure and post-closure cost estimates and the

current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets located in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(2) The phrase ''current closure and post-closure cost estimates'' as used in paragraph (f)(1) of this section refers to the cost estimates required to be shown in paragraphs 1–4 of the letter from the owner's or operator's chief financial officer (§ 264.151(f)). The phrase ''current plugging and abandonment cost estimates'' as used in paragraph (f)(1) of this section refers to the cost estimates required to be shown in paragraphs 1–4 of the letter from the owner's or operator's chief financial officer (§ 144.70(f) of this title).

(3) To demonstrate that he meets this test, the owner or operator must submit the following items to the Regional Administrator:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in § 264.151(f); and

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) An owner or operator of a new facility must submit the items specified in paragraph (f)(3) of this section to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for disposal.

(5) After the initial submission of items specified in paragraph (f)(3) of this section, the owner or operator must send updated information to the Regional Administrator within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (f)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, he must send notice to the Regional Administrator of intent to establish alternate financial assurance as specified in this section. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within 120 days after the end of such fiscal year.

(7) The Regional Administrator may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (f)(1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in paragraph (f)(3) of this section. If the Regional Administrator finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, the owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of such a finding.

(8) The Regional Administrator may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (f)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Regional Administrator will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of the disallowance.

(9) During the period of post-closure care, the Regional Administrator may

approve a decrease in the current post-closure cost estimate for which this test demonstrates financial assurance if the owner or operator demonstrates to the Regional Administrator that the amount of the cost estimate exceeds the remaining cost of post-closure care.

(10) The owner or operator is no longer required to submit the items specified in paragraph (f)(3) of this section when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

(11) An owner or operator may meet the requirements for this section by obtaining a written guarantee. The guarantor must be the direct of higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a ''substantial business relationship'' with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (f)(1) through (9) of this section and must comply with the terms of the guarantee. The wording of the guarantee must be identical to the wording specified in § 264.151(h). A certified copy of the guarantee must accompany the items sent to the Regional Administrator as specified in paragraph (f)(3) of this section. One of these items must be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, the letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a ''substantial business relationship'' with the owner or operator, this letter must describe this ''substantial business relationship'' and the value received in consideration of the guarantee. The terms of the guarantee must provide that:

(i) If the owner or operator fails to perform post-closure care of a facility covered by the corporate guarantee in accordance with the post-closure plan and other permit requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in § 264.145(a) in the name of the owner or operator.

(ii) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidenced by the return receipts.

(iii) If the owner or operator fails to provide alternate financial assurance as specified in this section and obtain the written approval of such alternate assurance from the Regional Administrator within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternate financial assurance in the name of the owner or operator.

(g) *Use of multiple financial mechanisms.* An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, and insurance. The mechanisms must be as specified in paragraphs (a), (b), (d), and (e), respectively, of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current post-closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The Regional Administrator may use any or all of the mechanisms to provide for post-closure care of the facility.

(h) *Use of a financial mechanism for multiple facilities.* An owner or operator may use a financial assurance mechanism specified in this section to meet the requirements of this section for

more than one facility. Evidence of financial assurance submitted to the Regional Administrator must include a list showing, for each facility, the EPA Identification Number, name, address, and the amount of funds for post-closure care assured by the mechanism. If the facilities covered by the mechanism are in more than one Region, identical evidence of financial assurance must be submitted to and maintained with the Regional Administrators of all such Regions. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for post-closure care of any of the facilities covered by the mechanism, the Regional Administrator may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(i) *Release of the owner or operator from the requirements of this section.* Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that the post-closure care period has been completed for a hazardous waste disposal unit in accordance with the approved plan, the Regional Administrator will notify the owner or operator that he is no longer required to maintain financial assurance for post-closure care of that unit, unless the Regional Administrator has reason to believe that post-closure care has not been in accordance with the approved post-closure plan. The Regional Administrator shall provide the owner or operator with a detailed written statement of any such reason to believe that post-closure care has not been in accordance with the approved post-closure plan.

[47 FR 15047, Apr. 7, 1982, as amended at 51 FR 16449, May 2, 1986; 57 FR 42836, Sept. 16, 1992]

§ 264.146 Use of a mechanism for financial assurance of both closure and post-closure care.

An owner or operator may satisfy the requirements for financial assurance for both closure and post-closure care for one or more facilities by using a trust fund, surety bond, letter of credit, insurance, financial test, or corporate guarantee that meets the specifications for the mechanism in both §§ 264.143 and 264.145. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for financial assurance of closure and of post-closure care.

§ 264.147 Liability requirements.

(a) *Coverage for sudden accidental occurrences.* An owner or operator of a hazardous waste treatment, storage, or disposal facility, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for sudden accidental occurrences in the amount of at least $1 million per occurrence with an annual aggregate of at least $2 million, exclusive of legal defense costs. This liability coverage may be demonstrated as specified in paragraphs (a) (1), (2), (3), (4), (5), or (6) of this section:

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this paragraph.

(i) Each insurance policy must be amended by attachment of the Hazardous Waste Facility Liability Endorsement or evidenced by a Certificate of Liability Insurance. The wording of the endorsement must be identical to the wording specified in § 264.151(i). The wording of the certificate of insurance must be identical to the wording specified in § 264.151(j). The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Regional Administrator, or Regional Administrators if the facilities are located in more than one Region. If requested by a Regional Administrator, the owner or operator must provide a signed duplicate original of the insurance policy. An owner or operator of a new facility

must submit the signed duplicate original of the Hazardous Waste Facility Liability Endorsement or the Certificate of Liability Insurance to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste.

(ii) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) An owner or operator may meet the requirements of this section by passing a financial test or using the guarantee for liability coverage as specified in paragraphs (f) and (g) of this section.

(3) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in paragraph (h) of this section.

(4) An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in paragraph (i) of this section.

(5) An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in paragraph (j) of this section.

(6) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated must total at least the minimum amounts required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this paragraph, the owner or operator shall specify at least one such assurance as ''primary'' coverage and shall specify other assurance as ''excess'' coverage.

(7) An owner or operator shall notify the Regional Administrator in writing within 30 days whenever:

(i) A claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in paragraphs (a)(1) through (a)(6) of this section; or

(ii) A Certification of Valid Claim for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under paragraphs (a)(1) through (a)(6) of this section; or

(iii) A final court order establishing a judgment for bodily injury or property damage caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under paragraphs (a)(1) through (a)(6) of this section.

(b) *Coverage for nonsudden accidental occurrences.* An owner or operator of a surface impoundment, landfill, land treatment facility, or disposal miscellaneous unit that 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. The owner or operator must have and maintain liability coverage for nonsudden accidental occurrences in the amount of at least $3 million per occurrence with an annual aggregate of at least $6 million, exclusive of legal defense costs. An owner or operator who must meet the requirements of this section may combine the required per-occurrence coverage levels for sudden and nonsudden accidental occurrences into a single per-occurrence level, and combine the required annual aggregate coverage levels for

sudden and nonsudden accidental occurrences into a single annual aggregate level. Owners or operators who combine coverage levels for sudden and nonsudden accidental occurrences must maintain liability coverage in the amount of at least $4 million per occurrence and $8 million annual aggregate. This liability coverage may be demonstrated as specified in paragraphs (b)(1), (2), (3), (4), (5), or (6), of this section:

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this paragraph.

(i) Each insurance policy must be amended by attachment of the Hazardous Waste Facility Liability Endorsement or evidenced by a Certificate of Liability Insurance. The wording of the endorsement must be identical to the wording specified in § 264.151(i). The wording of the certificate of insurance must be identical to the wording specified in § 264.151(j). The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Regional Administrator, or Regional Administrators if the facilities are located in more than one Region. If requested by a Regional Administrator, the owner or operator must provide a signed duplicate original of the insurance policy. An owner or operator of a new facility must submit the signed duplicate original of the Hazardous Waste Facility Liability Endorsement or the Certificate of Liability Insurance to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste.

(ii) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) An owner or operator may meet the requirements of this section by passing a financial test or using the guarantee for liability coverage as specified in paragraphs (f) and (g) of this section.

(3) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in paragraph (h) of this section.

(4) An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in paragraph (i) of this section.

(5) An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in paragraph (j) of this section.

(6) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated must total at least the minimum amount required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this paragraph, the owner or operator shall specify at least one such assurance as ''primary'' coverage and shall specify other assurance as ''excess'' coverage.

(7) An owner or operator shall notify the Regional Administrator in writing within 30 days whenever:

(i) A Claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in paragraphs (b)(1) through (b)(6) of this section; or

(ii) A Certification of Valid Claim for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under paragraphs (b)(1) through (b)(6) of this section; or

(iii) A final court order establishing a judgment for bodily injury or property

damage caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under paragraphs (b)(1) through (b)(6) of this section.

(c) *Request for variance.* If an owner or operator can demonstrate to the satisfaction of the Regional Administrator that the levels of financial responsibility required by paragraph (a) or (b) of this section are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the owner or operator may obtain a variance from the Regional Administrator. The request for a variance must be submitted to the Regional Administrator as part of the application under § 270.14 of this chapter for a facility that does not have a permit, or pursuant to the procedures for permit modification under § 124.5 of this chapter for a facility that has a permit. If granted, the variance will take the form of an adjusted level of required liability coverage, such level to be based on the Regional Administrator's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. The Regional Administrator may require an owner or operator who requests a variance to provide such technical and engineering information as is deemed necessary by the Regional Administrator to determine a level of financial responsibility other than that required by paragraph (a) or (b) of this section. Any request for a variance for a permitted facility will be treated as a request for a permit modification under §§ 270.41(a)(5) and 124.5 of this chapter.

(d) *Adjustments by the Regional Administrator.* If the Regional Administrator determines that the levels of financial responsibility required by paragraph (a) or (b) of this section are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the Regional Administrator may adjust the level of financial responsibility required under paragraph (a) or (b) of this section as may be necessary to protect human health and the environment. This adjusted level will be based on the Regional Administrator's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. In addition, if the Regional Administrator determines that there is a significant risk to human health and the environment from nonsudden accidental occurrences resulting from the operations of a facility that is not a surface impoundment, landfill, or land treatment facility, he may require that an owner or operator of the facility comply with paragraph (b) of this section. An owner or operator must furnish to the Regional Administrator, within a reasonable time, any information which the Regional Administrator requests to determine whether cause exists for such adjustments of level or type of coverage. Any adjustment of the level or type of coverage for a facility that has a permit will be treated as a permit modification under §§ 270.41(a)(5) and 124.5 of this chapter.

(e) *Period of coverage.* Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that final closure has been completed in accordance with the approved closure plan, the Regional Administrator will notify the owner or operator in writing that he is no longer required by this section to maintain liability coverage for that facility, unless the Regional Administrator has reason to believe that closure has not been in accordance with the approved closure plan.

(f) *Financial test for liability coverage.* (1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria of paragraph (f)(1)(i) or (ii):

(i) The owner or operator must have:

(A) Net working capital and tangible net worth each at least six times the amount of liability coverage to be demonstrated by this test; and

(B) Tangible net worth of at least $10 million; and

(C) Assets in the United States amounting to either: (*1*) At least 90 percent of his total assets; or (*2*) at least six times the amount of liability coverage to be demonstrated by this test.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's, or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) Tangible net worth of at least $10 million; and

(C) Tangible net worth at least six times the amount of liability coverage to be demonstrated by this test; and

(D) Assets in the United States amounting to either: (*1*) At least 90 percent of his total assets; or (*2*) at least six times the amount of liability coverage to be demonstrated by this test.

(2) The phrase ''amount of liability coverage'' as used in paragraph (f)(1) of this section refers to the annual aggregate amounts for which coverage is required under paragraphs (a) and (b) of this section.

(3) To demonstrate that he meets this test, the owner or operator must submit the following three items to the Regional Administrator:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in § 264.151(g). If an owner or operator is using the financial test to demonstrate both assurance for closure or post-closure care, as specified by §§ 264.143(f), 264.145(f), 265.143(e), and 265.145(e), and liability coverage, he must submit the letter specified in § 264.151(g) to cover both forms of financial responsibility; a separate letter as specified in § 264.151(f) is not required.

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year.

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) An owner or operator of a new facility must submit the items specified in paragraph (f)(3) of this section to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal.

(5) After the initial submission of items specified in paragraph (f)(3) of this section, the owner or operator must send updated information to the Regional Administrator within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (f)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, he must obtain insurance, a letter of credit, a surety bond, a trust fund, or a guarantee for the entire amount of required liability coverage as specified in this section. Evidence of liability coverage must be submitted to the Regional Administrator within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the test requirements.

(7) The Regional Administrator may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (f)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Regional Administrator will evaluate other qualifications on an individual basis. The owner or operator must provide evidence of insurance for the entire amount of required liability coverage as specified in this section within 30 days after notification of disallowance.

(g) *Guarantee for liability coverage.* (1) Subject to paragraph (g)(2) of this section, an owner or operator may meet the requirements of this section by obtaining a written guarantee, hereinafter referred to as ''guarantee.'' The guarantor must be the direct or higher-tier parent corporation of the owner or

operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a ''substantial business relationship'' with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (f)(1) through (f)(6) of this section. The wording of the guarantee must be identical to the wording specified in § 264.151(h)(2) of this part. A certified copy of the guarantee must accompany the items sent to the Regional Administrator as specified in paragraph (f)(3) of this section. One of these items must be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, this letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a ''substantial business relationship'' with the owner or operator, this letter must describe this ''substantial business relationship'' and the value received in consideration of the guarantee.

(i) If the owner or operator fails to satisfy a judgment based on a determination of liability for bodily injury or property damage to third parties caused by sudden or nonsudden accidental occurrences (or both as the case may be), arising from the operation of facilities covered by this corporate guarantee, or fails to pay an amount agreed to in settlement of claims arising from or alleged to arise from such injury or damage, the guarantor will do so up to the limits of coverage.

(ii) [Reserved]

(2)(i) In the case of corporations incorporated in the United States, a guarantee may be used to satisfy the requirements of this section only if the Attorneys General or Insurance Commissioners of (A) the State in which the guarantor is incorporated, and (B) each State in which a facility covered by the guarantee is located have submitted a written statement to EPA that a guarantee executed as described in this section and § 264.151(h)(2) is a legally valid and enforceable obligation in that State.

(ii) In the case of corporations incorporated outside the United States, a guarantee may be used to satisfy the requirements of this section only if (A) the non-U.S. corporation has identified a registered agent for service of process in each State in which a facility covered by the guarantee is located and in the State in which it has its principal place of business, and (B) the Attorney General or Insurance Commissioner of each State in which a facility covered by the guarantee is located and the State in which the guarantor corporation has its principal place of business, has submitted a written statement to EPA that a guarantee executed as described in this section and § 264.151(h)(2) is a legally valid and enforceable obligation in that State.

(h) *Letter of credit for liability coverage.* (1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter or credit that conforms to the requirements of this paragraph and submitting a copy of the letter of credit to the Regional Administrator.

(2) The financial institution issuing the letter of credit must be an entity that has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a Federal or State agency.

(3) The wording of the letter of credit must be identical to the wording specified in § 264.151(k) of this part.

(4) An owner or operator who uses a letter of credit to satisfy the requirements of this section may also establish a standby trust fund. Under the terms of such a letter of credit, all amounts paid pursuant to a draft by the trustee of the standby trust will be deposited by the issuing institution into the standby trust in accordance with instructions from the trustee. The trustee of the standby trust fund must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(5) The wording of the standby trust fund must be identical to the wording specified in § 264.151(n).

(i) *Surety bond for liability coverage.* (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond that conforms to the requirements of this paragraph and submitting a copy of the bond to the Regional Administrator.

(2) The surety company issuing the bond must be among those listed as acceptable sureties on Federal bonds in the most recent Circular 570 of the U.S. Department of the Treasury.

(3) The wording of the surety bond must be identical to the wording specified in § 264.151(l) of this part.

(4) A surety bond may be used to satisfy the requirements of this section only if the Attorneys General or Insurance Commissioners of (i) the State in which the surety is incorporated, and (ii) each State in which a facility covered by the surety bond is located have submitted a written statement to EPA that a surety bond executed as described in this section and § 264.151(l) of this part is a legally valid and enforceable obligation in that State.

(j) *Trust fund for liability coverage.* (1) An owner or operator may satisfy the requirements of this section by establishing a trust fund that conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Regional Administrator.

(2) The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(3) The trust fund for liability coverage must be funded for the full amount of the liability coverage to be provided by the trust fund before it may be relied upon to satisfy the requirements of this section. If at any time after the trust fund is created the amount of funds in the trust fund is reduced below the full amount of the liability coverage to be provided, the owner or operator, by the anniversary date of the establishment of the fund, must either add sufficient funds to the trust fund to cause its value to equal the full amount of liability coverage to be provided, or obtain other financial assurance as specified in this section to cover the difference. For purposes of this paragraph, ''the full amount of the liability coverage to be provided'' means the amount of coverage for sudden and/or nonsudden occurrences required to be provided by the owner or operator by this section, less the amount of financial assurance for liability coverage that is being provided by other financial assurance mechanisms being used to demonstrate financial assurance by the owner or operator.

(4) The wording of the trust fund must be identical to the wording specified in § 264.151(m) of this part.

(k) Notwithstanding any other provision of this part, an owner or operator using liability insurance to satisfy the requirements of this section may use, until October 16, 1982, a Hazardous Waste Facility Liability Endorsement or Certificate of Liability Insurance that does not certify that the insurer is licensed to transact the business of insurance, or eligible as an excess or surplus lines insurer, in one or more States.

[47 FR 16554, Apr. 16, 1982, as amended at 47 FR 28627, July 1, 1982; 47 FR 30447, July 13, 1982; 48 FR 30115, June 30, 1983; 51 FR 16450, May 2, 1986; 51 FR 25354, July 11, 1986; 52 FR 44320, Nov. 18, 1987; 52 FR 46964, Dec. 10, 1987; 53 FR 33950, Sept. 1, 1988; 56 FR 30200, July 1, 1991; 57 FR 42836, Sept. 16, 1992]

§ 264.148 Incapacity of owners or operators, guarantors, or financial institutions.

(a) An owner or operator must notify the Regional Administrator by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor, within 10 days after commencement of the proceeding. A guarantor of a corporate guarantee as specified in §§ 264.143(f) and 264.145(f) must make such a notification if he is named as debtor, as required under the terms of the corporate guarantee (§ 264.151(h)).

(b) An owner or operator who fulfills the requirements of § 264.143, § 264.145, or § 264.147 by obtaining a trust fund, surety bond, letter of credit, or insurance policy will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee or of the institution issuing the surety bond, letter of credit, or insurance policy to issue such instruments. The owner or operator must establish other financial assurance or

liability coverage within 60 days after such an event.

§ 264.149 Use of State-required mechanisms.

(a) For a facility located in a State where EPA is administering the requirements of this subpart but where the State has hazardous waste regulations that include requirements for financial assurance of closure or post-closure care or liability coverage, an owner or operator may use State-required financial mechanisms to meet the requirements of § 264.143, § 264.145, or § 264.147, if the Regional Administrator determines that the State mechanisms are at least equivalent to the financial mechanism specified in this subpart. The Regional Administrator will evaluate the equivalency of the mechanisms principally in terms of (1) certainty of the availability of funds for the required closure or post-closure care activities or liability coverage and (2) the amount of funds that will be made available. The Regional Administrator may also consider other factors as he deems appropriate. The owner or operator must submit to the Regional Administrator evidence of the establishment of the mechanism together with a letter requesting that the State-required mechanism be considered acceptable for meeting the requirements of this subpart. The submission must include the following information: The facility's EPA Identification Number, name, and address, and the amount of funds for closure or post-closure care or liability coverage assured by the mechanism. The Regional Administrator will notify the owner or operator of his determination regarding the mechanism's acceptability in lieu of financial mechanisms specified in this subpart. The Regional Administrator may require the owner or operator to submit additional information as is deemed necessary to make this determination. Pending this determination, the owner or operator will be deemed to be in compliance with the requirements of § 264.143, § 264.145, or § 264.147, as applicable.

(b) If a State-required mechanism is found acceptable as specified in paragraph (a) of this section except for the amount of funds available, the owner or operator may satisfy the requirements of this subpart by increasing the funds available through the State-required mechanism or using additional financial mechanisms as specified in this subpart. The amount of funds available through the State and Federal mechanisms must at least equal the amount required by this subpart.

§ 264.150 State assumption of responsibility.

(a) If a State either assumes legal responsibility for an owner's or operator's compliance with the closure, post-closure care, or liability requirements of this part or assures that funds will be available from State sources to cover those requirements, the owner or operator will be in compliance with the requirements of § 264.143, § 264.145, or § 264.147 if the Regional Administrator determines that the State's assumption of responsibility is at least equivalent to the financial mechanisms specified in this subpart. The Regional Administrator will evaluate the equivalency of State guarantees principally in terms of (1) certainty of the availability of funds for the required closure or post-closure care activities or liability coverage and (2) the amount of funds that will be made available. The Regional Administrator may also consider other factors as he deems appropriate. The owner or operator must submit to the Regional Administrator a letter from the State describing the nature of the State's assumption of responsibility together with a letter from the owner or operator requesting that the State's assumption of responsibility be considered acceptable for meeting the requirements of this subpart. The letter from the State must include, or have attached to it, the following information: the facility's EPA Identification Number, name, and address, and the amount of funds for closure or post-closure care or liability coverage that are guaranteed by the State. The Regional Administrator will notify the owner or operator of his determination regarding the acceptability of the State's guarantee in lieu of financial mechanisms specified in this subpart. The Regional Administrator may require the owner or operator to submit additional information as

is deemed necessary to make this determination. Pending this determination, the owner or operator will be deemed to be in compliance with the requirements of § 264.143, § 264.145, or § 264.147, as applicable.

(b) If a State's assumption of responsibility is found acceptable as specified in paragraph (a) of this section except for the amount of funds available, the owner or operator may satisfy the requirements of this subpart by use of both the State's assurance *and* additional financial mechanisms as specified in this subpart. The amount of funds available through the State and Federal mechanisms must at least equal the amount required by this subpart.

§ 264.151 Wording of the instruments.

(a)(1) A trust agreement for a trust fund, as specified in § 264.143(a) or § 264.145(a) or § 265.143(a) or § 265.145(a) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

TRUST AGREEMENT

Trust Agreement, the ''Agreement,'' entered into as of [date] by and between [name of the owner or operator], a [name of State] [insert ''corporation,'' ''partnership,'' ''association,'' or ''proprietorship''], the ''Grantor,'' and [name of corporate trustee], [insert ''incorporated in the State of ——'' or ''a national bank''], the ''Trustee.''

Whereas, the United States Environmental Protection Agency, ''EPA,'' an agency of the United States Government, has established certain regulations applicable to the Grantor, requiring that an owner or operator of a hazardous waste management facility shall provide assurance that funds will be available when needed for closure and/or post-closure care of the facility,

Whereas, the Grantor has elected to establish a trust to provide all or part of such financial assurance for the facilities identified herein,

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee,

Now, Therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

(a) The term ''Grantor'' means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term ''Trustee'' means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Facilities and Cost Estimates. This Agreement pertains to the facilities and cost estimates identified on attached Schedule A [on Schedule A, for each facility list the EPA Identification Number, name, address, and the current closure and/or post-closure cost estimates, or portions thereof, for which financial assurance is demonstrated by this Agreement].

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, the ''Fund,'' for the benefit of EPA. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by EPA.

Section 4. Payment for Closure and Post-Closure Care. The Trustee shall make payments from the Fund as the EPA Regional Administrator shall direct, in writing, to provide for the payment of the costs of closure and/or post-closure care of the facilities covered by this Agreement. The Trustee shall reimburse the Grantor or other persons as specified by the EPA Regional Administrator from the Fund for closure and post-closure expenditures in such amounts as the EPA Regional Administrator shall direct in writing. In addition, the Trustee shall refund to the Grantor such amounts as the EPA Regional Administrator specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this section. In investing, reinvesting, exchanging, selling, and managing the Fund, the

Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; *except that:*

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a–2.(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or a State government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or State government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a–1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depositary even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depositary with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuation. The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the appropriate EPA Regional Administrator a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the EPA Regional Administrator shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the EPA Regional Administrator, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendment to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the EPA Regional Administrator to the Trustee shall be in writing, signed by the EPA Regional Administrators of the Regions in which the facilities are located, or their designees, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or EPA hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or EPA, except as provided for herein.

Section 15. Notice of Nonpayment. The Trustee shall notify the Grantor and the appropriate EPA Regional Administrator, by certified mail within 10 days following the expiration of the 30-day period after the anniversary of the establishment of the Trust, if no payment is received from the Grantor during that period. After the pay-in period is completed, the Trustee shall not be required to send a notice of nonpayment.

Section 16. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the appropriate EPA Regional Administrator, or by the Trustee and the appropriate EPA Regional Administrator if the Grantor ceases to exist.

Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the EPA Regional Administrator, or by the Trustee and the EPA Regional Administrator, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

Section 18. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the EPA Regional Administrator issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the State of [insert name of State].

Section 20. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written: The parties below certify that the wording of this Agreement is identical to the wording specified in 40 CFR 264.151(a)(1) as such regulations were constituted on the date first above written.

[Signature of Grantor]
[Title]
Attest:
[Title]
[Seal]
[Signature of Trustee]
Attest:
[Title]
[Seal]

(2) The following is an example of the certification of acknowledgment which must accompany the trust agreement for a trust fund as specified in §§ 264.143(a) and 264.145(a) or §§ 265.143(a) or 265.145(a) of this chapter. State requirements may differ on the proper content of this acknowledgment.

State of _____
County of _____

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

[Signature of Notary Public]

(b) A surety bond guaranteeing payment into a trust fund, as specified in § 264.143(b) or § 264.145(b) or § 265.143(b) or § 265.145(b) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

FINANCIAL GUARANTEE BOND

Date bond executed:
Effective date:
Principal: [legal name and business address of owner or operator]
Type of Organization: [insert ''individual,'' ''joint venture,'' ''partnership,'' or ''corporation''] _____
State of incorporation: _____
Surety(ies): [name(s) and business address(es)]
EPA Identification Number, name, address and closure and/or post-closure amount(s) for each facility guaranteed by this bond [indicate closure and post-closure amounts separately]: _____
Total penal sum of bond: $ _____
Surety's bond number: _____

Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto are firmly bound to the U.S. Environmental Protection Agency (hereinafter called EPA), in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum ''jointly and severally'' only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas said Principal is required, under the Resource Conservation and Recovery Act as amended (RCRA), to have a permit or interim status in order to own or operate each hazardous waste management facility identified above, and

Whereas said Principal is required to provide financial assurance for closure, or closure and post-closure care, as a condition of the permit or interim status, and

Whereas said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, Therefore, the conditions of the obligation are such that if the Principal shall faithfully, before the beginning of final closure of each facility identified above, fund the standby trust fund in the amount(s) identified above for the facility,

Or, if the Principal shall fund the standby trust fund in such amount(s) within 15 days after a final order to begin closure is issued by an EPA Regional Administrator or a U.S. district court or other court of competent jurisdiction,

Or, if the Principal shall provide alternate financial assurance, as specified in subpart H of 40 CFR part 264 or 265, as applicable, and obtain the EPA Regional Administrator's written approval of such assurance, within 90 days after the date notice of cancellation is received by both the Principal and the EPA Regional Administrator(s) from the Surety(ies), then this obligation shall be null and void; otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above. Upon notification by an EPA Regional Administrator that the Principal has failed to perform as guaranteed by this bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the EPA Regional Administrator.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal and to the EPA Regional Administrator(s) for the Region(s) in

which the facility(ies) is (are) located, provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by both the Principal and the EPA Regional Administrator(s), as evidenced by the return receipts.

The Principal may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the EPA Regional Administrator(s) of the EPA Region(s) in which the bonded facility(ies) is (are) located.

[The following paragraph is an optional rider that may be included but is not required.]

Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new closure and/or post-closure amount, provided that the penal sum does not increase by more than 20 percent in any one year, and no decrease in the penal sum takes place without the written permission of the EPA Regional Administrator(s).

In Witness Whereof, the Principal and Surety(ies) have executed this Financial Guarantee Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in 40 CFR 264.151(b) as such regulations were constituted on the date this bond was executed.

Principal

[Signature(s)] _____

[Name(s)] _____

[Title(s)] _____

[Corporate seal] _____

Corporate Surety(ies)

[Name and address]
State of incorporation:] _____

Liability limit: $ _____

[Signature(s)]
[Name(s) and title(s)]
[Corporate seal]
[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]
Bond premium: $ _____

(c) A surety bond guaranteeing performance of closure and/or post-closure care, as specified in § 264.143(c) or § 264.145(c), must be worded as follows, except that the instructions in brackets are to be replaced with the relevant information and the brackets deleted:

PERFORMANCE BOND

Date bond executed: _____

Effective date: _____

Principal: [legal name and business address of owner or operator]

Type of organization: [insert ''individual,'' ''joint venture,'' ''partnership,'' or ''corporation'']
State of incorporation: _____

Surety(ies): [name(s) and business address(es)] _____

EPA Identification Number, name, address, and closure and/or post-closure amount(s) for each facility guaranteed by this bond [indicate closure and post-closure amounts separately]:———

Total penal sum of bond: $ _____
Surety's bond number: _____

Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto are firmly bound to the U.S. Environmental Protection Agency (hereinafter called EPA), in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum ''jointly and severally'' only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas said Principal is required, under the Resource Conservation and Recovery Act as amended (RCRA), to have a permit in order to own or operate each hazardous waste management facility identified above, and

Whereas said Principal is required to provide financial assurance for closure, or closure and post-closure care, as a condition of the permit, and

Whereas said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, Therefore, the conditions of this obligation are such that if the Principal shall faithfully perform closure, whenever required to do so, of each facility for which this bond guarantees closure, in accordance with the closure plan and other requirements of the permit as such plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended,

And, if the Principal shall faithfully perform post-closure care of each facility for

which this bond guarantees post-closure care, in accordance with the post-closure plan and other requirements of the permit, as such plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended,

Or, if the Principal shall provide alternate financial assurance as specified in subpart H of 40 CFR part 264, and obtain the EPA Regional Administrator's written approval of such assurance, within 90 days after the date notice of cancellation is received by both the Principal and the EPA Regional Administrator(s) from the Surety(ies), then this obligation shall be null and void, otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above.

Upon notification by an EPA Regional Administrator that the Principal has been found in violation of the closure requirements of 40 CFR part 264, for a facility for which this bond guarantees performance of closure, the Surety(ies) shall either perform closure in accordance with the closure plan and other permit requirements or place the closure amount guaranteed for the facility into the standby trust fund as directed by the EPA Regional Administrator.

Upon notification by an EPA Regional Administrator that the Principal has been found in violation of the post-closure requirements of 40 CFR part 264 for a facility for which this bond guarantees performance of post-closure care, the Surety(ies) shall either perform post-closure care in accordance with the post-closure plan and other permit requirements or place the post-closure amount guaranteed for the facility into the standby trust fund as directed by the EPA Regional Administrator.

Upon notification by an EPA Regional Administrator that the Principal has failed to provide alternate financial assurance as specified in subpart H of 40 CFR part 264, and obtain written approval of such assurance from the EPA Regional Administrator(s) during the 90 days following receipt by both the Principal and the EPA Regional Administrator(s) of a notice of cancellation of the bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the EPA Regional Administrator.

The surety(ies) hereby waive(s) notification of amendments to closure plans, permits, applicable laws, statutes, rules, and regulations and agrees that no such amendment shall in any way alleviate its (their) obligation on this bond.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the EPA Regional Administrator(s) for the Region(s) in which the facility(ies) is (are) located, provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by both the Principal and the EPA Regional Administrator(s), as evidenced by the return receipts.

The principal may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the EPA Regional Administrator(s) of the EPA Region(s) in which the bonded facility(ies) is (are) located.

[The following paragraph is an *optional* rider that may be included but is not required.]

Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new closure and/or post-closure amount, provided that the penal sum does not increase by more than 20 percent in any one year, and no decrease in the penal sum takes place without the written permission of the EPA Regional Administrator(s).

In Witness Whereof, The Principal and Surety(ies) have executed this Performance Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in 40 CFR 264.151(c) as such regulation was constituted on the date this bond was executed.

Principal

[Signature(s)]

[Name(s)]

[Title(s)]

[Corporate seal]

Corporate Surety(ies)

[Name and address]

State of incorporation: _____

Liability limit: $ _____

[Signature(s)]

[Name(s) and title(s)]

[Corporate seal]

[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]

Bond premium: $ _____

(d) A letter of credit, as specified in § 264.143(d) or § 264.145(d) or § 265.143(c) or § 265.145(c) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

IRREVOCABLE STANDBY LETTER OF CREDIT

Regional Administrator(s)
Region(s) _____
U.S. Environmental Protection Agency

Dear Sir or Madam: We hereby establish our Irrevocable Standby Letter of Credit No. _____ in your favor, at the request and for the account of [owner's or operator's name and address] up to the aggregate amount of [in words] U.S. dollars $_____, available upon presentation [insert, if more than one Regional Administrator is a beneficiary, ''by any one of you''] of

(1) your sight draft, bearing reference to this letter of credit No. _____, and

(2) your signed statement reading as follows: ''I certify that the amount of the draft is payable pursuant to regulations issued under authority of the Resource Conservation and Recovery Act of 1976 as amended.''

This letter of credit is effective as of [date] and shall expire on [date at least 1 year later], but such expiration date shall be automatically extended for a period of [at least 1 year] on [date] and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify both you and [owner's or operator's name] by certified mail that we have decided not to extend this letter of credit beyond the current expiration date. In the event you are so notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by both you and [owner's or operator's name], as shown on the signed return receipts.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the draft directly into the standby trust fund of [owner's or operator's name] in accordance with your instructions.

We certify that the wording of this letter of credit is identical to the wording specified in 40 CFR 264.151(d) as such regulations were constituted on the date shown immediately below.

[Signature(s) and title(s) of official(s) of issuing institution] [Date]

This credit is subject to [insert ''the most recent edition of the Uniform Customs and Practice for Documentary Credits, published and copyrighted by the International Chamber of Commerce,'' or ''the Uniform Commercial Code''].

(e) A certificate of insurance, as specified in § 264.143(e) or § 264.145(e) or § 265.143(d) or § 265.145(d) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CERTIFICATE OF INSURANCE FOR CLOSURE OR POST-CLOSURE CARE

Name and Address of Insurer
(herein called the ''Insurer''): _____
Name and Address of Insured
(herein called the ''Insured''): _____
Facilities Covered: [List for each facility: The EPA Identification Number, name, address, and the amount of insurance for closure and/or the amount for post-closure care (these amounts for all facilities covered must total the face amount shown below).]
Face Amount: _____
Policy Number: _____
Effective Date: _____

The Insurer hereby certifies that it has issued to the Insured the policy of insurance identified above to provide financial assurance for [insert ''closure'' or ''closure and post-closure care'' or ''post-closure care''] for the facilities identified above. The Insurer further warrants that such policy conforms in all respects with the requirements of 40 CFR 264.143(e), 264.145(e), 265.143(d), and 265.145(d), as applicable and as such regulations were constituted on the date shown immediately below. It is agreed that any provision of the policy inconsistent with such regulations is hereby amended to eliminate such inconsistency.

Whenever requested by the EPA Regional Administrator(s) of the U.S. Environmental Protection Agency, the Insurer agrees to furnish to the EPA Regional Administrator(s) a duplicate original of the policy listed above, including all endorsements thereon.

I hereby certify that the wording of this certificate is identical to the wording specified in 40 CFR 264.151(e) as such regulations were constituted on the date shown immediately below.

[Authorized signature for Insurer]
[Name of person signing]
[Title of person signing]
Signature of witness or notary: _____
[Date]

(f) A letter from the chief financial officer, as specified in § 264.143(f) or 264.145(f), or § 265.143(e) or 265.143(e) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

LETTER FROM CHIEF FINANCIAL OFFICER

[Address to Regional Administrator of every Region in which facilities for which financial responsibility is to be demonstrated through the financial test are located].

I am the chief financial officer of [name and address of firm]. This letter is in support of this firm's use of the financial test to demonstrate financial assurance for closure and/or post-closure costs, as specified in subpart H of 40 CFR parts 264 and 265.

[Fill out the following five paragraphs regarding facilities and associated cost estimates. If your firm has no facilities that belong in a particular paragraph, write ''None'' in the space indicated. For each facility, include its EPA Identification Number, name, address, and current closure and/or post-closure cost estimates. Identify each cost estimate as to whether it is for closure or post-closure care].

1. This firm is the owner or operator of the following facilities for which financial assurance for closure or post-closure care is demonstrated through the financial test specified in subpart H of 40 CFR parts 264 and 265. The current closure and/or post-closure cost estimates covered by the test are shown for each facility: _____.

2. This firm guarantees, through the guarantee specified in subpart H of 40 CFR parts 264 and 265, the closure or post-closure care of the following facilities owned or operated by the guaranteed party. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility: _____. The firm identified above is [insert one or more: (1) The direct or higher-tier parent corporation of the owner or operator; (2) owned by the same parent corporation as the parent corporation of the owner or operator, and receiving the following value in consideration of this guarantee _____; or (3) engaged in the following substantial business relationship with the owner or operator _____, and receiving the following value in consideration of this guarantee _____]. [Attach a written description of the business relationship or a copy of the contract establishing such relationship to this letter].

3. In States where EPA is not administering the financial requirements of subpart H of 40 CFR part 264 or 265, this firm, as owner or operator or guarantor, is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in subpart H of 40 CFR parts 264 and 265. The current closure and/or post-closure cost estimates covered by such a test are shown for each facility: _____.

4. This firm is the owner or operator of the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated either to EPA or a State through the financial test or any other financial assurance mechanism specified in subpart H of 40 CFR parts 264 and 265 or equivalent or substantially equivalent State mechanisms. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility: _____.

5. This firm is the owner or operator of the following UIC facilities for which financial assurance for plugging and abandonment is required under part 144. The current closure cost estimates as required by 40 CFR 144.62 are shown for each facility: _____.

This firm [insert ''is required'' or ''is not required''] to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended [date].

[Fill in Alternative I if the criteria of paragraph (f)(1)(i) of § 264.143 or § 264.145, or of paragraph (e)(1)(i) of § 265.143 or § 265.145 of this chapter are used. Fill in Alternative II if the criteria of paragraph (f)(1)(ii) of § 264.143 or § 264.145, or of paragraph (e)(1)(ii) of § 265.143 or § 265.145 of this chapter are used.]

ALTERNATIVE I

1. Sum of current closure and post-closure cost estimate [total of all cost estimates shown in the five paragraphs above] $_____

*2. Total liabilities [if any portion of the closure or post-closure cost estimates is included in total liabilities, you may deduct the amount of that portion from this line and add that amount to lines 3 and 4]$_____

*3. Tangible net worth $_____

*4. Net worth $_____

*5. Current assets $_____

*6. Current liabilities $_____

7. Net working capital [line 5 minus line 6] $_____

*8. The sum of net income plus depreciation, depletion, and amortization $_____

*9. Total assets in U.S. (required only if less than 90% of firm's assets are located in the U.S.) $_____

10. Is line 3 at least $10 million? (Yes/No) _____

11. Is line 3 at least 6 times line 1? (Yes/No) _____

12. Is line 7 at least 6 times line 1? (Yes/No) _____

*13. Are at least 90% of firm's assets located in the U.S.? If not, complete line 14 (Yes/No) _____

14. Is line 9 at least 6 times line 1? (Yes/No) _____

15. Is line 2 divided by line 4 less than 2.0? (Yes/No) _____

16. Is line 8 divided by line 2 greater than 0.1? (Yes/No) _____

17. Is line 5 divided by line 6 greater than 1.5? (Yes/No) _____

ALTERNATIVE II

1. Sum of current closure and post-closure cost estimates [total of all cost estimates shown in the five paragraphs above] $_____

2. Current bond rating of most recent issuance of this firm and name of rating service _____

3. Date of issuance of bond _____

4. Date of maturity of bond _____

*5. Tangible net worth [if any portion of the closure and post-closure cost estimates is included in ''total liabilities'' on your firm's financial statements, you may add the amount of that portion to this line] $_____

*6. Total assets in U.S. (required only if less than 90% of firm's assets are located in the U.S.) $_____

7. Is line 5 at least $10 million ? (Yes/No) _____

8. Is line 5 at least 6 times line 1? (Yes/No) _____

*9. Are at least 90% of firm's assets located in the U.S.? If not, complete line 10 (Yes/No) _____

10. Is line 6 at least 6 times line 1? (Yes/No) _____

I hereby certify that the wording of this letter is identical to the wording specified in 40 CFR 264.151(f) as such regulations were constituted on the date shown immediately below.

[Signature] _____

[Name] _____

[Title] _____

[Date] _____

(g) A letter from the chief financial officer, as specified in § 264.147(f) or § 265.147(f) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted.

LETTER FROM CHIEF FINANCIAL OFFICER

[Address to Regional Administrator of every Region in which facilities for which financial responsibility is to be demonstrated through the financial test are located].

I am the chief financial officer of [firm's name and address]. This letter is in support of the use of the financial test to demonstrate financial responsibility for liability coverage [insert ''and closure and/or post-closure care'' if applicable] as specified in subpart H of 40 CFR parts 264 and 265.

[Fill out the following paragraphs regarding facilities and liability coverage. If there are no facilities that belong in a particular paragraph, write ''None'' in the space indicated. For each facility, include its EPA Identification Number, name, and address].

The firm identified above is the owner or operator of the following facilities for which liability coverage for [insert ''sudden'' or ''nonsudden'' or ''both sudden and nonsudden''] accidental occurrences is being demonstrated through the financial test specified in subpart H of 40 CFR parts 264 and 265:_____

The firm identified above guarantees, through the guarantee specified in subpart H of 40 CFR parts 264 and 265, liability coverage for [insert ''sudden'' or ''nonsudden'' of ''both sudden and nonsudden''] accidental occurrences at the following facilities owned or operated by the following: _____. The firm identified above is [insert one or more: (1) The direct or higher-tier parent corporation of the owner or operator; (2) owned by the same parent corporation as the parent corporation of the owner or operator, and receiving the following value in consideration of this guarantee _____; or (3) engaged in the following substantial business relationship with the owner or operator _____, and receiving the following value in consideration of this guarantee _____]. [Attach a written description of the business relationship or a copy of the contract establishing such relationship to this letter.]

[If you are using the financial test to demonstrate coverage of both liability and closure and post-closure care, fill in the following five paragraphs regarding facilities and associated closure and post-closure cost estimates. If there are no facilities that belong in a particular paragraph, write ''None'' in the space indicated. For each facility, include its EPA identification number, name, address, and current closure and/or post-closure cost estimates. Identify each cost estimate as to whether it is for closure or post-closure care.]

1. The firm identified above owns or operates the following facilities for which financial assurance for closure or post-closure care or liability coverage is demonstrated through the financial test specified in subpart H of 40 CFR parts 264 and 265. The current closure and/or post-closure cost estimate covered by the test are shown for each facility: _____.

2. The firm identified above guarantees, through the guarantee specified in subpart H of 40 CFR parts 264 and 265, the closure and post-closure care or liability coverage of the following facilities owned or operated by the guaranteed party. The current cost estimates for closure or post-closure care so guaranteed are shown for each facility: _____.

3. In States where EPA is not administering the financial requirements of subpart H

of 40 CFR parts 264 and 265, this firm is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in subpart H or 40 CFR parts 264 and 265. The current closure or post-closure cost estimates covered by such a test are shown for each facility: _____.

4. The firm identified above owns or operates the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated either to EPA or a State through the financial test or any other financial assurance mechanisms specified in subpart H of 40 CFR parts 264 and 265 or equivalent or substantially equivalent State mechanisms. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility: _____.

5. This firm is the owner or operator or guarantor of the following UIC facilities for which financial assurance for plugging and abandonment is required under part 144 and is assured through a financial test. The current closure cost estimates as required by 40 CFR 144.62 are shown for each facility:_____.

This firm [insert ''is required'' or ''is not required''] to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended [date].

Part A. Liability Coverage for Accidental Occurrences

[Fill in Alternative I if the criteria of paragraph (f)(1)(i) of §264.147 or §265.147 are used. Fill in Alternative II if the criteria of paragraph (f)(1)(ii) of §264.147 or §265.147 are used.]

ALTERNATIVE I

1. Amount of annual aggregate liability coverage to be demonstrated $ _____.

*2. Current assets $ _____.

*3. Current $ _____.

4. Net working capital (line 2 minus line 3) $ _____.

*5. Tangible net worth $ _____.

*6. If less than 90% of assets are located in the U.S., give total U.S. assets $ _____.

7. Is line 5 at least $10 million? (Yes/No) _____.

8. Is line 4 at least 6 times line 1? (Yes/No) _____.

9. Is line 5 at least 6 times line 1? (Yes/No) _____.

*10. Are at least 90% of assets located in the U.S.? (Yes/No) _____. If not, complete line 11.

11. Is line 6 at least 6 times line 1? (Yes/No) _____.

ALTERNATIVE II

1. Amount of annual aggregate liability coverage to be demonstrated $ _____.

2. Current bond rating of most recent issuance and name of rating service _____ _____.

3. Date of issuance of bond _____ _____.

4. Date of maturity of bond _____ _____.

*5. Tangible net worth $ _____.

*6. Total assets in U.S. (required only if less than 90% of assets are located in the U.S.) $ _____.

7. Is line 5 at least $10 million? (Yes/No) _____.

8. Is line 5 at least 6 times line 1? _____.

9. Are at least 90% of assets located in the U.S.? If not, complete line 10. (Yes/No) _____.

10. Is line 6 at least 6 times line 1? _____.

[Fill in part B if you are using the financial test to demonstrate assurance of both liability coverage and closure or post-closure care.]

Part B. Closure or Post-Closure Care and Liability Coverage

[Fill in Alternative I if the criteria of paragraphs (f)(1)(i) of §264.143 or §264.145 and (f)(1)(i) of §264.147 are used or if the criteria of paragraphs (e)(1)(i) of §265.143 or §265.145 and (f)(1)(i) of §265.147 are used. Fill in Alternative II if the criteria of paragraphs (f)(1)(ii) of §264.143 or §264.145 and (f)(1)(ii) of §264.147 are used or if the criteria of paragraphs (e)(1)(i) of §265.143 or §265.145 and (f)(1)(ii) of §265.147 are used.]

ALTERNATIVE I

1. Sum of current closure and post-closure cost estimates (total of all cost estimates listed above) $ _____

2. Amount of annual aggregate liability coverage to be demonstrated $ _____

3. Sum of lines 1 and 2 $ _____

*4. Total liabilities (if any portion of your closure or post-closure cost estimates is included in your total liabilities, you may deduct that portion from this line and add that amount to lines 5 and 6) $ _____

*5. Tangible net worth $ _____

*6. Net worth $ _____

*7. Current assets $ _____

*8. Current liabilities $ _____

9. Net working capital (line 7 minus line 8) $ _____

10. The sum of net income plus depreciation, depletion, and amortization $_____

*11. Total assets in U.S. (required only if less than 90% of assets are located in the U.S.) $ _____

12. Is line 5 at least $10 million? (Yes/No)

13. Is line 5 at least 6 times line 3? (Yes/No)

14. Is line 9 at least 6 times line 3? (Yes/No)

*15. Are at least 90% of assets located in the U.S.? (Yes/No) If, not, complete line 16.

16. Is line 11 at least 6 times line 3? (Yes/No)

17. Is line 4 divided by line 6 less than 2.0? (Yes/No)

18. Is line 10 divided by line 4 greater than 0.1? (Yes/No)

19. Is line 7 divided by line 8 greater than 1.5? (Yes/No)

ALTERNATIVE II

1. Sum of current closure and post-closure cost estimates (total of all cost estimates listed above) $ _____

2. Amount of annual aggregate liability coverage to be demonstrated $ _____

3. Sum of lines 1 and 2 $ _____

4. Current bond rating of most recent issuance and name of rating service _____ _____

5. Date of issuance of bond _____ _____

6. Date of maturity of bond _____ _____

*7. Tangible net worth (if any portion of the closure or post-closure cost estimates is included in ''total liabilities'' on your financial statements you may add that portion to this line) _____ $ _____

*8. Total assets in the U.S. (required only if less than 90% of assets are located in the U.S.) $ _____

9. Is line 7 at least $10 million? (Yes/No)

10. Is line 7 at least 6 times line 3? (Yes/No)

*11. Are at least 90% of assets located in the U.S.? (Yes/No) If not complete line 12.

12. Is line 8 at least 6 times line 3? (Yes/No)

I hereby certify that the wording of this letter is identical to the wording specified in 40 CFR 264.151(g) as such regulations were constituted on the date shown immediately below.

[Signature] _____

[Name] _____

[Title] _____

[Date] _____

(h)(1) A corporate guarantee, as specified in § 264.143(f) or § 264.145(f), or § 265.143(e) or § 265.145(e) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CORPORATE GUARANTEE FOR CLOSURE OR POST-CLOSURE CARE

Guarantee made this [date] by [name of guaranteeing entity], a business corporation organized under the laws of the State of [insert name of State], herein referred to as guarantor. This guarantee is made on behalf of the [owner or operator] of [business address], which is [one of the following: ''our subsidiary''; ''a subsidiary of [name and address of common parent corporation], of which guarantor is a subsidiary''; or ''an entity with which guarantor has a substantial business relationship, as defined in 40 CFR [either 264.141(h) or 265.141(h)]'' to the United States Environmental Protection Agency (EPA).

RECITALS

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in 40 CFR 264.143(f), 264.145(f), 265.143(e), and 265.145(e).

2. [Owner or operator] owns or operates the following hazardous waste management facility(ies) covered by this guarantee: [List for each facility: EPA Identification Number, name, and address. Indicate for each whether guarantee is for closure, post-closure care, or both.]

3. ''Closure plans'' and ''post-closure plans'' as used below refer to the plans maintained as required by subpart G of 40 CFR parts 264 and 265 for the closure and post-closure care of facilities as identified above.

4. For value received from [owner or operator], guarantor guarantees to EPA that in the event that [owner or operator] fails to perform [insert ''closure,'' ''post-closure care'' or ''closure and post-closure care''] of the above facility(ies) in accordance with the closure or post-closure plans and other permit or interim status requirements whenever required to do so, the guarantor shall do so or establish a trust fund as specified in subpart H of 40 CFR part 264 or 265, as applicable, in the name of [owner or operator] in the amount of the current closure or post-closure cost estimates as specified in subpart H of 40 CFR parts 264 and 265.

5. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within 90 days, by certified mail, notice to the EPA Regional Administrator(s) for the Region(s) in which the facility(ies) is(are) located and to [owner or operator] that he intends to provide alternate financial assurance as specified in subpart H of 40 CFR part 264 or 265, as applicable, in the name of [owner or operator]. Within 120 days after the end of such fiscal year, the guarantor shall establish such financial assurance unless [owner or operator] has done so.

6. The guarantor agrees to notify the EPA Regional Administrator by certified mail, of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming

guarantor as debtor, within 10 days after commencement of the proceeding.

7. Guarantor agrees that within 30 days after being notified by an EPA Regional Administrator of a determination that guarantor no longer meets the financial test criteria or that he is disallowed from continuing as a guarantor of closure or post-closure care, he shall establish alternate financial assurance as specified in subpart H of 40 CFR part 264 or 265, as applicable, in the name of [owner or operator] unless [owner or operator] has done so.

8. Guarantor agrees to remain bound under this guarantee notwithstanding any or all of the following: amendment or modification of the closure or post-closure plan, amendment or modification of the permit, the extension or reduction of the time of performance of closure or post-closure, or any other modification or alteration of an obligation of the owner or operator pursuant to 40 CFR part 264 or 265.

9. Guarantor agrees to remain bound under this guarantee for as long as [owner or operator] must comply with the applicable financial assurance requirements of subpart H of 40 CFR parts 264 and 265 for the above-listed facilities, except as provided in paragraph 10 of this agreement.

10. [Insert the following language if the guarantor is (a) a direct or higher-tier corporate parent, or (b) a firm whose parent corporation is also the parent corporation of the owner or operator]:

Guarantor may terminate this guarantee by sending notice by certified mail to the EPA Regional Administrator(s) for the Region(s) in which the facility(ies) is(are) located and to [owner or operator], provided that this guarantee may not be terminated unless and until [the owner or operator] obtains, and the EPA Regional Administrator(s) approve(s), alternate closure and/or post-closure care coverage complying with 40 CFR 264.143, 264.145, 265.143, and/or 265.145.

[Insert the following language if the guarantor is a firm qualifying as a guarantor due to its ''substantial business relationship'' with its owner or operator]

Guarantor may terminate this guarantee 120 days following the receipt of notification, through certified mail, by the EPA Regional Administrator(s) for the Region(s) in which the facility(ies) is(are) located and by [the owner or operator].

11. Guarantor agrees that if [owner or operator] fails to provide alternate financial assurance as specified in subpart H of 40 CFR part 264 or 265, as applicable, and obtain written approval of such assurance from the EPA Regional Administrator(s) within 90 days after a notice of cancellation by the guarantor is received by an EPA Regional Administrator from guarantor, guarantor shall provide such alternate financial assurance in the name of [owner or operator].

12. Guarantor expressly waives notice of acceptance of this guarantee by the EPA or by [owner or operator]. Guarantor also expressly waives notice of amendments or modifications of the closure and/or post-closure plan and of amendments or modifications of the facility permit(s).

I hereby certify that the wording of this guarantee is identical to the wording specified in 40 CFR 264.151(h) as such regulations were constituted on the date first above written.

Effective date: _____

[Name of guarantor] _____

[Authorized signature for guarantor] _____

[Name of person signing] _____

[Title of person signing] _____

Signature of witness or notary: _____

(2) A guarantee, as specified in § 264.147(g) or § 265.147(g) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

GUARANTEE FOR LIABILITY COVERAGE

Guarantee made this [date] by [name of guaranteeing entity], a business corporation organized under the laws of [if incorporated within the United States insert ''the State of _____'' and insert name of State; if incorporated outside the United States insert the name of the country in which incorporated, the principal place of business within the United States, and the name and address of the registered agent in the State of the principal place of business], herein referred to as guarantor. This guarantee is made on behalf of [owner or operator] of [business address], which is one of the following: ''our subsidiary;'' ''a subsidiary of [name and address of common parent corporation], or which guarantor is a subsidiary;'' or ''an entity with which guarantor has a substantial business relationship, as defined in 40 CFR [either 264.141(h)]'', to any and all third parties who have sustained or may sustain bodily injury or property damage caused by [sudden and/or nonsudden] accidental occurrences arising from operation of the facility(ies) covered by this guarantee.

RECITALS

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in 40 CFR 264.147(g) and 265.147(g).

2. [Owner or operator] owns or operates the following hazardous waste management facility(ies) covered by this guarantee: [List for each facility: EPA identification number, name, and address; and if guarantor is incorporated outside the United States list the

name and address of the guarantor's registered agent in each State.] This corporate guarantee satisfies RCRA third-party liability requirements for [insert ''sudden'' or ''nonsudden'' or ''both sudden and nonsudden''] accidental occurrences in above-named owner or operator facilities for coverage in the amount of [insert dollar amount] for each occurrence and [insert dollar amount] annual aggregate.

3. For value received from [owner or operator], guarantor guarantees to any and all third parties who have sustained or may sustain bodily injury or property damage caused by [sudden and/or nonsudden] accidental occurrences arising from operations of the facility(ies) covered by this guarantee that in the event that [owner or operator] fails to satisfy a judgment or award based on a determination of liability for bodily injury or property damage to third parties caused by [sudden and/or nonsudden] accidental occurrences, arising from the operation of the above-named facilities, or fails to pay an amount agreed to in settlement of a claim arising from or alleged to arise from such injury or damage, the guarantor will satisfy such judgment(s), award(s) or settlement agreement(s) up to the limits of coverage identified above.

4. Such obligation does not apply to any of the following:

(a) Bodily injury or property damage for which [insert owner or operator] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert owner or operator] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert owner or operator] under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert owner or operator] arising from, and in the course of, employment by [insert owner or operator]; or

(2) The spouse, child, parent, brother, or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert owner or operator]. This exclusion applies:

(A) Whether [insert owner or operator] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert owner or operator];

(2) Premises that are sold, given away or abandoned by [insert owner or operator] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert owner or operator];

(4) Personal property in the care, custody or control of [insert owner or operator];

(5) That particular part of real property on which [insert owner or operator] or any contractors or subcontractors working directly or indirectly on behalf of [insert owner or operator] are performing operations, if the property damage arises out of these operations.

5. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within 90 days, by certified mail, notice to the EPA Regional Administrator[s] for the Region[s] in which the facility[ies] is[are] located and to [owner or operator] that he intends to provide alternate liability coverage as specified in 40 CFR 264.147 and 265.147, as applicable, in the name of [owner or operator]. Within 120 days after the end of such fiscal year, the guarantor shall establish such liability coverage unless [owner or operator] has done so.

6. The guarantor agrees to notify the EPA Regional Administrator by certified mail of a voluntary or involuntary proceeding under title 11 (Bankruptcy), U.S. Code, naming guarantor as debtor, within 10 days after commencement of the proceeding.

7. Guarantor agrees that within 30 days after being notified by an EPA Regional Administrator of a determination that guarantor no longer meets the financial test criteria or that he is disallowed from continuing as a guarantor, he shall establish alternate liability coverage as specified in 40 CFR 264.147 or 265.147 in the name of [owner or operator], unless [owner or operator] has done so.

8. Guarantor reserves the right to modify this agreement to take into account amendment or modification of the liability requirements set by 40 CFR 264.147 and 265.147, provided that such modification shall become effective only if a Regional Administrator does not disapprove the modification within 30 days of receipt of notification of the modification.

9. Guarantor agrees to remain bound under this guarantee for so long as [owner or operator] must comply with the applicable requirements of 40 CFR 264.147 and 265.147 for the above-listed facility(ies), except as provided in paragraph 10 of this agreement.

10. [Insert the following language if the guarantor is (a) a direct or higher-tier corporate parent, or (b) a firm whose parent corporation is also the parent corporation of the owner or operator]:

Guarantor may terminate this guarantee by sending notice by certified mail to the EPA Regional Administrator(s) for the Region(s) in which the facility(ies) is(are) located and to [owner or operator], provided that this guarantee may not be terminated unless and until [the owner or operator] obtains, and the EPA Regional Administrator(s) approve(s), alternate liability coverage complying with 40 CFR 264.147 and/or 265.147.

[Insert the following language if the guarantor is a firm qualifying as a guarantor due to its ''substantial business relationship'' with the owner or operator]:

Guarantor may terminate this guarantee 120 days following receipt of notification, through certified mail, by the EPA Regional Administrator(s) for the Region(s) in which the facility(ies) is(are) located and by [the owner or operator].

11. Guarantor hereby expressly waives notice of acceptance of this guarantee by any party.

12. Guarantor agrees that this guarantee is in addition to and does not affect any other responsibility or liability of the guarantor with respect to the covered facilities.

13. The Guarantor shall satisfy a third-party liability claim only on receipt of one of the following documents:

(a) Certification from the Principal and the third-party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CERTIFICATION OF VALID CLAIM

The undersigned, as parties [insert Principal] and [insert name and address of third-party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [Principal's hazardous waste treatment, storage, or disposal facility should be paid in the amount of $.

[Signatures] _____

Principal _____

(Notary) Date _____

[Signatures] _____

Claimant(s) _____

(Notary) Date _____

(b) A valid final court order establishing a judgment against the Principal for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Principal's facility or group of facilities.

14. In the event of combination of this guarantee with another mechanism to meet liability requirements, this guarantee will be considered [insert ''primary'' or ''excess''] coverage.

I hereby certify that the wording of the guarantee is identical to the wording specified in 40 CFR 264.151(h)(2) as such regulations were constituted on the date shown immediately below.

Effective date: _____

[Name of guarantor] _____

[Authorized signature for guarantor] _____

[Name of person signing] _____

[Title of person signing] _____

Signature of witness of notary: _____

(i) A hazardous waste facility liability endorsement as required in § 264.147 or § 265.147 must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

HAZARDOUS WASTE FACILITY LIABILITY ENDORSEMENT

1. This endorsement certifies that the policy to which the endorsement is attached provides liability insurance covering bodily injury and property damage in connection with the insured's obligation to demonstrate financial responsibility under 40 CFR 264.147 or 265.147. The coverage applies at [list EPA Identification Number, name, and address for each facility] for [insert ''sudden accidental occurrences,'' ''nonsudden accidental occurrences,'' or ''sudden and nonsudden accidental occurrences''; if coverage is for multiple facilities and the coverage is different for different facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for nonsudden accidental occurrences, and which are insured for both]. The limits of liability are [insert the dollar amount of the ''each occurrence'' and ''annual aggregate'' limits of the Insurer's liability], exclusive of legal defense costs.

2. The insurance afforded with respect to such occurrences is subject to all of the terms and conditions of the policy; provided, however, that any provisions of the policy inconsistent with subsections (a) through (e) of this Paragraph 2 are hereby amended to conform with subsections (a) through (e):

(a) Bankruptcy or insolvency of the insured shall not relieve the Insurer of its obligations under the policy to which this endorsement is attached.

(b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in 40 CFR 264.147(f) or 265.147(f).

(c) Whenever requested by a Regional Administrator of the U.S. Environmental Protection Agency (EPA), the Insurer agrees to furnish to the Regional Administrator a signed duplicate original of the policy and all endorsements.

(d) Cancellation of this endorsement, whether by the Insurer, the insured, a parent corporation providing insurance coverage for its subsidiary, or by a firm having an insurable interest in and obtaining liability insurance on behalf of the owner or operator of the hazardous waste management facility, will be effective only upon written notice and only after the expiration of 60 days after a copy of such written notice is received by the Regional Administrator(s) of the EPA Region(s) in which the facility(ies) is(are) located.

(e) Any other termination of this endorsement will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the Regional Administrator(s) of the EPA Region(s) in which the facility(ies) is (are) located.

Attached to and forming part of policy No. _____ issued by [name of Insurer], herein called the Insurer, of [address of Insurer] to [name of insured] of [address] this ___ day of _____, 19__. The effective date of said policy is ___ day of _____, 19__.

I hereby certify that the wording of this endorsement is identical to the wording specified in 40 CFR 264.151(i) as such regulation was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

[Signature of Authorized Representative of Insurer]
[Type name]
[Title], Authorized Representive of [name of Insurer]
[Address of Representative]

(j) A certificate of liability insurance as required in § 264.147 or § 265.147 must be worded as follows, except that the instructions in brackets are to be replaced with the relevant information and the brackets deleted:

HAZARDOUS WASTE FACILITY CERTIFICATE OF LIABILITY INSURANCE

1. [Name of Insurer], (the ''Insurer''), of [address of Insurer] hereby certifies that it has issued liability insurance covering bodily injury and property damage to [name of insured], (the ''insured''), of [address of insured] in connection with the insured's obligation to demonstrate financial responsibility under 40 CFR 264.147 or 265.147. The coverage applies at [list EPA Identification Number, name, and address for each facility] for [insert ''sudden accidental occurrences,'' ''nonsudden accidental occurrences,'' or ''sudden and nonsudden accidental occurrences''; if coverage is for multiple facilities and the coverage is different for different facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for nonsudden accidental occurrences, and which are insured for both]. The limits of liability are [insert the dollar amount of the ''each occurrence'' and ''annual aggregate'' limits of the Insurer's liability], exclusive of legal defense costs. The coverage is provided under policy number _____, issued on [date]. The effective date of said policy is [date].

2. The Insurer further certifies the following with respect to the insurance described in Paragraph 1:

(a) Bankruptcy or insolvency of the insured shall not relieve the Insurer of its obligations under the policy.

(b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in 40 CFR 264.147(f) or 265.147(f).

(c) Whenever requested by a Regional Administrator of the U.S. Environmental Protection Agency (EPA), the Insurer agrees to furnish to the Regional Administrator a signed duplicate original of the policy and all endorsements.

(d) Cancellation of the insurance, whether by the insurer, the insured, a parent corportation providing insurance coverage for its subsidiary, or by a firm having an insurable interest in and obtaining liability insurance on behalf of the owner or operator of the hazardous waste management facility, will be effective only upon written notice and only after the expiration of 60 days after a copy of such written notice is received by the Regional Administrator(s) of the EPA Region(s) in which the facility(ies) is(are) located.

(e) Any other termination of the insurance will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the Regional Administrator(s) of the EPA Region(s) in which the facility(ies) is (are) located.

I hereby certify that the wording of this instrument is identical to the wording specified in 40 CFR 264.151(j) as such regulation was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

[Signature of authorized representative of Insurer]
[Type name]

[Title], Authorized Representative of [name of Insurer]
[Address of Representative]

(k) A letter of credit, as specified in § 264.147(h) or 265.147(h) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

IRREVOCABLE STANDBY LETTER OF CREDIT

Name and Address of Issuing Institution ——

Regional Administrator(s) ——————

Region(s) ——————————

U.S. Environmental Protection Agency ——

Dear Sir or Madam: We hereby establish our Irrevocable Standby Letter of Credit No. _____ in the favor of [''any and all third-party liability claimants'' or insert name of trustee of the standby trust fund], at the request and for the account of [owner or operator's name and address] for third-party liability awards or settlements up to [in words] U.S. dollars $_____ per occurrence and the annual aggregate amount of [in words] U.S. dollars $_____, for sudden accidental occurrences and/or for third-party liability awards or settlements up to the amount of [in words] U.S. dollars $_____ per occurrence, and the annual aggregate amount of [in words] U.S. dollars $_____, for nonsudden accidental occurrences available upon presentation of a sight draft bearing reference to this letter of credit No. _____, and [insert the following language if the letter of credit is being used without a standby trust fund: ''(1) a signed certificate reading as follows:

CERTIFICATE OF VALID CLAIM

The undersigned, as parties [insert principal] and [insert name and address of third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operations of [principal's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of $[ ]. We hereby certify that the claim does not apply to any of the following:

(a) Bodily injury or property damage for which [insert principal] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert principal] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert principal] under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert principal] arising from, and in the course of, employment by [insert principal]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert principal].

This exclusion applies:

(A) Whether [insert principal] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert principal];

(2) Premises that are sold, given away or abandoned by [insert principal] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert principal];

(4) Personal property in the care, custody or control of [insert principal];

(5) That particular part of real property on which [insert principal] or any contractors or subcontractors working directly or indirectly on behalf of [insert principal] are performing operations, if the property damage arises out of these operations.

[Signatures] ——————————

Grantor ——————————

[Signatures] ——————————

Claimant(s) ——————————

or (2) a valid final court order establishing a judgment against the Grantor for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Grantor's facility or group of facilities.

This letter of credit is effective as of [date] and shall expire on [date] at least one year later], but such expiration date shall be automatically extended for a period of [at least one year] on [date and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify you, the USEPA Regional Administrator for Region [Region #], and [owner's or operator's name] by certified mail that we have decided not to extend this letter of credit beyond the current expiration date.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us.

[Insert the following language if a standby trust fund is not being used: ''In the event that this letter of credit is used in combination with another mechanism for liability

coverage, this letter of credit shall be considered [insert ''primary'' or ''excess'' coverage].''

We certify that the wording of this letter of credit is identical to the wording specified in 40 CFR 264.151(k) as such regulations were constituted on the date shown immediately below. [Signature(s) and title(s) of official(s) of issuing institution] [Date].

This credit is subject to [insert ''the most recent edition of the Uniform Customs and Practice for Documentary Credits, published and copyrighted by the International Chamber of Commerce,'' or ''the Uniform Commercial Code'']. .

(l) A surety bond, as specified in § 264.147(h) or § 265.147(h) of this chapter, must be worded as follows: except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

PAYMENT BOND

Surety Bond No. [Insert number]

Parties [Insert name and address of owner or operator], Principal, incorporated in [Insert State of incorporation] of [Insert city and State of principal place of business] and [Insert name and address of surety company(ies)], Surety Company(ies), of [Insert surety(ies) place of business].

EPA Identification Number, name, and address for each facility guaranteed by this bond: _____

	Sudden accidental occurrences	Nonsudden accidental occurrences
Penal Sum Per Occurrence.	[insert amount]	[insert amount]
Annual Aggregate	[insert amount]	[insert amount]

Purpose: This is an agreement between the Surety(ies) and the Principal under which the Surety(ies), its(their) successors and assignees, agree to be responsible for the payment of claims against the Principal for bodily injury and/or property damage to third parties caused by [''sudden'' and/or ''nonsudden''] accidental occurrences arising from operations of the facility or group of facilities in the sums prescribed herein; subject to the governing provisions and the following conditions.

Governing Provisions:

(1) Section 3004 of the Resource Conservation and Recovery Act of 1976, as amended.

(2) Rules and regulations of the U.S. Environmental Protection Agency (EPA), particularly 40 CFR [''§ 264.147'' or ''§ 265.147''] (if applicable).

(3) Rules and regulations of the governing State agency (if applicable) [insert citation].

Conditions:

(1) The Principal is subject to the applicable governing provisions that require the Principal to have and maintain liability coverage for bodily injury and property damage to third parties caused by [''sudden'' and/or ''nonsudden''] accidental occurrences arising from operations of the facility or group of facilities. Such obligation does not apply to any of the following:

(a) Bodily injury or property damage for which [insert principal] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert principal] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert principal] under a workers' compensation, disability benefits, or unemployment compensation law or similar law.

(c) Bodily injury to:

(1) An employee of [insert principal] arising from, and in the course of, employment by [insert principal]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert principal]. This exclusion applies:

(A) Whether [insert principal] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert principal];

(2) Premises that are sold, given away or abandoned by [insert principal] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert principal];

(4) Personal property in the care, custody or control of [insert principal];

(5) That particular part of real property on which [insert principal] or any contractors or subcontractors working directly or indirectly on behalf of [insert principal] are performing operations, if the property damage arises out of these operations.

(2) This bond assures that the Principal will satisfy valid third party liability claims, as described in condition 1.

(3) If the Principal fails to satisfy a valid third party liability claim, as described above, the Surety(ies) becomes liable on this bond obligation.

(4) The Surety(ies) shall satisfy a third party liability claim only upon the receipt of one of the following documents:

(a) Certification from the Principal and the third party claimant(s) that the liability claim should be paid. The certification must

be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CERTIFICATION OF VALID CLAIM

The undersigned, as parties [insert name of Principal] and [insert name and address of third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidential occurrence arising from operating [Principal's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of $[ ].

[Signature]
Principal

[Notary] Date

[Signature(s)]
Claimant(s)

[Notary] Date

or (b) A valid final court order establishing a judgment against the Principal for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Principal's facility or group of facilities.

(5) In the event of combination of this bond with another mechanism for liability coverage, this bond will be considered [insert ''primary'' or ''excess''] coverage.

(6) The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond. In no event shall the obligation of the Surety(ies) hereunder exceed the amount of said annual aggregate penal sum, provided that the Surety(ies) furnish(es) notice to the Regional Administrator forthwith of all claims filed and payments made by the Surety(ies) under this bond.

(7) The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal and the USEPA Regional Administrator for Region [Region #], provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by the Principal and the Regional Administrator, as evidenced by the return receipt.

(8) The Principal may terminate this bond by sending written notice to the Surety(ies) and to the EPA Regional Administrator(s) of the EPA Region(s) in which the bonded facility(ies) is (are) located.

(9) The Surety(ies) hereby waive(s) notification of amendments to applicable laws, statutes, rules and regulations and agree(s) that no such amendment shall in any way alleviate its (their) obligation on this bond.

(10) This bond is effective from [insert date] (12:01 a.m., standard time, at the address of the Principal as stated herein) and shall continue in force until terminated as described above.

In Witness Whereof, the Principal and Surety(ies) have executed this Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in 40 CFR 264.151(1), as such regulations were constituted on the date this bond was executed.

PRINCIPAL

[Signature(s)]
[Name(s)]
[Title(s)]
[Corporate Seal]

CORPORATE SURETY[IES]

[Name and address]
State of incorporation: _____
Liability Limit: $ _____
[Signature(s)]
[Name(s) and title(s)]
[Corporate seal]
[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]
Bond premium: $ _____

(m)(1) A trust agreement, as specified in § 264.147(j) or § 265.147(j) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

TRUST AGREEMENT

Trust Agreement, the ''Agreement,'' entered into as of [date] by and between [name of the owner or operator] a [name of State] [insert ''corporation,'' ''partnership,'' ''association,'' or ''proprietorship''], the ''Grantor,'' and [name of corporate trustee], [insert, ''incorporated in the State of _____'' or ''a national bank''], the ''trustee.''

Whereas, the United States Environmental Protection Agency, ''EPA,'' an agency of the United States Government, has established certain regulations applicable to the Grantor, requiring that an owner or operator of a hazardous waste management facility or group of facilities must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental and/or nonsudden accidental occurrences arising from operations of the facility or group of facilities.

Whereas, the Grantor has elected to establish a trust to assure all or part of such financial responsibility for the facilities identified herein.

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee.

Now, therefore, the Grantor and the Trustee agree as follows:

Section 1. *Definitions.* As used in this Agreement:

(a) The term ''Grantor'' means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term ''Trustee'' means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. *Identification of Facilities.* This agreement pertains to the facilities identified on attached schedule A [on schedule A, for each facility list the EPA Identification Number, name, and address of the facility(ies) and the amount of liability coverage, or portions thereof, if more than one instrument affords combined coverage as demonstrated by this Agreement].

Section 3. *Establishment of Fund.* The Grantor and the Trustee hereby establish a trust fund, hereinafter the ''Fund,'' for the benefit of any and all third parties injured or damaged by [sudden and/or nonsudden] accidental occurrences arising from operation of the facility(ies) covered by this guarantee, in the amounts of _____ [up to $1 million] per occurrence and _____ [up to $2 million] annual aggregate for sudden accidental occurrences and _____ [up to $3 million] per occurrence and _____ [up to $6 million] annual aggregate for nonsudden occurrences, except that the Fund is not established for the benefit of third parties for the following:

(a) Bodily injury or property damage for which [insert Grantor] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert Grantor] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert Grantor] under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert Grantor] arising from, and in the course of, employment by [insert Grantor]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert Grantor].

This exclusion applies:

(A) Whether [insert Grantor] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert Grantor];

(2) Premises that are sold, given away or abandoned by [insert Grantor] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert Grantor];

(4) Personal property in the care, custody or control of [insert Grantor];

(5) That particular part of real property on which [insert Grantor] or any contractors or subcontractors working directly or indirectly on behalf of [insert Grantor] are performing operations, if the property damage arises out of these operations.

In the event of combination with another mechanism for liability coverage, the fund shall be considered [insert ''primary'' or ''excess''] coverage.

The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by EPA.

Section 4. *Payment for Bodily Injury or Property Damage.* The Trustee shall satisfy a third party liability claim by making payments from the Fund only upon receipt of one of the following documents;

(a) Certification from the Grantor and the third party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CERTIFICATION OF VALID CLAIM

The undersigned, as parties [insert Grantor] and [insert name and address of third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating

[Grantor's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of $[ ].

[Signatures]
Grantor

[Signatures]
Claimant(s)

(b) A valid final court order establishing a judgment against the Grantor for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Grantor's facility or group of facilities.

Section 5. *Payments Comprising the Fund.* Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. *Trustee Management.* The Trustee shall invest and reinvest the principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstance then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; *except that*:

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a–2.(a), shall not be acquired or *held* unless they are securities or other obligations of the Federal or a State government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or State government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. *Commingling and Investment.* The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common commingled, or collective trust fund created by the Trustee in which the fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 81a–1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. *Express Powers of Trustee.* Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depositary even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depositary with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. *Taxes and Expenses.* All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. *Annual Valuations.* The Trustee shall annually, at least 30 days prior to the

anniversary date of establishment of the Fund, furnish to the Grantor and to the appropriate EPA Regional Administrator a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the EPA Regional Administrator shall constitute a conclusively binding assent by the Grantor barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. *Advice of Counsel.* The Trustee may from time to time consult with counsel, who may be counsel to the Grantor with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. *Trustee Compensation.* The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. *Successor Trustee.* The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the EPA Regional Administrator, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this section shall be paid as provided in Section 9.

Section 14. *Instructions to the Trustee.* All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendments to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the EPA Regional Administrator to the Trustee shall be in writing, signed by the EPA Regional Administrators of the Regions in which the facilities are located, or their designees, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or EPA hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or EPA, except as provided for herein.

Section 15. *Notice of Nonpayment.* If a payment for bodily injury or property damage is made under Section 4 of this trust, the Trustee shall notify the Grantor of such payment and the amount(s) thereof within five (5) working days. The Grantor shall, on or before the anniversary date of the establishment of the Fund following such notice, either make payments to the Trustee in amounts sufficient to cause the trust to return to its value immediately prior to the payment of claims under Section 4, or shall provide written proof to the Trustee that other financial assurance for liability coverage has been obtained equalling the amount necessary to return the trust to its value prior to the payment of claims. If the Grantor does not either make payments to the Trustee or provide the Trustee with such proof, the Trustee shall within 10 working days after the anniversary date of the establishment of the Fund provide a written notice of nonpayment to the EPA Regional Administrator.

Section 16. *Amendment of Agreement.* This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the appropriate EPA Regional Administrator, or by the Trustee and the appropriate EPA Regional Administrator if the Grantor ceases to exist.

Section 17. *Irrevocability and Termination.* Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the EPA Regional Administrator, or by the Trustee and the EPA Regional Administrator, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

The Regional Administrator will agree to termination of the Trust when the owner or operator substitutes alternate financial assurance as specified in this section.

Section 18. *Immunity and Indemnification.* The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out

any directions by the Grantor or the EPA Regional Administrator issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. *Choice of Law.* This Agreement shall be administered, construed, and enforced according to the laws of the State of [enter name of State].

Section 20. *Interpretation.* As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written. The parties below certify that the wording of this Agreement is identical to the wording specified in 40 CFR 264.151(m) as such regulations were constituted on the date first above written.

[Signature of Grantor]
[Title]

Attest:

[Title]
[Seal]

[Signature of Trustee]

Attest:

[Title]
[Seal]

(2) The following is an example of the certification of acknowledgement which must accompany the trust agreement for a trust fund as specified in §§ 264.147(j) or 265.147(j) of this chapter. State requirements may differ on the proper content of this acknowledgement.

State of _____
County of _____

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

[Signature of Notary Public]

(n)(1) A standby trust agreement, as specified in § 264.147(h) or 265.147(h) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

STANDBY TRUST AGREEMENT

Trust Agreement, the ''Agreement,'' entered into as of [date] by and between [name of the owner or operator] a [name of a State] [insert ''corporation,'' ''partnership,'' ''association,'' or ''proprietorship''], the ''Grantor,'' and [name of corporate trustee], [insert, ''incorporated in the State of _____'' or ''a national bank''], the ''trustee.''

Whereas the United States Environmental Protection Agency, ''EPA,'' an agency of the United States Government, has established certain regulations applicable to the Grantor, requiring that an owner or operator of a hazardous waste management facility or group of facilities must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental and/or nonsudden accidental occurrences arising from operations of the facility or group of facilities.

Whereas, the Grantor has elected to establish a standby trust into which the proceeds from a letter of credit may be deposited to assure all or part of such financial responsibility for the facilities identified herein.

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee.

Now, therefore, the Grantor and the Trustee agree as follows:

Section 1. *Definitions.* As used in this Agreement:

(a) The term *Grantor* means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term *Trustee* means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. *Identification of Facilities.* This agreement pertains to the facilities identified on attached schedule A [on schedule A, for each facility list the EPA Identification Number, name, and address of the facility(ies) and the amount of liability coverage, or portions thereof, if more than one instrument affords combined coverage as demonstrated by this Agreement].

Section 3. *Establishment of Fund.* The Grantor and the Trustee hereby establish a standby trust fund, hereafter the ''Fund,'' for the benefit of any and all third parties injured or damaged by [sudden and/or nonsudden] accidental occurrences arising from operation of the facility(ies) covered by this

guarantee, in the amounts of _____ [up to $1 million] per occurrence and _____ [up to $2 million] annual aggregate for sudden accidental occurrences and _____ [up to $3 million] per occurrence and _____ [up to $6 million] annual aggregate for nonsudden occurrences, except that the Fund is not established for the benefit of third parties for the following:

(a) Bodily injury or property damage for which [insert Grantor] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert Grantor] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert Grantor] under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee or [insert Grantor] arising from , and in the course of, employment by [insert Grantor]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert Grantor].

This exclusion applies:

(A) Whether [insert Grantor] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert Grantor];

(2) Premises that are sold, given away or abandoned by [insert Grantor] if the property damage arises out of any part of those premises;

(3) Property loaned [insert Grantor];

(4) Personal property in the care, custody or control of [insert Grantor];

(5) That particular part of real property on which [insert Grantor] or any contractors or subcontractors working directly or indirectly on behalf of [insert Grantor] are performing operations, if the property damage arises out of these operations.

In the event of combination with another mechanism for liability coverage, the fund shall be considered [insert ''primary'' or ''excess''] coverage.

The Fund is established initially as consisting of the proceeds of the letter of credit deposited into the Fund. Such proceeds and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by EPA.

Section 4. *Payment for Bodily Injury or Property Damage.* The Trustee shall satisfy a third party liability claim by drawing on the letter of credit described in Schedule B and by making payments from the Fund only upon receipt of one of the following documents:

(a) Certification from the Grantor and the third party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CERTIFICATION OF VALID CLAIM

The undersigned, as parties [insert Grantor] and [insert name and address of third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [Grantor's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of $[ ].

[Signature] _____

Grantor _____

[Signatures] _____

Claimant(s) _____

(b) A valid final court order establishing a judgment against the Grantor for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Grantor's facility or group of facilities.

Section 5. *Payments Comprising the Fund.* Payments made to the Trustee for the Fund shall consist of the proceeds from the letter of credit drawn upon by the Trustee in accordance with the requirements of 40 CFR 264.151(k) and Section 4 of this Agreement.

Section 6. *Trustee Management.* The Trustee shall invest and reinvest the principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a

like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a–2(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or a State government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or a State government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. *Commingling and Investment.* The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a–1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. *Express Powers of Trustee.* Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depositary even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depositary with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve Bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. *Taxes and Expenses.* All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements to the Trustee shall be paid from the Fund.

Section 10. *Advice of Counsel.* The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 11. *Trustee Compensation.* The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 12. *Successor Trustee.* The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment; the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the EPA Regional Administrator and the present Trustee by

certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 13. *Instructions to the Trustee.* All orders, requests, certifications of valid claims, and instructions to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendments to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or the EPA Regional Administrator hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or EPA, except as provided for herein.

Section 14. *Amendment of Agreement.* This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the EPA Regional Administrator, or by the Trustee and the EPA Regional Administrator if the Grantor ceases to exist.

Section 15. *Irrevocability and Termination.* Subject to the right of the parties to amend this Agreement as provided in Section 14, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the EPA Regional Administrator, or by the Trustee and the EPA Regional Administrator, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be paid to the Grantor.

The Regional Administrator will agree to termination of the Trust when the owner or operator substitutes alternative financial assurance as specified in this section.

Section 16. *Immunity and indemnification.* The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor and the EPA Regional Administrator issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonable incurred in its defense in the event the Grantor fails to provide such defense.

Section 17. *Choice of Law.* This Agreement shall be administered, construed, and enforced according to the laws of the State of [enter name of State].

Section 18. *Interpretation.* As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation of the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written. The parties below certify that the wording of this Agreement is identical to the wording specified in 40 CFR 264.151(n) as such regulations were constituted on the date first above written.

_____

[Signature of Grantor]

[Title]

Attest:

[Title]

[Seal]

_____

[Signature of Trustee]

Attest:

[Title]

[Seal]

(2) The following is an example of the certification of acknowledgement which must accompany the trust agreement for a standby trust fund as specified in section 264.147(h) or 265.147(h) of this chapter. State requirements may differ on the proper content of this acknowledgement.

State of _____

County of _____

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

_____

[Signature of Notary Public]

[47 FR 15059, Apr. 7, 1982, as amended at 47 FR 16556, Apr. 16, 1982; 47 FR 17989, Apr. 27, 1982; 47 FR 19995, May 10, 1982; 47 FR 28627, July 1, 1982; 51 FR 16450, May 2, 1986; 51 FR 25354, July 11, 1986; 52 FR 44320, Nov. 18, 1987; 53 FR 33952, Sept. 1, 1988; 57 FR 42836, Sept. 16, 1992; 59 FR 29960, June 10, 1994]

Subpart I—Use and Management of Containers

SOURCE: 46 FR 2866, Jan. 12, 1981, unless otherwise noted.

§ 264.170 Applicability.

The regulations in this subpart apply to owners and operators of all hazardous waste facilities that store containers of hazardous waste, except as § 264.1 provides otherwise.

[*Comment:* Under § 261.7 and § 261.33(c), if a hazardous waste is emptied from a container the residue remaining in the container is not considered a hazardous waste if the container is ''empty'' as defined in § 261.7. In that event, management of the container is exempt from the requirements of this subpart.]

§ 264.171 Condition of containers.

If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the owner or operator must transfer the hazardous waste from this container to a container that is in good condition or manage the waste in some other way that complies with the requirements of this part.

§ 264.172 Compatibility of waste with containers.

The owner or operator must use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

§ 264.173 Management of containers.

(a) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

(b) A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

[*Comment:* Reuse of containers in transportation is governed by U.S. Department of Transportation regulations including those set forth in 49 CFR 173.28.]

§ 264.174 Inspections.

At least weekly, the owner or operator must inspect areas where containers are stored, looking for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors.

[*Comment:* See §§ 264.15(c) and 264.171 for remedial action required if deterioration or leaks are detected.]

§ 264.175 Containment.

(a) Container storage areas must have a containment system that is designed and operated in accordance with paragraph (b) of this section, except as otherwise provided by paragraph (c) of this section.

(b) A containment system must be designed and operated as follows:

(1) A base must underly the containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed;

(2) The base must be sloped or the containment system must be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids;

(3) The containment system must have sufficient capacity to contain 10% of the volume of containers or the volume of the largest container, whichever is greater. Containers that do not contain free liquids need not be considered in this determination;

(4) Run-on into the containment system must be prevented unless the collection system has sufficient excess capacity in addition to that required in paragraph (b)(3) of this section to contain any run-on which might enter the system; and

(5) Spilled or leaked waste and accumulated precipitation must be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system.

[*Comment:* If the collected material is a hazardous waste under part 261 of this Chapter, it must be managed as a hazardous waste in accordance with all applicable requirements of parts 262 through 266 of this chapter. If the collected material is discharged

through a point source to waters of the United States, it is subject to the requirements of section 402 of the Clean Water Act, as amended.]

(c) Storage areas that store containers holding only wastes that do not contain free liquids need not have a containment system defined by paragraph (b) of this section, except as provided by paragraph (d) of this section or provided that:

(1) The storage area is sloped or is otherwise designed and operated to drain and remove liquid resulting from precipitation, or

(2) The containers are elevated or are otherwise protected from contact with accumulated liquid.

(d) Storage areas that store containers holding the wastes listed below that do not contain free liquids must have a containment system defined by paragraph (b) of this section:

(1) FO20, FO21, FO22, FO23, FO26, and FO27.

(2) [Reserved]

[46 FR 55112, Nov. 6, 1981, as amended at 50 FR 2003, Jan. 14, 1985]

§ 264.176 Special requirements for ignitable or reactive waste.

Containers holding ignitable or reactive waste must be located at least 15 meters (50 feet) from the facility's property line.

[*Comment:* See § 264.17(a) for additional requirements.]

§ 264.177 Special requirements for incompatible wastes.

(a) Incompatible wastes, or incompatible wastes and materials (see appendix V for examples), must not be placed in the same container, unless § 264.17(b) is complied with.

(b) Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material.

[*Comment:* As required by § 264.13, the waste analysis plan must include analyses needed to comply with § 264.177. Also, § 264.17(c) requires wastes analyses, trial tests or other documentation to assure compliance with § 264.17(b). As required by § 264.73, the owner or operator must place the results of each waste analysis and trial test, and any documented information, in the operating record of the facility.]

(c) A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

[*Comment:* The purpose of this section is to prevent fires, explosions, gaseous emission, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the mixing of incompatible wastes or materials if containers break or leak.]

§ 264.178 Closure.

At closure, all hazardous waste and hazardous waste residues must be removed from the containment system. Remaining containers, liners, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues must be decontaminated or removed.

[*Comment:* At closure, as throughout the operating period, unless the owner or operator can demonstrate in accordance with § 261.3(d) of this chapter that the solid waste removed from the containment system is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of parts 262 through 266 of this chapter].

§ 264.179 Air emission standards.

The owner or operator shall manage all hazardous waste placed in a container in accordance with the applicable requirements of subparts AA, BB, and CC of this part.

[61 FR 59950, Nov. 25, 1996]

Subpart J—Tank Systems

SOURCE: 51 FR 25472, July 14, 1986, unless otherwise noted.

§ 264.190 Applicability.

The requirements of this subpart apply to owners and operators of facilities that use tank systems for storing or treating hazardous waste except as otherwise provided in paragraphs (a), (b), and (c) of this section or in § 264.1 of this part.

(a) Tank systems that are used to store or treat hazardous waste which

contains no free liquids and are situated inside a building with an impermeable floor are exempted from the requirements in § 264.193. To demonstrate the absence or presence of free liquids in the stored/treated waste, the following test must be used: Method 9095 (Paint Filter Liquids Test) as described in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' EPA Publication SW–846, as incorporated by reference in § 260.11 of this chapter.

(b) Tank systems, including sumps, as defined in § 260.10, that serve as part of a secondary containment system to collect or contain releases of hazardous wastes are exempted from the requirements in § 264.193(a).

(c) Tanks, sumps, and other such collection devices or systems used in conjunction with drip pads, as defined in § 260.10 of this chapter and regulated under 40 CFR part 264 subpart W, must meet the requirements of this subpart.

[51 FR 25472, July 14, 1986; 51 FR 29430, Aug. 15, 1986, as amended at 53 FR 34086, Sept. 2, 1988; 55 FR 50484, Dec. 6, 1990; 58 FR 46050, Aug. 31, 1993]

§ 264.191 Assessment of existing tank system's integrity.

(a) For each existing tank system that does not have secondary containment meeting the requirements of § 264.193, the owner or operator must determine that the tank system is not leaking or is unfit for use. Except as provided in paragraph (c) of this section, the owner or operator must obtain and keep on file at the facility a written assessment reviewed and certified by an independent, qualified registered professional engineer, in accordance with § 270.11(d), that attests to the tank system's integrity by January 12, 1988.

(b) This assessment must determine that the tank system is adequately designed and has sufficient structural strength and compatibility with the waste(s) to be stored or treated, to ensure that it will not collapse, rupture, or fail. At a minimum, this assessment must consider the following:

(1) Design standard(s), if available, according to which the tank and ancillary equipment were constructed;

(2) Hazardous characteristics of the waste(s) that have been and will be handled;

(3) Existing corrosion protection measures;

(4) Documented age of the tank system, if available (otherwise, an estimate of the age); and

(5) Results of a leak test, internal inspection, or other tank integrity examination such that:

(i) For non-enterable underground tanks, the assessment must include a leak test that is capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets, and high water table effects, and

(ii) For other than non-enterable underground tanks and for ancillary equipment, this assessment must include either a leak test, as described above, or other integrity examination, that is certified by an independent, qualified, registered professional engineer in accordance with § 270.11(d), that addresses cracks, leaks, corrosion, and erosion.

[NOTE: The practices described in the American Petroleum Institute (API) Publication, Guide for Inspection of Refinery Equipment, Chapter XIII, ''Atmospheric and Low-Pressure Storage Tanks,'' 4th edition, 1981, may be used, where applicable, as guidelines in conducting other than a leak test.]

(c) Tank systems that store or treat materials that become hazardous wastes subsequent to July 14, 1986, must conduct this assessment within 12 months after the date that the waste becomes a hazardous waste.

(d) If, as a result of the assessment conducted in accordance with paragraph (a), a tank system is found to be leaking or unfit for use, the owner or operator must comply with the requirements of § 264.196.

[51 FR 25472, July 14, 1986; 51 FR 29430, Aug. 15, 1986]

§ 264.192 Design and installation of new tank systems or components.

(a) Owners or operators of new tank systems or components must obtain and submit to the Regional Administrator, at time of submittal of part B information, a written assessment, reviewed and certified by an independent,

qualified registered professional engineer, in accordance with § 270.11(d), attesting that the tank system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste. The assessment must show that the foundation, structural support, seams, connections, and pressure controls (if applicable) are adequately designed and that the tank system has sufficient structural strength, compatibility with the waste(s) to be stored or treated, and corrosion protection to ensure that it will not collapse, rupture, or fail. This assessment, which will be used by the Regional Administrator to review and approve or disapprove the acceptability of the tank system design, must include, at a minimum, the following information:

(1) Design standard(s) according to which tank(s) and/or the ancillary equipment are constructed;

(2) Hazardous characteristics of the waste(s) to be handled;

(3) For new tank systems or components in which the external shell of a metal tank or any external metal component of the tank system will be in contact with the soil or with water, a determination by a corrosion expert of:

(i) Factors affecting the potential for corrosion, including but not limited to:

(A) Soil moisture content;

(B) Soil pH;

(C) Soil sulfides level;

(D) Soil resistivity;

(E) Structure to soil potential;

(F) Influence of nearby underground metal structures (e.g., piping);

(G) Existence of stray electric current;

(H) Existing corrosion-protection measures (e.g., coating, cathodic protection), and

(ii) The type and degree of external corrosion protection that are needed to ensure the integrity of the tank system during the use of the tank system or component, consisting of one or more of the following:

(A) Corrosion-resistant materials of construction such as special alloys, fiberglass reinforced plastic, etc.;

(B) Corrosion-resistant coating (such as epoxy, fiberglass, etc.) with cathodic protection (e.g., impressed current or sacrificial anodes); and

(C) Electrical isolation devices such as insulating joints, flanges, etc.

[NOTE: The practices described in the National Association of Corrosion Engineers (NACE) standard, ''Recommended Practice (RP–02–85)—Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems,'' and the American Petroleum Institute (API) Publication 1632, ''Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems,'' may be used, where applicable, as guidelines in providing corrosion protection for tank systems.]

(4) For underground tank system components that are likely to be adversely affected by vehicular traffic, a determination of design or operational measures that will protect the tank system against potential damage; and

(5) Design considerations to ensure that:

(i) Tank foundations will maintain the load of a full tank;

(ii) Tank systems will be anchored to prevent flotation or dislodgment where the tank system is placed in a saturated zone, or is located within a seismic fault zone subject to the standards of § 264.18(a); and

(iii) Tank systems will withstand the effects of frost heave.

(b) The owner or operator of a new tank system must ensure that proper handling procedures are adhered to in order to prevent damage to the system during installation. Prior to covering, enclosing, or placing a new tank system or component in use, an independent, qualified installation inspector or an independent, qualified, registered professional engineer, either of whom is trained and experienced in the proper installation of tank systems or components, must inspect the system for the presence of any of the following items:

(1) Weld breaks;

(2) Punctures;

(3) Scrapes of protective coatings;

(4) Cracks;

(5) Corrosion;

(6) Other structural damage or inadequate construction/installation.

All discrepancies must be remedied before the tank system is covered, enclosed, or placed in use.

(c) New tank systems or components that are placed underground and that

are backfilled must be provided with a backfill material that is a noncorrosive, porous, homogeneous substance and that is installed so that the backfill is placed completely around the tank and compacted to ensure that the tank and piping are fully and uniformly supported.

(d) All new tanks and ancillary equipment must be tested for tightness prior to being covered, enclosed, or placed in use. If a tank system is found not to be tight, all repairs necessary to remedy the leak(s) in the system must be performed prior to the tank system being covered, enclosed, or placed into use.

(e) Ancillary equipment must be supported and protected against physical damage and excessive stress due to settlement, vibration, expansion, or contraction.

[NOTE: The piping system installation procedures described in American Petroleum Institute (API) Publication 1615 (November 1979), ''Installation of Underground Petroleum Storage Systems,'' or ANSI Standard B31.3, ''Petroleum Refinery Piping,'' and ANSI Standard B31.4 ''Liquid Petroleum Transportation Piping System,'' may be used, where applicable, as guidelines for proper installation of piping systems.]

(f) The owner or operator must provide the type and degree of corrosion protection recommended by an independent corrosion expert, based on the information provided under paragraph (a)(3) of this section, or other corrosion protection if the Regional Administrator believes other corrosion protection is necessary to ensure the integrity of the tank system during use of the tank system. The installation of a corrosion protection system that is field fabricated must be supervised by an independent corrosion expert to ensure proper installation.

(g) The owner or operator must obtain and keep on file at the facility written statements by those persons required to certify the design of the tank system and supervise the installation of the tank system in accordance with the requirements of paragraphs (b) through (f) of this section, that attest that the tank system was properly designed and installed and that repairs, pursuant to paragraphs (b) and (d) of this section, were performed. These written statements must also include the certification statement as required in § 270.11(d) of this chapter.

[51 FR 25472, July 14, 1986; 51 FR 29430, Aug. 15, 1986]

§ 264.193 Containment and detection of releases.

(a) In order to prevent the release of hazardous waste or hazardous constituents to the environment, secondary containment that meets the requirements of this section must be provided (except as provided in paragraphs (f) and (g) of this section):

(1) For all new tank systems or components, prior to their being put into service;

(2) For all existing tank systems used to store or treat EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027, within two years after January 12, 1987;

(3) For those existing tank systems of known and documented age, within two years after January 12, 1987 or when the tank system has reached 15 years of age, whichever comes later;

(4) For those existing tank systems for which the age cannot be documented, within eight years of January 12, 1987; but if the age of the facility is greater than seven years, secondary containment must be provided by the time the facility reaches 15 years of age, or within two years of January 12, 1987, whichever comes later; and

(5) For tank systems that store or treat materials that become hazardous wastes subsequent to January 12, 1987, within the time intervals required in paragraphs (a)(1) through (a)(4) of this section, except that the date that a material becomes a hazardous waste must be used in place of January 12, 1987.

(b) Secondary containment systems must be:

(1) Designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, ground water, or surface water at any time during the use of the tank system; and

(2) Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

(c) To meet the requirements of paragraph (b) of this section, secondary containment systems must be at a minimum:

(1) Constructed of or lined with materials that are compatible with the wastes(s) to be placed in the tank system and must have sufficient strength and thickness to prevent failure owing to pressure gradients (including static head and external hydrological forces), physical contact with the waste to which it is exposed, climatic conditions, and the stress of daily operation (including stresses from nearby vehicular traffic).

(2) Placed on a foundation or base capable of providing support to the secondary containment system, resistance to pressure gradients above and below the system, and capable of preventing failure due to settlement, compression, or uplift;

(3) Provided with a leak-detection system that is designed and operated so that it will detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous waste or accumulated liquid in the secondary containment system within 24 hours, or at the earliest practicable time if the owner or operator can demonstrate to the Regional Administrator that existing detection technologies or site conditions will not allow detection of a release within 24 hours; and

(4) Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation. Spilled or leaked waste and accumulated precipitation must be removed from the secondary containment system within 24 hours, or in as timely a manner as is possible to prevent harm to human health and the environment, if the owner or operator can demonstrate to the Regional Administrator that removal of the released waste or accumulated precipitation cannot be accomplished within 24 hours.

[NOTE: If the collected material is a hazardous waste under part 261 of this chapter, it is subject to management as a hazardous waste in accordance with all applicable requirements of parts 262 through 265 of this chapter. If the collected material is discharged through a point source to waters of the United States, it is subject to the requirements of sections 301, 304, and 402 of the Clean Water Act, as amended. If discharged to a Publicly Owned Treatment Works (POTW), it is sub]ect to the requirements of section 307 of the Clean Water Act, as amended. If the collected material is released to the environment, it may be subject to the reporting requirements of 40 CFR part 302.]

(d) Secondary containment for tanks must include one or more of the following devices:

(1) A liner (external to the tank);

(2) A vault;

(3) A double-walled tank; or

(4) An equivalent device as approved by the Regional Administrator

(e) In addition to the requirements of paragraphs (b), (c), and (d) of this section, secondary containment systems must satisfy the following requirements:

(1) External liner systems must be:

(i) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

(ii) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event.

(iii) Free of cracks or gaps; and

(iv) Designed and installed to surround the tank completely and to cover all surrounding earth likely to come into contact with the waste if the waste is released from the tank(s) (i.e., capable of preventing lateral as well as vertical migration of the waste).

(2) Vault systems must be:

(i) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

(ii) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event:

(iii) Constructed with chemical-resistant water stops in place at all joints (if any):

(iv) Provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of waste into the concrete;

(v) Provided with a means to protect against the formation of and ignition of vapors within the vault, if the waste being stored or treated:

(A) Meets the definition of ignitable waste under § 262.21 of this chapter; or

(B) Meets the definition of reactive waste under § 262.21 of this chapter, and may form an ignitable or explosive vapor.

(vi) Provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure.

(3) Double-walled tanks must be:

(i) Designed as an integral structure (i.e., an inner tank completely enveloped within an outer shell) so that any release from the inner tank is contained by the outer shell.

(ii) Protected, if constructed of metal, from both corrosion of the primary tank interior and of the external surface of the outer shell: and

(iii) Provided with a built-in continuous leak detection system capable of detecting a release within 24 hours, or at the earliest practicable time, if the owner or operator can demonstrate to the Regional Administrator, and the Regional Administrator concludes, that the existing detection technology or site conditions would not allow detection of a release within 24 hours.

[NOTE: The provisions outlined in the Steel Tank Institute's (STI) ''Standard for Dual Wall Underground Steel Storage Tanks'' may be used as guidelines for aspects of the design of underground steel double-walled tanks.]

(f) Ancillary equipment must be provided with secondary containment (e.g., trench, jacketing, double-walled piping) that meets the requirements of paragraphs (b) and (c) of this section except for:

(1) Aboveground piping (exclusive of flanges, joints, valves, and other connections) that are visually inspected for leaks on a daily basis;

(2) Welded flanges, welded joints, and welded connections, that are visually inspected for leaks on a daily basis;

(3) Sealless or magnetic coupling pumps and sealless valves, that are visually inspected for leaks on a daily basis; and

(4) Pressurized aboveground piping systems with automatic shut-off devices (e.g., excess flow check valves, flow metering shutdown devices, loss of pressure actuated shut-off devices) that are visually inspected for leaks on a daily basis.

(g) The owner or operator may obtain a variance from the requirements of this section if the Regional Administrator finds, as a result of a demonstration by the owner or operator that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous waste or hazardous constituents into the ground water; or surface water at least as effectively as secondary containment during the active life of the tank system *or* that in the event of a release that does migrate to ground water or surface water, no substantial present or potential hazard will be posed to human health or the environment. New underground tank systems may not, per a demonstration in accordance with paragraph (g)(2) of this section, be exempted from the secondary containment requirements of this section.

(1) In deciding whether to grant a variance based on a demonstration of equivalent protection of ground water and surface water, the Regional Administrator will consider:

(i) The nature and quantity of the wastes;

(ii) The proposed alternate design and operation;

(iii) The hydrogeologic setting of the facility, including the thickness of soils present between the tank system and ground water, and

(iv) All other factors that would influence the quality and mobility of the hazardous constituents and the potential for them to migrate to ground water or surface water

(2) In deciding whether to grant a variance based on a demonstration of no substantial present or potential hazard, the Regional Administrator will consider:

(i) The potential adverse effects on ground water, surface water, and land quality taking into account:

(A) The physical and chemical characteristics of the waste in the tank system, including its potential for migration.

(B) The hydrogeological characteristics of the facility and surrounding land,

(C) The potential for health risks caused by human exposure to waste constituents,

(D) The potential for damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents, and

(E) The persistence and permanence of the potential adverse effects;

(ii) The potential adverse effects of a release on ground-water quality, taking into account:

(A) The quantity and quality of ground water and the direction of ground-water flow,

(B) The proximity and withdrawal rates of ground-water users,

(C) The current and future uses of ground water in the area, and

(D) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground-water quality;

(iii) The potential adverse effects of a release on surface water quality, taking into account:

(A) The quantity and quality of ground water and the direction of ground-water flow,

(B) The patterns of rainfall in the region,

(C) The proximity of the tank system to surface waters,

(D) The current and future uses of surface waters in the area and any water quality standards established for those surface waters, and

(E) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface-water quality; and

(iv) The potential adverse effects of a release on the land surrounding the tank system, taking into account:

(A) The patterns of rainfall in the region, and

(B) The current and future uses of the surrounding land.

(3) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of paragraph (g)(1) of this section, at which a release of hazardous waste has occurred from the primary tank system but has not migrated beyond the zone of engineering control (as established in the variance), must:

(i) Comply with the requirements of § 264.196, except paragraph (d), and

(ii) Decontaminate or remove contaminated soil to the extent necessary to:

(A) Enable the tank system for which the variance was granted to resume operation with the capability for the detection of releases at least equivalent to the capability it had prior to the release; and

(B) Prevent the migration of hazardous waste or hazardous constituents to ground water or surface water; and

(iii) If contaminated soil cannot be removed or decontaminated in accordance with paragraph (g)(3)(ii) of this section, comply with the requirement of § 264.197(b).

(4) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of paragraph (g)(1) of this section, at which a release of hazardous waste has occurred from the primary tank system and has migrated beyond the zone of engineering control (as established in the variance), must:

(i) Comply with the requirements of § 264.196 (a), (b), (c), and (d); and

(ii) Prevent the migration of hazardous waste or hazardous constituents to ground water or surface water, if possible, and decontaminate or remove contaminated soil. If contaminated soil cannot be decontaminated or removed or if ground water has been contaminated, the owner or operator must comply with the requirements of § 264.197(b); and

(iii) If repairing, replacing, or reinstalling the tank system, provide secondary containment in accordance with the requirements of paragraphs (a) through (f) of this section or reapply for a variance from secondary containment and meet the requirements for new tank systems in § 264.192

if the tank system is replaced. The owner or operator must comply with these requirements even if contaminated soil can be decontaminated or removed and ground water or surface water has not been contaminated.

(h) The following procedures must be followed in order to request a variance from secondary containment:

(1) The Regional Administrator must be notified in writing by the owner or operator that he intends to conduct and submit a demonstration for a variance from secondary containment as allowed in paragraph (g) of this section according to the following schedule:

(i) For existing tank systems, at least 24 months prior to the date that secondary containment must be provided in accordance with paragraph (a) of this section.

(ii) For new tank systems, at least 30 days prior to entering into a contract for installation.

(2) As part of the notification, the owner or operator must also submit to the Regional Administrator a description of the steps necessary to conduct the demonstration and a timetable for completing each of the steps. The demonstration must address each of the factors listed in paragraph (g)(1) or paragraph (g)(2) of this section;

(3) The demonstration for a variance must be completed within 180 days after notifying the Regional Administrator of an intent to conduct the demonstration; and

(4) If a variance is granted under this paragraph, the Regional Administrator will require the permittee to construct and operate the tank system in the manner that was demonstrated to meet the requirements for the variance.

(i) All tank systems, until such time as secondary containment that meets the requirements of this section is provided, must comply with the following:

(1) For non-enterable underground tanks, a leak test that meets the requirements of § 264.191(b)(5) or other tank integrity method, as approved or required by the Regional Administrator, must be conducted at least annually.

(2) For other than non-enterable underground tanks, the owner or operator must either conduct a leak test as in paragraph (i)(1) of this section or develop a schedule and procedure for an assessment of the overall condition of the tank system by an independent, qualified registered professional engineer. The schedule and procedure must be adequate to detect obvious cracks, leaks, and corrosion or erosion that may lead to cracks and leaks. The owner or operator must remove the stored waste from the tank, if necessary, to allow the condition of all internal tank surfaces to be assessed. The frequency of these assessments must be based on the material of construction of the tank and its ancillary equipment, the age of the system, the type of corrosion or erosion protection used, the rate of corrosion or erosion observed during the previous inspection, and the characteristics of the waste being stored or treated.

(3) For ancillary equipment, a leak test or other integrity assessment as approved by the Regional Administrator must be conducted at least annually.

[NOTE: The practices described in the American Petroleum Institute (API) Publication Guide for Inspection of Refinery Equipment, Chapter XIII, ''Atmospheric and Low-Pressure Storage Tanks,'' 4th edition, 1981, may be used, where applicable, as guidelines for assessing the overall condition of the tank system.]

(4) The owner or operator must maintain on file at the facility a record of the results of the assessments conducted in accordance with paragraphs (i)(1) through (i)(3) of this section.

(5) If a tank system or component is found to be leaking or unfit for use as a result of the leak test or assessment in paragraphs (i)(1) through (i)(3) of this section, the owner or operator must comply with the requirements of § 264.196.

[51 FR 25472, July 14, 1986; 51 FR 29430, Aug. 15, 1986, as amended at 53 FR 34086, Sept. 2, 1988]

§ 264.194 General operating requirements.

(a) Hazardous wastes or treatment reagents must not be placed in a tank system if they could cause the tank, its ancillary equipment, or the containment system to rupture, leak, corrode, or otherwise fail.

(b) The owner or operator must use appropriate controls and practices to prevent spills and overflows from tank or containment systems. These include at a minimum:

(1) Spill prevention controls (e.g., check valves, dry disconnect couplings);

(2) Overfill prevention controls (e.g., level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank); and

(3) Maintenance of sufficient freeboard in uncovered tanks to prevent overtopping by wave or wind action or by precipitation.

(c) The owner or operator must comply with the requirements of § 264.196 if a leak or spill occurs in the tank system.

§ 264.195 Inspections.

(a) The owner or operator must develop and follow a schedule and procedure for inspecting overfill controls.

(b) The owner or operator must inspect at least once each operating day:

(1) Aboveground portions of the tank system, if any, to detect corrosion or releases of waste;

(2) Data gathered from monitoring and leak detection equipment (e.g., pressure or temperature gauges, monitoring wells) to ensure that the tank system is being operated according to its design; and

(3) The construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system (e.g., dikes) to detect erosion or signs of releases of hazardous waste (e.g., wet spots, dead vegetation).

[NOTE: Section 264.15(c) requires the owner or operator to remedy any deterioration or malfunction he finds. Section 264.196 requires the owner or operator to notify the Regional Administrator within 24 hours of confirming a leak. Also, 40 CFR part 302 may require the owner or operator to notify the National Response Center of a release.]

(c) The owner or operator must inspect cathodic protection systems, if present, according to, at a minimum, the following schedule to ensure that they are functioning properly:

(1) The proper operation of the cathodic protection system must be confirmed within six months after initial installation and annually thereafter; and

(2) All sources of impressed current must be inspected and/or tested, as appropriate, at least bimonthly (i.e., every other month).

[NOTE: The practices described in the National Association of Corrosion Engineers (NACE) standard, ''Recommended Practice (RP–02–85)—Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems,'' and the American Petroleum Institute (API) Publication 1632, ''Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems,'' may be used, where applicable, as guidelines in maintaining and inspecting cathodic protection systems.]

(d) The owner or operator must document in the operating record of the facility an inspection of those items in paragraphs (a) through (c) of this section.

§ 264.196 Response to leaks or spills and disposition of leaking or unfit-for-use tank systems.

A tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use, must be removed from service immediately, and the owner or operator must satisfy the following requirements:

(a) *Cessation of use; prevent flow or addition of wastes.* The owner or operator must immediately stop the flow of hazardous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release.

(b) *Removal of waste from tank system or secondary containment system.* (1) If the release was from the tank system, the owner/operator must, within 24 hours after detection of the leak or, if the owner/operator demonstrates that it is not possible, at the earliest practicable time, remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed.

(2) If the material released was to a secondary containment system, all released materials must be removed

within 24 hours or in as timely a manner as is possible to prevent harm to human health and the environment.

(c) *Containment of visible releases to the environment.* The owner/operator must immediately conduct a visual inspection of the release and, based upon that inspection:

(1) Prevent further migration of the leak or spill to soils or surface water; and

(2) Remove, and properly dispose of, any visible contamination of the soil or surface water.

(d) *Notifications, reports.* (1) Any release to the environment, except as provided in paragraph (d)(2) of this section, must be reported to the Regional Administrator within 24 hours of its detection. If the release has been reported pursuant to 40 CFR part 302, that report will satisfy this requirement.

(2) A leak or spill of hazardous waste is exempted from the requirements of this paragraph if it is:

(i) Less than or equal to a quantity of one (1) pound, and

(ii) Immediately contained and cleaned up.

(3) Within 30 days of detection of a release to the environment, a report containing the following information must be submitted to the Regional Administrator:

(i) Likely route of migration of the release;

(ii) Characteristics of the surrounding soil (soil composition, geology, hydrogeology, climate);

(iii) Results of any monitoring or sampling conducted in connection with the release (if available). If sampling or monitoring data relating to the release are not available within 30 days, these data must be submitted to the Regional Administrator as soon as they become available.

(iv) Proximity to downgradient drinking water, surface water, and populated areas; and

(v) Description of response actions taken or planned.

(e) *Provision of secondary containment, repair, or closure.* (1) Unless the owner/operator satisfies the requirements of paragraphs (e)(2) through (4) of this section, the tank system must be closed in accordance with § 264.197.

(2) If the cause of the release was a spill that has not damaged the integrity of the system, the owner/operator may return the system to service as soon as the released waste is removed and repairs, if necessary, are made.

(3) If the cause of the release was a leak from the primary tank system into the secondary containment system, the system must be repaired prior to returning the tank system to service.

(4) If the source of the release was a leak to the environment from a component of a tank system without secondary containment, the owner/operator must provide the component of the system from which the leak occurred with secondary containment that satisfies the requirements of § 264.193 before it can be returned to service, unless the source of the leak is an aboveground portion of a tank system that can be inspected visually. If the source is an aboveground component that can be inspected visually, the component must be repaired and may be returned to service without secondary containment as long as the requirements of paragraph (f) of this section are satisfied. If a component is replaced to comply with the requirements of this subparagraph, that component must satisfy the requirements for new tank systems or components in §§ 264.192 and 264.193. Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection (e.g., the bottom of an inground or onground tank), the entire component must be provided with secondary containment in accordance with § 264.193 prior to being returned to use.

(f) *Certification of major repairs.* If the owner/operator has repaired a tank system in accordance with paragraph (e) of this section, and the repair has been extensive (e.g., installation of an internal liner; repair of a ruptured primary containment or secondary containment vessel), the tank system must not be returned to service unless the owner/operator has obtained a certification by an independent, qualified, registered, professional engineer in accordance with § 270.11(d) that the repaired system is capable of handling hazardous wastes without release for

the intended life of the system. This certification must be submitted to the Regional Administrator within seven days after returning the tank system to use.

[NOTE: The Regional Administrator may, on the basis of any information received that there is or has been a release of hazardous waste or hazardous constituents into the environment, issue an order under RCRA section 3004(v), 3008(h), or 7003(a) requiring corrective action or such other response as deemed necessary to protect human health or the environment.]

[NOTE: See § 264.15(c) for the requirements necessary to remedy a failure. Also, 40 CFR part 302 may require the owner or operator to notify the National Response Center of certain releases.]

[51 FR 25472, July 14, 1986; 51 FR 29430, Aug. 15, 1986, as amended at 53 FR 34086, Sept. 2, 1988]

§ 264.197 Closure and post-closure care.

(a) At closure of a tank system, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste, unless § 261.3(d) of this chapter applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for tank systems must meet all of the requirements specified in subparts G and H of this part.

(b) If the owner or operator demonstrates that not all contaminated soils can be practicably removed or decontaminated as required in paragraph (a) of this section, then the owner or operator must close the tank system and perform post-closure care in accordance with the closure and post-closure care requirements that apply to landfills (§ 264.310). In addition, for the purposes of closure, post-closure, and financial responsibility, such a tank system is then considered to be a landfill, and the owner or operator must meet all of the requirements for landfills specified in subparts G and H of this part.

(c) If an owner or operator has a tank system that does not have secondary containment that meets the requirements of § 264.193 (b) through (f) and has not been granted a variance from the secondary containment requirements in accordance with § 264.193(g), then:

(1) The closure plan for the tank system must include both a plan for complying with paragraph (a) of this section and a contingent plan for complying with paragraph (b) of this section.

(2) A contingent post-closure plan for complying with paragraph (b) of this section must be prepared and submitted as part of the permit application.

(3) The cost estimates calculated for closure and post-closure care must reflect the costs of complying with the contingent closure plan and the contingent post-closure plan, if those costs are greater than the costs of complying with the closure plan prepared for the expected closure under paragraph (a) of this section.

(4) Financial assurance must be based on the cost estimates in paragraph (c)(3) of this section.

(5) For the purposes of the contingent closure and post-closure plans, such a tank system is considered to be a landfill, and the contingent plans must meet all of the closure, post-closure, and financial responsibility requirements for landfills under subparts G and H of this part.

[51 FR 25472, July 14, 1986; 51 FR 29430, Aug. 15, 1986]

§ 264.198 Special requirements for ignitable or reactive wastes.

(a) Ignitable or reactive waste must not be placed in tank systems, unless:

(1) The waste is treated, rendered, or mixed before or immediately after placement in the tank system so that:

(i) The resulting waste, mixture, or dissolved material no longer meets the definition of ignitable or reactive waste under §§ 261.21 or 261.23 of this chapter, and

(ii) Section 264.17(b) is complied with; or

(2) The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or

(3) The tank system is used solely for emergencies.

(b) The owner or operator of a facility where ignitable or reactive waste is

stored or treated in a tank must comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon as required in Tables 2–1 through 2–6 of the National Fire Protection Association's ''Flammable and Combustible Liquids Code,'' (1977 or 1981), (incorporated by reference, see § 260.11).

§ 264.199 Special requirements for incompatible wastes.

(a) Incompatible wastes, or incompatible wastes and materials, must not be placed in the same tank system, unless § 264.17(b) is complied with.

(b) Hazardous waste must not be placed in a tank system that has not been decontaminated and that previously held an incompatible waste or material, unless § 264.17(b) is complied with.

§ 264.200 Air emission standards.

The owner or operator shall manage all hazardous waste placed in a tank in accordance with the applicable requirements of subparts AA, BB, and CC of this part.

[61 FR 59950, Nov. 25, 1996]

Subpart K—Surface Impoundments

SOURCE: 47 FR 32357, July 26, 1982, unless otherwise noted.

§ 264.220 Applicability.

The regulations in this subpart apply to owners and operators of facilities that use surface impoundments to treat, store, or dispose of hazardous waste except as § 264.1 provides otherwise.

§ 264.221 Design and operating requirements.

(a) Any surface impoundment that is not covered by paragraph (c) of this section or § 265.221 of this chapter must have a liner for all portions of the impoundment (except for existing portions of such impoundments). The liner must be designed, constructed, and installed to prevent any migration of wastes out of the impoundment to the adjacent subsurface soil or ground water or surface water at any time during the active life (including the closure period) of the impoundment. The liner may be constructed of materials that may allow wastes to migrate into the liner (but not into the adjacent subsurface soil or ground water or surface water) during the active life of the facility, provided that the impoundment is closed in accordance with § 264.228(a)(1). For impoundments that will be closed in accordance with § 264.228(a)(2), the liner must be constructed of materials that can prevent wastes from migrating into the liner during the active life of the facility. The liner must be:

(1) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(2) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(3) Installed to cover all surrounding earth likely to be in contact with the waste or leachate.

(b) The owner or operator will be exempted from the requirements of paragraph (a) of this section if the Regional Administrator finds, based on a demonstration by the owner or operator, that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see § 264.93) into the ground water or surface water at any future time. In deciding whether to grant an exemption, the Regional Administrator will consider:

(1) The nature and quantity of the wastes;

(2) The proposed alternate design and operation;

(3) The hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the impoundment and ground water or surface water; and

(4) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to ground water or surface water.

(c) The owner or operator of each new surface impoundment unit on which construction commences after January 29, 1992, each lateral expansion of a surface impoundment unit on which construction commences after July 29, 1992 and each replacement of an existing surface impoundment unit that is to commence reuse after July 29, 1992 must install two or more liners and a leachate collection and removal system between such liners. ''Construction commences'' is as defined in § 260.10 of this chapter under ''existing facility''.

(1)(i) The *liner system* must include:

(A) A top liner designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into such liner during the active life and post-closure care period; and

(B) A composite bottom liner, consisting of at least two components. The upper component must be designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into this component during the active life and post-closure care period. The lower component must be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur. The lower component must be constructed of at least 3 feet (91 cm) of compacted soil material with a hydraulic conductivity of no more than 1×10^{-7} cm/sec.

(ii) The liners must comply with paragraphs (a) (1), (2), and (3) of this section.

(2) The *leachate collection and removal system* between the liners, and immediately above the bottom composite liner in the case of multiple leachate collection and removal systems, is also a *leak detection system*. This leak detection system must be capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to waste or leachate during the active life and post-closure care period. The requirements for a leak detection system in this paragraph are satisfied by installation of a system that is, at a minimum:

(i) Constructed with a bottom slope of one percent or more;

(ii) Constructed of granular drainage materials with a hydraulic conductivity of 1×10^{-1} cm/sec or more and a thickness of 12 inches (30.5 cm) or more; or constructed of synthetic or geonet drainage materials with a transmissivity of 3×10^{-4} m^2sec or more;

(iii) Constructed of materials that are chemically resistant to the waste managed in the surface impoundment and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes and any waste cover materials or equipment used at the surface impoundment;

(iv) Designed and operated to minimize clogging during the active life and post-closure care period; and

(v) Constructed with sumps and liquid removal methods (e.g., pumps) of sufficient size to collect and remove liquids from the sump and prevent liquids from backing up into the drainage layer. Each unit must have its own sump(s). The design of each sump and removal system must provide a method for measuring and recording the volume of liquids present in the sump and of liquids removed.

(3) The owner or operator shall collect and remove pumpable liquids in the sumps to minimize the head on the bottom liner.

(4) The owner or operator of a leak detection system that is not located completely above the seasonal high water table must demonstrate that the operation of the leak detection system will not be adversely affected by the presence of ground water.

(d) The Regional Administrator may approve alternative design or operating practices to those specified in paragraph (c) of this section if the owner or operator demonstrates to the Regional Administrator that such design and operating practices, together with location characteristics:

(1) Will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as the liners and leachate collection and removal system specified in paragraph (c) of this section; and

(2) Will allow detection of leaks of hazardous constituents through the top liner at least as effectively.

(e) The double liner requirement set forth in paragraph (c) of this section may be waived by the Regional Administrator for any monofill, if:

(1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the EP toxicity characteristics in § 261.24 of this chapter; and

(2)(i)(A) The monofill has at least one liner for which there is no evidence that such liner is leaking. For the purposes of this paragraph, the term ''liner'' means a liner designed, constructed, installed, and operated to prevent hazardous waste from passing into the liner at any time during the active life of the facility, or a liner designed, constructed, installed, and operated to prevent hazardous waste from migrating beyond the liner to adjacent subsurface soil, ground water, or surface water at any time during the active life of the facility. In the case of any surface impoundment which has been exempted from the requirements of paragraph (c) of this section on the basis of a liner designed, constructed, installed, and operated to prevent hazardous waste from passing beyond the liner, at the closure of such impoundment, the owner or operator must remove or decontaminate all waste residues, all contaminated liner material, and contaminated soil to the extent practicable. If all contaminated soil is not removed or decontaminated, the owner or operator of such impoundment will comply with appropriate post-closure requirements, including but not limited to ground-water monitoring and corrective action;

(B) The monofill is located more than one-quarter mile from an underground source of drinking water (as that term is defined in § 144.3 of this chapter); and

(C) The monofill is in compliance with generally applicable ground-water monitoring requrements for facilities with permits under RCRA section 3005(c); or

(ii) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

(f) The owner or operator of any replacement surface impoundment unit is exempt from paragraph (c) of this section if:

(1) The existing unit was constructed in compliance with the design standards of sections 3004 (o)(1)(A)(i) and (o)(5) of the Resource Conservation and Recovery Act; and

(2) There is no reason to believe that the liner is not functioning as designed.

(g) A surface impoundment must be designed, constructed, maintained, and operated to prevent overtopping resulting from normal or abnormal operations; overfilling; wind and wave action; rainfall; run-on; malfunctions of level controllers, alarms, and other equipment; and human error.

(h) A surface impoundment must have dikes that are designed, constructed, and maintained with sufficient structural integrity to prevent massive failure of the dikes. In ensuring structural integrity, it must not be presumed that the liner system will function without leakage during the active life of the unit.

(i) The Regional Administrator will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

[47 FR 32357, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985; 50 FR 28747, July 15, 1985; 57 FR 3487, Jan. 29, 1992]

§ 264.222 Action leakage rate.

(a) The Regional Administrator shall approve an action leakage rate for surface impoundment units subject to § 264.221 (c) or (d). The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding 1 foot. The

action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(b) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under § 264.226(d) to an average daily flow rate (gallons per acre per day) for each sump. Unless the Regional Administrator approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and if the unit is closed in accordance with § 264.228(b), monthly during the post-closure care period when monthly monitoring is required under § 264.226(d).

[57 FR 3487, Jan. 29, 1992]

§ 264.223 Response actions.

(a) The owner or operator of surface impoundment units subject to § 264.221 (c) or (d) must have an approved response action plan before receipt of waste. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in paragraph (b) of this section.

(b) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator must:

(1) Notify the Regional Administrator in writing of the exceedence within 7 days of the determination;

(2) Submit a preliminary written assessment to the Regional Administrator within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(3) Determine to the extent practicable the location, size, and cause of any leak;

(4) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(5) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and

(6) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the Regional Administrator the results of the analyses specified in paragraphs (b) (3), (4), and (5) of this section, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the Regional Administrator a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak and/or remediation determinations in paragraphs (b) (3), (4), and (5) of this section, the owner or operator must:

(1)(i) Assess the source of liquids and amounts of liquids by source,

(ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

(iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) Document why such assessments are not needed.

[57 FR 3488, Jan. 29, 1992]

§§ 264.224—264.225 [Reserved]

§ 264.226 Monitoring and inspection.

(a) During construction and installation, liners (except in the case of existing portions of surface impoundments exempt from § 264.221(a)) and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(1) Synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(2) Soil-based and admixed liners and covers must be inspected for inperfections including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.

(b) While a surface impoundment is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) Deterioration, malfunctions, or improper operation of overtopping control systems;

(2) Sudden drops in the level of the impoundment's contents; and

(3) Severe erosion or other signs of deterioration in dikes or other containment devices.

(c) Prior to the issuance of a permit, and after any extended period of time (at least six months) during which the impoundment was not in service, the owner or operator must obtain a certification from a qualified engineer that the impoundment's dike, including that portion of any dike which provides freeboard, has structural integrity. The certification must establish, in particular, that the dike:

(1) Will withstand the stress of the pressure exerted by the types and amounts of wastes to be placed in the impoundment; and

(2) Will not fail due to scouring or piping, without dependence on any liner system included in the surface impoundment construction.

(d)(1) An owner or operator required to have a leak detection system under § 264.221 (c) or (d) must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

(2) After the final cover is installed, the amount of liquids removed from each leak detection system sump must be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for two consecutive months, the amount of liquids in the sumps must be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps must be recorded at least semi-annually. If at any time during the post-closure care period the pump operating level is exceeded at units on quarterly or semi-annual recording schedules, the owner or operator must return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months.

(3) ''Pump operating level'' is a liquid level proposed by the owner or operator and approved by the Regional Administrator based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump.

[47 FR 32357, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985; 50 FR 28748, July 15, 1985; 57 FR 3488, Jan. 29, 1992]

§ 264.227 Emergency repairs; contingency plans.

(a) A surface impoundment must be removed from service in accordance with paragraph (b) of this section when:

(1) The level of liquids in the impoundment suddenly drops and the drop is not known to be caused by changes in the flows into or out of the impoundment; or

(2) The dike leaks.

(b) When a surface impoundment must be removed from service as required by paragraph (a) of this section, the owner or operator must:

(1) Immediately shut off the flow or stop the addition of wastes into the impoundment;

(2) Immediately contain any surface leakage which has occurred or is occurring;

(3) Immediately stop the leak;

(4) Take any other necessary steps to stop or prevent catastrophic failure;

(5) If a leak cannot be stopped by any other means, empty the impoundment; and

(6) Notify the Regional Administrator of the problem in writing within seven days after detecting the problem.

(c) As part of the contingency plan required in subpart D of this part, the owner or operator must specify a procedure for complying with the requirements of paragraph (b) of this section.

(d) No surface impoundment that has been removed from service in accordance with the requirements of this section may be restored to service unless the portion of the impoundment which was failing is repaired and the following steps are taken:

(1) If the impoundment was removed from service as the result of actual or imminent dike failure, the dike's structural integrity must be recertified in accordance with § 264.226(c).

(2) If the impoundment was removed from service as the result of a sudden drop in the liquid level, then:

(i) For any existing portion of the impoundment, a liner must be installed in compliance with § 264.221(a); and

(ii) For any other portion of the impoundment, the repaired liner system must be certified by a qualified engineer as meeting the design specifications approved in the permit.

(e) A surface impoundment that has been removed from service in accordance with the requirements of this section and that is not being repaired must be closed in accordance with the provisions of § 264.228.

[47 FR 32357, July 26, 1982, as amended at 50 FR 28748, July 15, 1985]

§ 264.228 Closure and post-closure care.

(a) At closure, the owner or operator must:

(1) Remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless § 261.3(d) of this chapter applies; or

(2)(i) Eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues;

(ii) Stabilize remaining wastes to a bearing capacity sufficient to support final cover; and

(iii) Cover the surface impoundment with a final cover designed and constructed to:

(A) Provide long-term minimization of the migration of liquids through the closed impoundment;

(B) Function with minimum maintenance;

(C) Promote drainage and minimize erosion or abrasion of the final cover;

(D) Accommodate settling and subsidence so that the cover's integrity is maintained; and

(E) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(b) If some waste residues or contaminated materials are left in place at final closure, the owner or operator must comply with all post-closure requirements contained in §§ 264.117 through 264.120, including maintenance and monitoring throughout the post-closure care period (specified in the permit under § 264.117). The owner or operator must:

(1) Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;

(2) Maintain and monitor the leak detection system in accordance with §§ 264.221(c)(2)(iv) and (3) and 264.226(d), and comply with all other applicable leak detection system requirements of this part;

(3) Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of subpart F of this part; and

(4) Prevent run-on and run-off from eroding or otherwise damaging the final cover.

(c)(1) If an owner or operator plans to close a surface impoundment in accordance with paragraph (a)(1) of this section, and the impoundment does not comply with the liner requirements of § 264.221(a) and is not exempt from them in accordance with § 264.221(b), then:

(i) The closure plan for the impoundment under § 264.112 must include both a plan for complying with paragraph (a)(1) of this section and a contingent plan for complying with paragraph (a)(2) of this section in case not all contaminated subsoils can be practicably removed at closure; and

(ii) The owner or operator must prepare a contingent post-closure plan under § 264.118 for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure.

(2) The cost estimates calculated under §§ 264.142 and 264.144 for closure and post-closure care of an impoundment subject to this paragraph must include the cost of complying with the contingent closure plan and the contingent post-closure plan, but are not required to include the cost of expected closure under paragraph (a)(1) of this section.

[47 FR 32357, July 26, 1982, as amended at 50 FR 28748, July 15, 1985; 57 FR 3488, Jan. 29, 1992]

§ 264.229 Special requirements for ignitable or reactive waste.

Ignitable or reactive waste must not be placed in a surface impoundment, unless the waste and impoundment satisfy all applicable requirements of 40 CFR part 268, and:

(a) The waste is treated, rendered, or mixed before or immediately after placement in the impoundment so that:

(1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under § 261.21 or § 261.23 of this chapter; and

(2) Section 264.17(b) is complied with; or

(b) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react; or

(c) The surface impoundment is used solely for emergencies.

[47 FR 32357, July 26, 1982, as amended at 55 FR 22685, June 1, 1990]

§ 264.230 Special requirements for incompatible wastes.

Incompatible wastes, or incompatible wastes and materials, (see appendix V of this part for examples) must not be placed in the same surface impoundment, unless § 264.17(b) is complied with.

§ 264.231 Special requirements for hazardous wastes FO20, FO21, FO22, FO23, FO26, and FO27.

(a) Hazardous Wastes FO20, FO21, FO22, FO23, FO26, and FO27 must not be placed in a surface impoundment unless the owner or operator operates the surface impoundment in accordance with a management plan for these wastes that is approved by the Regional Administrator pursuant to the standards set out in this paragraph, and in accord with all other applicable requirements of this part. The factors to be considered are:

(1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) The attenuative properties of underlying and surrounding soils or other materials;

(3) The mobilizing properties of other materials co-disposed with these wastes; and

(4) The effectiveness of additional treatment, design, or monitoring techniques.

(b) The Regional Administrator may determine that additional design, operating, and monitoring requirements are necessary for surface impoundments managing hazardous wastes FO20, FO21, FO22, FO23, FO26, and FO27 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

[50 FR 2004, Jan. 14, 1985]

§ 264.232 Air emission standards.

The owner or operator shall manage all hazardous waste placed in a surface impoundment in accordance with the applicable requirements of subparts BB and CC of this part.

[61 FR 59950, Nov. 25, 1996]

Subpart L—Waste Piles

SOURCE: 47 FR 32359, July 26, 1982, unless otherwise noted.

§ 264.250 Applicability.

(a) The regulations in this subpart apply to owners and operators of facilities that store or treat hazardous waste in piles, except as § 264.1 provides otherwise.

(b) The regulations in this subpart do not apply to owners or operators of waste piles that are closed with wastes left in place. Such waste piles are subject to regulation under subpart N of this part (Landfills).

(c) The owner or operator of any waste pile that is inside or under a structure that provides protection from precipitation so that neither run-off nor leachate is generated is not subject to regulation under § 264.251 or under subpart F of this part, provided that:

(1) Liquids or materials containing free liquids are not placed in the pile;

(2) The pile is protected from surface water run-on by the structure or in some other manner;

(3) The pile is designed and operated to control dispersal of the waste by wind, where necessary, by means other than wetting; and

(4) The pile will not generate leachate through decomposition or other reactions.

§ 264.251 Design and operating requirements.

(a) A waste pile (except for an existing portion of a waste pile) must have:

(1) A liner that is designed, constructed, and installed to prevent any migration of wastes out of the pile into the adjacent subsurface soil or ground water or surface water at any time during the active life (including the closure period) of the waste pile. The liner may be constructed of materials that may allow waste to migrate into the liner itself (but not into the adjacent subsurface soil or ground water or surface water) during the active life of the facility. The liner must be:

(i) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(ii) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(iii) Installed to cover all surrounding earth likely to be in contact with the waste or leachate; and

(2) A leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the pile. The Regional Administrator will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system must be:

(i) Constructed of materials that are:

(A) Chemically resistent to the waste managed in the pile and the leachate expected to be generated; and

(B) Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlaying wastes, waste cover materials, and by any equipment used at the pile; and

(ii) Designed and operated to function without clogging through the scheduled closure of the waste pile.

(b) The owner or operator will be exempted from the requirements of paragraph (a) of this section, if the Regional Administrator finds, based on a demonstration by the owner or operator, that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see § 264.93) into the ground water or surface water at any future time. In deciding whether to grant an exemption, the Regional Administrator will consider:

(1) The nature and quantity of the wastes;

(2) The proposed alternate design and operation;

(3) The hydrogeologic setting of the facility, including attenuative capacity and thickness of the liners and soils present between the pile and ground water or surface water; and

(4) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to ground water or surface water.

(c) The owner or operator of each new waste pile unit on which construction commences after January 29, 1992, each lateral expansion of a waste pile unit on which construction commences after July 29, 1992, and each replacement of an existing waste pile unit that is to commence reuse after July 29, 1992 must install two or more liners and a leachate collection and removal system above and between such liners.

''Construction commences'' is as defined in § 260.10 under ''existing facility''.

(1)(i) The liner system must include:

(A) A top liner designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into such liner during the active life and post-closure care period; and

(B) A composite bottom liner, consisting of at least two components. The upper component must be designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into this component during the active life and post-closure care period. The lower component must be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur. The lower component must be constructed of at least 3 feet (91 cm) of compacted soil material with a hydraulic conductivity of no more than 1×10^{-7} cm/sec.

(ii) The liners must comply with paragraphs (a)(1)(i), (ii), and (iii) of this section.

(2) The *leachate collection and removal system* immediately above the top liner must be designed, constructed, operated, and maintained to collect and remove leachate from the waste pile during the active life and post-closure care period. The Regional Administrator will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system must comply with paragraphs (c)(3)(iii) and (iv) of this section.

(3) The *leachate collection and removal system* between the liners, and immediately above the bottom composite liner in the case of multiple leachate collection and removal systems, is also a *leak detection system*. This leak detection system must be capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to waste or leachate during the active life and post-closure care period. The requirements for a leak detection system in this paragraph are satisfied by installation of a system that is, at a minimum:

(i) Constructed with a bottom slope of one percent or more;

(ii) Constructed of granular drainage materials with a hydraulic conductivity of 1×10^{-2} cm/sec or more and a thickness of 12 inches (30.5 cm) or more; or constructed of synthetic or geonet drainage materials with a transmissivity of 3×10^{-5} m^2/sec or more:

(iii) Constructed of materials that are chemically resistant to the waste managed in the waste pile and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and equipment used at the waste pile;

(iv) Designed and operated to minimize clogging during the active life and post-closure care period; and

(v) Constructed with sumps and liquid removal methods (e.g., pumps) of sufficient size to collect and remove liquids from the sump and prevent liquids from backing up into the drainage layer. Each unit must have its own sump(s). The design of each sump and removal system must provide a method for measuring and recording the volume of liquids present in the sump and of liquids removed.

(4) The owner or operator shall collect and remove pumpable liquids in the leak detection system sumps to minimize the head on the bottom liner.

(5) The owner or operator of a leak detection system that is not located completely above the seasonal high water table must demonstrate that the operation of the leak detection system will not be adversely affected by the presence of ground water.

(d) The Regional Administrator may approve alternative design or operating practices to those specified in paragraph (c) of this section if the owner or operator demonstrates to the Regional Administrator that such design and operating practices, together with location characteristics:

(1) Will prevent the migration of any hazardous constituent into the ground

water or surface water at least as effectively as the liners and leachate collection and removal systems specified in paragraph (c) of this section; and

(2) Will allow detection of leaks of hazardous constituents through the top liner at least as effectively.

(e) Paragraph (c) of this section does not apply to monofills that are granted a waiver by the Regional Administrator in accordance with § 264.221(e).

(f) The owner or operator of any replacement waste pile unit is exempt from paragraph (c) of this section if:

(1) The existing unit was constructed in compliance with the design standards of section 3004(o)(1)(A)(i) and (o)(5) of the Resource Conservation and Recovery Act; and

(2) There is no reason to believe that the liner is not functioning as designed.

(g) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a 25-year storm.

(h) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(i) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(j) If the pile contains any particulate matter which may be subject to wind dispersal, the owner or operator must cover or otherwise manage the pile to control wind dispersal.

(k) The Regional Administrator will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

[47 FR 32359, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985; 57 FR 3488, Jan. 29, 1992]

§ 264.252 Action leakage rate.

(a) The Regional Administrator shall approve an action leakage rate for surface impoundment units subject to § 264.251(c) or (d). The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding 1 foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(b) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly flow rate from the monitoring data obtained under § 264.254(c), to an average daily flow rate (gallons per acre per day) for each sump. Unless the Regional Administrator approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period.

[57 FR 3489, Jan. 29, 1992]

§ 264.253 Response actions.

(a) The owner or operator of waste pile units subject to § 264.251 (c) or (d) must have an approved response action plan before receipt of waste. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in paragraph (b) of this section.

(b) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator must:

(1) Notify the Regional Administrator in writing of the exceedance within 7 days of the determination;

(2) Submit a preliminary written assessment to the Regional Administrator within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(3) Determine to the extent practicable the location, size, and cause of any leak;

(4) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(5) Determine any other short-term and long-term actions to be taken to mitigate or stop any leaks; and

(6) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the Regional Administrator the results of the analyses specified in paragraphs (b) (3), (4), and (5) of this section, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the Regional Administrator a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak and/or remediation determinations in paragraphs (b) (3), (4), and (5) of this section, the owner or operator must:

(1)(i) Assess the source of liquids and amounts of liquids by source,

(ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

(iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) Document why such assessments are not needed.

[57 FR 3489, Jan. 29, 1992]

§ 264.254 Monitoring and inspection.

(a) During construction or installation, liners (except in the case of existing portions of piles exempt from § 264.251(a)) and cover systems (*e.g.*, membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (*e.g.*, holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(1) Synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(2) Soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.

(b) While a waste pile is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) Deterioration, malfunctions, or improper operation of run-on and run-off control systems;

(2) Proper functioning of wind dispersal control systems, where present; and

(3) The presence of leachate in and proper functioning of leachate collection and removal systems, where present.

(c) An owner or operator required to have a leak detection system under § 264.251(c) must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

[47 FR 32359, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985; 50 FR 28748, July 15, 1985; 57 FR 3489, Jan. 29, 1992]

§ 264.255 [Reserved]

§ 264.256 Special requirements for ignitable or reactive waste.

Ignitable or reactive waste must not be placed in a waste pile unless the waste and waste pile satisfy all applicable requirements of 40 CFR part 268, and:

(a) The waste is treated, rendered, or mixed before or immediately after placement in the pile so that:

(1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under § 261.21 or § 261.23 of this chapter; and

(2) Section 264.17(b) is complied with; or

(b) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

[47 FR 32359, July 26, 1982, as amended at 55 FR 22685, June 1, 1990]

§ 264.257 Special requirements for incompatible wastes.

(a) Incompatible wastes, or incompatible wastes and materials, (see appendix V of this part for examples) must not be placed in the same pile, unless § 264.17(b) is complied with.

(b) A pile of hazardous waste that is incompatible with any waste or other material stored nearby in containers, other piles, open tanks, or surface impoundments must be separated from the other materials, or protected from them by means of a dike, berm, wall, or other device.

(c) Hazardous waste must not be piled on the same base where incompatible wastes or materials were previously piled, unless the base has been decontaminated sufficiently to ensure compliance with § 264.17(b).

§ 264.258 Closure and post-closure care.

(a) At closure, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless § 261.3(d) of this chapter applies.

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must close the facility and perform post-closure care in accordance with the closure and post-closure care requirements that apply to landfills (§ 264.310).

(c)(1) The owner or operator of a waste pile that does not comply with the liner requirements of § 264.251(a)(1) and is not exempt from them in accordance with § 264.250(c) or § 264.251(b), must:

(i) Include in the closure plan for the pile under § 264.112 both a plan for complying with paragraph (a) of this section and a contingent plan for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure; and

(ii) Prepare a contingent post-closure plan under § 264.118 for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure.

(2) The cost estimates calculated under §§ 264.142 and 264.144 for closure and post-closure care of a pile subject to this paragraph must include the cost of complying with the contingent closure plan and the contingent post-closure plan, but are not required to include the cost of expected closure under paragraph (a) of this section.

§ 264.259 Special requirements for hazardous wastes FO20, FO21, FO22, FO23, FO26, and FO27.

(a) Hazardous Wastes FO20, FO21, FO22, FO23, FO26, and FO27 must not be placed in waste piles that are not enclosed (as defined in § 264.250(c)) unless the owner or operator operates the waste pile in accordance with a management plan for these wastes that is approved by the Regional Administrator pursuant to the standards set out in this paragraph, and in accord with all other applicable requirements of this part. The factors to be considered are:

(1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) The attenuative properties of underlying and surrounding soils or other materials;

(3) The mobilizing properties of other materials co-disposed with these wastes; and

(4) The effectiveness of additional treatment, design, or monitoring techniques.

(b) The Regional Administrator may determine that additional design, operating, and monitoring requirements are necessary for piles managing hazardous wastes FO20, FO21, FO22, FO23, FO26, and, FO27 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

[50 FR 2004, Jan. 14, 1985]

Subpart M—Land Treatment

SOURCE: 47 FR 32361, July 26, 1982, unless otherwise noted.

§ 264.270 Applicability.

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

§ 264.271 Treatment program.

(a) An owner or operator subject to this subpart must establish a land treatment program that is designed to ensure that hazardous constituents placed in or on the treatment zone are degraded, transformed, or immobilized within the treatment zone. The Regional Administrator will specify in the facility permit the elements of the treatment program, including:

(1) The wastes that are capable of being treated at the unit based on a demonstration under § 264.272;

(2) Design measures and operating practices necessary to maximize the success of degradation, transformation, and immobilization processes in the treatment zone in accordance with § 264.273(a); and

(3) Unsaturated zone monitoring provisions meeting the requirements of § 264.278.

(b) The Regional Administrator will specify in the facility permit the hazardous constituents that must be degraded, transformed, or immobilized under this subpart. Hazardous constituents are constituents identified in appendix VIII of part 261 of this chapter that are reasonably expected to be in, or derived from, waste placed in or on the treatment zone.

(c) The Regional Administrator will specify the vertical and horizontal dimensions of the treatment zone in the facility permit. The treatment zone is the portion of the unsaturated zone below and including the land surface in which the owner or operator intends to maintain the conditions necessary for effective degradation, transformation, or immobilization of hazardous constituents. The maximum depth of the treatment zone must be:

(1) No more than 1.5 meters (5 feet) from the initial soil surface; and

(2) More than 1 meter (3 feet) above the seasonal high water table.

[47 FR 32361, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985]

§ 264.272 Treatment demonstration.

(a) For each waste that will be applied to the treatment zone, the owner or operator must demonstrate, prior to application of the waste, that hazardous constituents in the waste can be completely degraded, transformed, or immobilized in the treatment zone.

(b) In making this demonstration, the owner or operator may use field tests, laboratory analyses, available data, or, in the case of existing units, operating data. If the owner or operator intends to conduct field tests or laboratory analyses in order to make the demonstration required under paragraph (a) of this section, he must obtain a treatment or disposal permit under § 270.63. The Regional Administrator will specify in this permit the testing, analytical, design, and operating requirements (including the duration of the tests and analyses, and, in the case of field tests, the horizontal and vertical dimensions of the treatment zone, monitoring procedures, closure and clean-up activities) necessary to meet the requirements in paragraph (c) of this section.

(c) Any field test or laboratory analysis conducted in order to make a demonstration under paragraph (a) of this section must:

(1) Accurately simulate the characteristics and operating conditions for the proposed land treatment unit including:

(i) The characteristics of the waste (including the presence of appendix VIII of part 261 of this chapter constituents);

(ii) The climate in the area;

(iii) The topography of the surrounding area;

(iv) The characteristics of the soil in the treatment zone (including depth); and

(v) The operating practices to be used at the unit.

(2) Be likely to show that hazardous constituents in the waste to be tested

will be completely degraded, transformed, or immobilized in the treatment zone of the proposed land treatment unit; and

(3) Be conducted in a manner that protects human health and the environment considering:

(i) The characteristics of the waste to be tested;

(ii) The operating and monitoring measures taken during the course of the test;

(iii) The duration of the test;

(iv) The volume of waste used in the test;

(v) In the case of field tests, the potential for migration of hazardous constituents to ground water or surface water.

[47 FR 32361, July 26, 1982, as amended at 48 FR 14294, Apr. 1, 1983]

§ 264.273 Design and operating requirements.

The Regional Administrator will specify in the facility permit how the owner or operator will design, construct, operate, and maintain the land treatment unit in compliance with this section.

(a) The owner or operator must design, construct, operate, and maintain the unit to maximize the degradation, transformation, and immobilization of hazardous constituents in the treatment zone. The owner or operator must design, construct, operate, and maintain the unit in accord with all design and operating conditions that were used in the treatment demonstration under § 264.272. At a minimum, the Regional Administrator will specify the following in the facility permit:

(1) The rate and method of waste application to the treatment zone;

(2) Measures to control soil pH;

(3) Measures to enhance microbial or chemical reactions (*e.g.*, fertilization, tilling); and

(4) Measures to control the moisture content of the treatment zone.

(b) The owner or operator must design, construct, operate, and maintain the treatment zone to minimize run-off of hazardous constituents during the active life of the land treatment unit.

(c) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the treatment zone during peak discharge from at least a 25-year storm.

(d) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(e) Collection and holding facilities (*e.g.*, tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain the design capacity of the system.

(f) If the treatment zone contains particulate matter which may be subject to wind dispersal, the owner or operator must manage the unit to control wind dispersal.

(g) The owner or operator must inspect the unit weekly and after storms to detect evidence of:

(1) Deterioration, malfunctions, or improper operation of run-on and run-off control systems; and

(2) Improper functioning of wind dispersal control measures.

[47 FR 32361, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985]

§§ 264.274—264.275 [Reserved]

§ 264.276 Food-chain crops.

The Regional Administrator may allow the growth of food-chain crops in or on the treatment zone only if the owner or operator satisfies the conditions of this section. The Regional Administrator will specify in the facility permit the specific food-chain crops which may be grown.

(a)(1) The owner or operator must demonstrate that there is no substantial risk to human health caused by the growth of such crops in or on the treatment zone by demonstrating, prior to the planting of such crops, that hazardous constituents other than cadmium:

(i) Will not be transferred to the food or feed portions of the crop by plant uptake or direct contact, and will not otherwise be ingested by food-chain animals (*e.g.*, by grazing); or

(ii) Will not occur in greater concentrations in or on the food or feed

portions of crops grown on the treatment zone than in or on identical portions of the same crops grown on untreated soils under similar conditions in the same region.

(2) The owner or operator must make the demonstration required under this paragraph prior to the planting of crops at the facility for all constituents identified in appendix VIII of part 261 of this chapter that are reasonably expected to be in, or derived from, waste placed in or on the treatment zone.

(3) In making a demonstration under this paragraph, the owner or operator may use field tests, greenhouse studies, available data, or, in the case of existing units, operating data, and must:

(i) Base the demonstration on conditions similar to those present in the treatment zone, including soil characteristics (*e.g.*, pH, cation exchange capacity), specific wastes, application rates, application methods, and crops to be grown; and

(ii) Describe the procedures used in conducting any tests, including the sample selection criteria, sample size, analytical methods, and statistical procedures.

(4) If the owner or operator intends to conduct field tests or greenhouse studies in order to make the demonstration required under this paragraph, he must obtain a permit for conducting such activities.

(b) The owner or operator must comply with the following conditions if cadmium is contained in wastes applied to the treatment zone:

(1)(i) The pH of the waste and soil mixture must be 6.5 or greater at the time of each waste application, except for waste containing cadmium at concentrations of 2 mg/kg (dry weight) or less;

(ii) The annual application of cadmium from waste must not exceed 0.5 kilograms per hectare (kg/ha) on land used for production of tobacco, leafy vegetables, or root crops grown for human consumption. For other food-chain crops, the annual cadmium application rate must not exceed:

Time period	Annual Cd application rate (kilograms per hectare)
Present to June 30, 1984	2.0
July 1, 1984 to December 31, 1986	1.25
Beginning January 1, 1987	0.5

(iii) The cumulative application of cadmium from waste must not exceed 5 kg/ha if the waste and soil mixture has a pH of less than 6.5; and

(iv) If the waste and soil mixture has a pH of 6.5 or greater or is maintained at a pH of 6.5 or greater during crop growth, the cumulative application of cadmium from waste must not exceed: 5 kg/ha if soil cation exchange capacity (CEC) is less than 5 meq/100g; 10 kg/ha if soil CEC is 5–15 meq/100g; and 20 kg/ha if soil CEC is greater than 15 meq/100g; or

(2)(i) Animal feed must be the only food-chain crop produced;

(ii) The pH of the waste and soil mixture must be 6.5 or greater at the time of waste application or at the time the crop is planted, whichever occurs later, and this pH level must be maintained whenever food-chain crops are grown;

(iii) There must be an operating plan which demonstrates how the animal feed will be distributed to preclude ingestion by humans. The operating plan must describe the measures to be taken to safeguard against possible health hazards from cadmium entering the food chain, which may result from alternative land uses; and

(iv) Future property owners must be notified by a stipulation in the land record or property deed which states that the property has received waste at high cadmium application rates and that food-chain crops must not be grown except in compliance with paragraph (b)(2) of this section.

§ 264.277 [Reserved]

§ 264.278 Unsaturated zone monitoring.

An owner or operator subject to this subpart must establish an unsaturated zone monitoring program to discharge the following responsibilities:

(a) The owner or operator must monitor the soil and soil-pore liquid to determine whether hazardous constituents migrate out of the treatment zone.

(1) The Regional Administrator will specify the hazardous constituents to be monitored in the facility permit. The hazardous constituents to be monitored are those specified under § 264.271(b).

(2) The Regional Administrator may require monitoring for principal hazardous constituents (PHCs) in lieu of the constituents specified under § 264.271(b). PHCs are hazardous constituents contained in the wastes to be applied at the unit that are the most difficult to treat, considering the combined effects of degradation, transformation, and immobilization. The Regional Administrator will establish PHCs if he finds, based on waste analyses, treatment demonstrations, or other data, that effective degradation, transformation, or immobilization of the PHCs will assure treatment at at least equivalent levels for the other hazardous constituents in the wastes.

(b) The owner or operator must install an unsaturated zone monitoring system that includes soil monitoring using soil cores and soil-pore liquid monitoring using devices such as lysimeters. The unsaturated zone monitoring system must consist of a sufficient number of sampling points at appropriate locations and depths to yield samples that:

(1) Represent the quality of background soil-pore liquid quality and the chemical make-up of soil that has not been affected by leakage from the treatment zone; and

(2) Indicate the quality of soil-pore liquid and the chemical make-up of the soil below the treatment zone.

(c) The owner or operator must establish a background value for each hazardous constituent to be monitored under paragraph (a) of this section. The permit will specify the background values for each constituent or specify the procedures to be used to calculate the background values.

(1) Background soil values may be based on a one-time sampling at a background plot having characteristics similar to those of the treatment zone.

(2) Background soil-pore liquid values must be based on at least quarterly sampling for one year at a background plot having characteristics similar to those of the treatment zone.

(3) The owner or operator must express all background values in a form necessary for the determination of statistically significant increases under paragraph (f) of this section.

(4) In taking samples used in the determination of all background values, the owner or operator must use an unsaturated zone monitoring system that complies with paragraph (b)(1) of this section.

(d) The owner or operator must conduct soil monitoring and soil-pore liquid monitoring immediately below the treatment zone. The Regional Administrator will specify the frequency and timing of soil and soil-pore liquid monitoring in the facility permit after considering the frequency, timing, and rate of waste application, and the soil permeability. The owner or operator must express the results of soil and soil-pore liquid monitoring in a form necessary for the determination of statistically significant increases under paragraph (f) of this section.

(e) The owner or operator must use consistent sampling and analysis procedures that are designed to ensure sampling results that provide a reliable indication of soil-pore liquid quality and the chemical make-up of the soil below the treatment zone. At a minimum, the owner or operator must implement procedures and techniques for:

(1) Sample collection;

(2) Sample preservation and shipment;

(3) Analytical procedures; and

(4) Chain of custody control.

(f) The owner or operator must determine whether there is a statistically significant change over background values for any hazardous constituent to be monitored under paragraph (a) of this section below the treatment zone each time he conducts soil monitoring and soil-pore liquid monitoring under paragraph (d) of this section.

(1) In determining whether a statistically significant increase has occurred, the owner or operator must compare the value of each constituent, as determined under paragraph (d) of

this section, to the background value for that constituent according to the statistical procedure specified in the facility permit under this paragraph.

(2) The owner or operator must determine whether there has been a statistically significant increase below the treatment zone within a reasonable time period after completion of sampling. The Regional Administrator will specify that time period in the facility permit after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of soil and soil-pore liquid samples.

(3) The owner or operator must determine whether there is a statistically significant increase below the treatment zone using a statistical procedure that provides reasonable confidence that migration from the treatment zone will be identified. The Regional Administrator will specify a statistical procedure in the facility permit that he finds:

(i) Is appropriate for the distribution of the data used to establish background values; and

(ii) Provides a reasonable balance between the probability of falsely identifying migration from the treatment zone and the probability of failing to identify real migration from the treatment zone.

(g) If the owner or operator determines, pursuant to paragraph (f) of this section, that there is a statistically significant increase of hazardous constituents below the treatment zone, he must:

(1) Notify the Regional Administrator of this finding in writing within seven days. The notification must indicate what constituents have shown statistically significant increases.

(2) Within 90 days, submit to the Regional Administrator an application for a permit modification to modify the operating practices at the facility in order to maximize the success of degradation, transformation, or immobilization processes in the treatment zone.

(h) If the owner or operator determines, pursuant to paragraph (f) of this section, that there is a statistically significant increase of hazardous constituents below the treatment zone, he may demonstrate that a source other than regulated units caused the increase or that the increase resulted from an error in sampling, analysis, or evaluation. While the owner or operator may make a demonstration under this paragraph in addition to, or in lieu of, submitting a permit modification application under paragraph (g)(2) of this section, he is not relieved of the requirement to submit a permit modification application within the time specified in paragraph (g)(2) of this section unless the demonstration made under this paragraph successfully shows that a source other than regulated units caused the increase or that the increase resulted from an error in sampling, analysis, or evaluation. In making a demonstration under this paragraph, the owner or operator must:

(1) Notify the Regional Administrator in writing within seven days of determining a statistically significant increase below the treatment zone that he intends to make a determination under this paragraph;

(2) Within 90 days, submit a report to the Regional Administrator demonstrating that a source other than the regulated units caused the increase or that the increase resulted from error in sampling, analysis, or evaluation;

(3) Within 90 days, submit to the Regional Administrator an application for a permit modification to make any appropriate changes to the unsaturated zone monitoring program at the facility; and

(4) Continue to monitor in accordance with the unsaturated zone monitoring program established under this section.

[47 FR 32361, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985]

§ 264.279 Recordkeeping.

The owner or operator must include hazardous waste application dates and rates in the operating record required under § 264.73.

[47 FR 32361, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985]

§ 264.280 Closure and post-closure care.

(a) During the closure period the owner or operator must:

(1) Continue all operations (including pH control) necessary to maximize degradation, transformation, or immobilization of hazardous constituents within the treatment zone as required under § 264.273(a), except to the extent such measures are inconsistent with paragraph (a)(8) of this section.

(2) Continue all operations in the treatment zone to minimize run-off of hazardous constituents as required under § 264.273(b);

(3) Maintain the run-on control system required under § 264.273(c);

(4) Maintain the run-off management system required under § 264.273(d);

(5) Control wind dispersal of hazardous waste if required under § 264.273(f);

(6) Continue to comply with any prohibitions or conditions concerning growth of food-chain crops under § 264.276;

(7) Continue unsaturated zone monitoring in compliance with § 264.278, except that soil-pore liquid monitoring may be terminated 90 days after the last application of waste to the treatment zone; and

(8) Establish a vegetative cover on the portion of the facility being closed at such time that the cover will not substantially impede degradation, transformation, or immobilization of hazardous constituents in the treatment zone. The vegetative cover must be capable of maintaining growth without extensive maintenance.

(b) For the purpose of complying with § 264.115, when closure is completed the owner or operator may submit to the Regional Administrator certification by an independent qualified soil scientist, in lieu of an independent registered professional engineer, that the facility has been closed in accordance with the specifications in the approved closure plan.

(c) During the post-closure care period the owner or operator must:

(1) Continue all operations (including pH control) necessary to enhance degradation and transformation and sustain immobilization of hazardous constituents in the treatment zone to the extent that such measures are consistent with other post-closure care activities;

(2) Maintain a vegetative cover over closed portions of the facility;

(3) Maintain the run-on control system required under § 264.273(c);

(4) Maintain the run-off management system required under § 264.273(d);

(5) Control wind dispersal of hazardous waste if required under § 264.273(f);

(6) Continue to comply with any prohibitions or conditions concerning growth of food-chain crops under § 264.276; and

(7) Continue unsaturated zone monitoring in compliance with § 264.278, expect that soil-pore liquid monitoring may be terminated 90 days after the last application of waste to the treatment zone.

(d) The owner or operator is not subject to regulation under paragraphs (a)(8) and (c) of this section if the Regional Administrator finds that the level of hazardous constituents in the treatment zone soil does not exceed the background value of those constituents by an amount that is statistically significant when using the test specified in paragraph (d)(3) of this section. The owner or operator may submit such a demonstration to the Regional Administrator at any time during the closure of post-closure care periods. For the purposes of this paragraph:

(1) The owner or operator must establish background soil values and determine whether there is a statistically significant increase over those values for all hazardous constituents specified in the facility permit under § 264.271 (b).

(i) Background soil values may be based on a one-time sampling of a background plot having characteristics similar to those of the treatment zone.

(ii) The owner or operator must express background values and values for hazardous constituents in the treatment zone in a form necessary for the determination of statistically significant increases under paragraph (d)(3) of this section.

(2) In taking samples used in the determination of background and treatment zone values, the owner or operator must take samples at a sufficient number of sampling points and at appropriate locations and depths to yield samples that represent the chemical make-up of soil that has not been affected by leakage from the treatment zone and the soil within the treatment zone, respectively.

(3) In determining whether a statistically significant increase has occurred, the owner or operator must compare the value of each constituent in the treatment zone to the background value for that constituent using a statistical procedure that provides reasonable confidence that constituent presence in the treatment zone will be identified. The owner or operator must use a statistical procedure that:

(i) Is appropriate for the distribution of the data used to establish background values; and

(ii) Provides a reasonable balance between the probability of falsely identifying hazardous constituent presence in the treatment zone and the probability of failing to identify real presence in the treatment zone.

(e) The owner or operator is not subject to regulation under Subpart F of this chapter if the Regional Administrator finds that the owner or operator satisfies paragraph (d) of this section and if unsaturated zone monitoring under § 264.278 indicates that hazardous constituents have not migrated beyond the treatment zone during the active life of the land treatment unit.

§ 264.281 Special requirements for ignitable or reactive waste.

The owner or operator must not apply ignitable or reactive waste to the treatment zone unless the waste and the treatment zone meet all applicable requirements of 40 CFR part 268, and:

(a) The waste is immediately incorporated into the soil so that:

(1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under § 261.21 or § 261.23 of this chapter; and

(2) Section 264.17(b) is complied with; or

(b) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

[47 FR 32361, July 26, 1982, as amended at 55 FR 22685, June 1, 1990]

§ 264.282 Special requirements for incompatible wastes.

The owner or operator must not place incompatible wastes, or incompatible wastes and materials (see appendix V of this part for examples), in or on the same treatment zone, unless § 264.17(b) is complied with.

§ 264.283 Special requirements for hazardous wastes FO20, FO21, FO22, FO23, FO26, and FO27.

(a) Hazardous Wastes FO20, FO21, FO22, FO23, FO26 and, FO27 must not be placed in a land treatment unit unless the owner or operator operates the facility in accordance with a management plan for these wastes that is approved by the Regional Administrator pursuant to the standards set out in this paragraph, and in accord with all other applicable requirements of this part. The factors to be considered are:

(1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) The attenuative properties of underlying and surrounding soils or other materials;

(3) The mobilizing properties of other materials co-disposed with these wastes; and

(4) The effectiveness of additional treatment, design, or monitoring techniques.

(b) The Regional Administrator may determine that additional design, operating, and monitoring requirements are necessary for land treatment facilities managing hazardous wastes FO20, FO21, FO22, FO23, FO26, and FO27 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

[50 FR 2004, Jan. 14, 1985]

Subpart N—Landfills

SOURCE: 47 FR 32365, July 26, 1982, unless otherwise noted.

§ 264.300 Applicability.

The regulations in this subpart apply to owners and operators of facilities that dispose of hazardous waste in landfills, except as § 264.1 provides otherwise.

§ 264.301 Design and operating requirements.

(a) Any landfill that is not covered by paragraph (c) of this section or § 265.301(a) of this chapter must have a liner system for all portions of the landfill (except for existing portions of such landfill). The liner system must have:

(1) A liner that is designed, constructed, and installed to prevent any migration of wastes out of the landfill to the adjacent subsurface soil or ground water or surface water at anytime during the active life (including the closure period) of the landfill. The liner must be constructed of materials that prevent wastes from passing into the liner during the active life of the facility. The liner must be:

(i) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(ii) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(iii) Installed to cover all surrounding earth likely to be in contact with the waste or leachate; and

(2) A leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the landfill. The Regional Administrator will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system must be:

(i) Constructed of materials that are:

(A) Chemically resistant to the waste managed in the landfill and the leachate expected to be generated; and

(B) Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and by any equipment used at the landfill; and

(ii) Designed and operated to function without clogging through the scheduled closure of the landfill.

(b) The owner or operator will be exempted from the requirements of paragraph (a) of this section if the Regional Administrator finds, based on a demonstration by the owner or operator, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see § 264.93) into the ground water or surface water at any future time. In deciding whether to grant an exemption, the Regional Administrator will consider:

(1) The nature and quantity of the wastes;

(2) The proposed alternate design and operation;

(3) The hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the landfill and ground water or surface water; and

(4) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to ground water or surface water.

(c) The owner or operator of each new landfill unit on which construction commences after January 29, 1992, each lateral expansion of a landfill unit on which construction commences after July 29, 1992, and each replacement of an existing landfill unit that is to commence reuse after July 29, 1992 must install two or more liners and a leachate collection and removal system above and between such liners. ''Construction commences'' is as defined in § 260.10 of this chapter under ''existing facility''.

(1)(i) The *liner system* must include:

(A) A top liner designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into such liner during the active life and post-closure care period; and

(B) A composite bottom liner, consisting of at least two components. The upper component must be designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into this component during the active life and post-closure care period. The lower

component must be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur. The lower component must be constructed of at least 3 feet (91 cm) of compacted soil material with a hydraulic conductivity of no more than 1×10^{-7} cm/sec.

(ii) The liners must comply with paragraphs (a)(1) (i), (ii), and (iii) of this section.

(2) The *leachate collection and removal system* immediately above the top liner must be designed, constructed, operated, and maintained to collect and remove leachate from the landfill during the active life and post-closure care period. The Regional Administrator will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system must comply with paragraphs (3)(c) (iii) and (iv) of this section.

(3) The *leachate collection and removal system* between the liners, and immediately above the bottom composite liner in the case of multiple leachate collection and removal systems, is also a *leak detection system*. This leak detection system must be capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to waste or leachate during the active life and post-closure care period. The requirements for a leak detection system in this paragraph are satisfied by installation of a system that is, at a minimum:

(i) Constructed with a bottom slope of one percent or more;

(ii) Constructed of granular drainage materials with a hydraulic conductivity of 1×10^{-2} cm/sec or more and a thickness of 12 inches (30.5 cm) or more; or constructed of synthetic or geonet drainage materials with a transmissivity of 3×10^{-5} m^2/sec or more;

(iii) Constructed of materials that are chemically resistant to the waste managed in the landfill and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and equipment used at the landfill;

(iv) Designed and operated to minimize clogging during the active life and post-closure care period; and

(v) Constructed with sumps and liquid removal methods (e.g., pumps) of sufficient size to collect and remove liquids from the sump and prevent liquids from backing up into the drainage layer. Each unit must have its own sump(s). The design of each sump and removal system must provide a method for measuring and recording the volume of liquids present in the sump and of liquids removed.

(4) The owner or operator shall collect and remove pumpable liquids in the leak detection system sumps to minimize the head on the bottom liner.

(5) The owner or operator of a leak detection system that is not located completely above the seasonal high water table must demonstrate that the operation of the leak detection system will not be adversely affected by the presence of ground water.

(d) The Regional Administrator may approve alternative design or operating practices to those specified in paragraph (c) of this section if the owner or operator demonstrates to the Regional Administrator that such design and operating practices, together with location characteristics:

(1) Will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as the liners and leachate collection and removal systems specified in paragraph (c) of this section; and

(2) Will allow detection of leaks of hazardous constituents through the top liner at least as effectively.

(e) The double liner requirement set forth in paragraph (c) of this section may be waived by the Regional Administrator for any monofill, if:

(1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the Toxicity Characteristic in § 261.24 of this chapter, with EPA Hazardous Waste Numbers D004 through D017; and

(2)(i)(A) The monofill has at least one liner for which there is no evidence that such liner is leaking;

(B) The monofill is located more than one-quarter mile from an underground source of drinking water (as that term is defined in § 144.3 of this chapter); and

(C) The monofill is in compliance with generally applicable ground-water monitoring requirements for facilities with permits under RCRA 3005(c); or

(ii) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

(f) The owner or operator of any replacement landfill unit is exempt from paragraph (c) of this section if:

(1) The existing unit was constructed in compliance with the design standards of section 3004(o)(1)(A)(i) and (o)(5) of the Resource Conservation and Recovery Act; and

(2) There is no reason to believe that the liner is not functioning as designed.

(g) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a 25-year storm.

(h) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(i) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(j) If the landfill contains any particulate matter which may be subject to wind dispersal, the owner or operator must cover or otherwise manage the landfill to control wind dispersal.

(k) The Regional Administrator will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

(l) Any permit under RCRA 3005(c) which is issued for a landfill located within the State of Alabama shall require the installation of two or more liners and a leachate collection system above and between such liners, notwithstanding any other provision of RCRA.

[47 FR 32365, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985; 50 FR 28748, July 15, 1985; 55 FR 11875, Mar. 29, 1990; 57 FR 3489, Jan. 29, 1992]

§ 264.302 Action leakage rate.

(a) The Regional Administrator shall approve an action leakage rate for surface impoundment units subject to § 264.301(c) or (d). The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding l foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(b) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under § 264.303(c), to an average daily flow rate (gallons per acre per day) for each sump. Unless the Regional Administrator approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and monthly during the post-closure care period when monthly monitoring is required under § 264.303(c).

[57 FR 3490, Jan. 29, 1992]

§ 264.303 Monitoring and inspection.

(a) During construction or installation, liners (except in the case of existing portions of landfills exempt from § 264.301(a)) and cover systems (e.g.,

membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (*e.g.*, holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(1) Synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(2) Soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.

(b) While a landfill is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) Deterioration, malfunctions, or improper operation of run-on and run-off control systems;

(2) Proper functioning of wind dispersal control systems, where present; and

(3) The presence of leachate in and proper functioning of leachate collection and removal systems, where present.

(c)(1) An owner or operator required to have a leak detection system under § 264.301(c) or (d) must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

(2) After the final cover is installed, the amount of liquids removed from each leak detection system sump must be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for two consecutive months, the amount of liquids in the sumps must be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps must be recorded at least semi-annually. If at any time during the post-closure care period the pump operating level is exceeded at units on quarterly or semi-annual recording schedules, the owner or operator must return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months.

(3) ''Pump operating level'' is a liquid level proposed by the owner or operator and approved by the Regional Administrator based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump.

[47 FR 32365, July 26, 1982, as amended at 50 FR 28748, July 15, 1985; 57 FR 3490, Jan. 29, 1992]

§ 264.304 Response actions.

(a) The owner or operator of landfill units subject to § 264.301(c) or (d) must have an approved response action plan before receipt of waste. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in paragraph (b) of this section.

(b) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator must:

(1) Notify the Regional Administrator in writing of the exceedence within 7 days of the determination;

(2) Submit a preliminary written assessment to the Regional Administrator within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(3) Determine to the extent practicable the location, size, and cause of any leak;

(4) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(5) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and

(6) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the Regional Administrator the results of the analyses specified in paragraphs (b)(3), (4), and (5) of this section, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the

Regional Administrator a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak and/or remediation determinations in paragraphs (b)(3), (4), and (5) of this section, the owner or operator must:

(1)(i) Assess the source of liquids and amounts of liquids by source,

(ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

(iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) Document why such assessments are not needed.

[57 FR 3491, Jan. 29, 1992]

§§ 264.305—264.308 [Reserved]

§ 264.309 Surveying and recordkeeping.

The owner or operator of a landfill must maintain the following items in the operating record required under § 264.73:

(a) On a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks; and

(b) The contents of each cell and the approximate location of each hazardous waste type within each cell.

[47 FR 32365, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985]

§ 264.310 Closure and post-closure care.

(a) At final closure of the landfill or upon closure of any cell, the owner or operator must cover the landfill or cell with a final cover designed and constructed to:

(1) Provide long-term minimization of migration of liquids through the closed landfill;

(2) Function with minimum maintenance;

(3) Promote drainage and minimize erosion or abrasion of the cover;

(4) Accommodate settling and subsidence so that the cover's integrity is maintained; and

(5) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(b) After final closure, the owner or operator must comply with all post-closure requirements contained in §§ 264.117 through 264.120, including maintenance and monitoring throughout the post-closure care period (specified in the permit under § 264.117). The owner or operator must:

(1) Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;

(2) Continue to operate the leachate collection and removal system until leachate is no longer detected;

(3) Maintain and monitor the leak detection system in accordance with §§ 264.301(c)(3)(iv) and (4) and 264.303(c), and comply with all other applicable leak detection system requirements of this part;

(4) Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of subpart F of this part;

(5) Prevent run-on and run-off from eroding or otherwise damaging the final cover; and

(6) Protect and maintain surveyed benchmarks used in complying with § 264.309.

[47 FR 32365, July 26, 1982, as amended at 50 FR 28748, July 15, 1985; 57 FR 3491, Jan. 29, 1992]

§ 264.311 [Reserved]

§ 264.312 Special requirements for ignitable or reactive waste.

(a) Except as provided in paragraph (b) of this section, and in § 264.316, ignitable or reactive waste must not be placed in a landfill, unless the waste and landfill meet all applicable requirements of part 268, and:

(1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under § 261.21 or § 261.23 of this chapter; and

(2) Section 264.17(b) is complied with.

(b) Except for prohibited wastes which remain subject to treatment standards in subpart D of part 268, ignitable wastes in containers may be

landfilled without meeting the requirements of paragraph (a) of this section, provided that the wastes are disposed of in such a way that they are protected from any material or conditions which may cause them to ignite. At a minimum, ignitable wastes must be disposed of in non-leaking containers which are carefully handled and placed so as to avoid heat, sparks, rupture, or any other condition that might cause ignition of the wastes; must be covered daily with soil or other non-combustible material to minimize the potential for ignition of the wastes; and must not be disposed of in cells that contain or will contain other wastes which may generate heat sufficient to cause ignition of the waste.

[47 FR 32365, July 26, 1982, as amended at 55 FR 22685, June 1, 1990]

§ 264.313 Special requirements for incompatible wastes.

Incompatible wastes, or incompatible wastes and materials, (see appendix V of this part for examples) must not be placed in the same landfill cell, unless § 264.17(b) is complied with.

§ 264.314 Special requirements for bulk and containerized liquids.

(a) Bulk or non-containerized liquid waste or waste containing free liquids may be placed in a landfill prior to May 8, 1985 only if:

(1) The landfill has a liner and leachate collection and removal system that meet the requirements of § 264.301(a); or

(2) Before disposal, the liquid waste or waste containing free liquids is treated or stabilized, chemically or physically (e.g., by mixing with a sorbent solid), so that free liquids are no longer present.

(b) Effective May 8, 1985, the placement of bulk or non-containerized liquid hazardous waste or hazardous waste containing free liquids (whether or not sorbents have been added) in any landfill is prohibited.

(c) To demonstrate the absence or presence of free liquids in either a containerized or a bulk waste, the following test must be used: Method 9095 (Paint Filter Liquids Test) as described in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' EPA Publication SW–846, as incorporated by reference in § 260.11 of this chapter.

(d) Containers holding free liquids must not be placed in a landfill unless:

(1) All free-standing liquid:

(i) Has been removed by decanting, or other methods;

(ii) Has been mixed with sorbent or solidified so that free-standing liquid is no longer observed; or

(iii) Has been otherwise eliminated; or

(2) The container is very small, such as an ampule; or

(3) The container is designed to hold free liquids for use other than storage, such as a battery or capacitor; or

(4) The container is a lab pack as defined in § 264.316 and is disposed of in accordance with § 264.316.

(e) Sorbents used to treat free liquids to be disposed of in landfills must be nonbiodegradable. Nonbiodegradable sorbents are: materials listed or described in paragraph (e)(1) of this section; materials that pass one of the tests in paragraph (e)(2) of this section; or materials that are determined by EPA to be nonbiodegradable through the part 260 petition process.

(1) Nonbiodegradable sorbents. (i) Inorganic minerals, other inorganic materials, and elemental carbon (e.g., aluminosilicates, clays, smectites, Fuller's earth, bentonite, calcium bentonite, montmorillonite, calcined montmorillonite, kaolinite, micas (illite), vermiculites, zeolites; calcium carbonate (organic free limestone); oxides/hydroxides, alumina, lime, silica (sand), diatomaceous earth; perlite (volcanic glass); expanded volcanic rock; volcanic ash; cement kiln dust; fly ash; rice hull ash; activated charcoal/activated carbon); or

(ii) High molecular weight synthetic polymers (e.g., polyethylene, high density polyethylene (HDPE), polypropylene, polystyrene, polyurethane, polyacrylate, polynorborene, polyisobutylene, ground synthetic rubber, cross-linked allylstyrene and tertiary butyl copolymers). This does not include polymers derived from biological material or polymers specifically designed to be degradable; or

(iii) Mixtures of these nonbiodegradable materials.

(2) Tests for nonbiodegradable sorbents. (i) The sorbent material is determined to be nonbiodegradable under ASTM Method G21–70 (1984a)—Standard Practice for Determining Resistance of Synthetic Polymer Materials to Fungi; or

(ii) The sorbent material is determined to be nonbiodegradable under ASTM Method G22–76 (1984b)—Standard Practice for Determining Resistance of Plastics to Bacteria; or

(iii) The sorbent material is determined to be non-biodegradable under OECD test 301B: [CO_2 Evolution (Modified Sturm Test)].

(f) Effective November 8, 1985, the placement of any liquid which is not a hazardous waste in a landfill is prohibited unless the owner or operator of such landfill demonstrates to the Regional Administrator, or the Regional Administrator determines, that:

(1) The only reasonably available alternative to the placement in such landfill is placement in a landfill or unlined surface impoundment, whether or not permitted or operating under interim status, which contains, or may reasonably be anticipated to contain, hazardous waste; and

(2) Placement in such owner or operator's landfill will not present a risk of contamination of any underground source of drinking water (as that term is defined in § 144.3 of this chapter.)

[47 FR 32365, July 26, 1982, as amended at 50 FR 18374, Apr. 30, 1985; 50 FR 28748, July 15, 1985; 57 FR 54460, Nov. 18, 1992; 58 FR 46050, Aug. 31, 1993; 60 FR 35705, July 11, 1995]

§ 264.315 Special requirements for containers.

Unless they are very small, such as an ampule, containers must be either:

(a) At least 90 percent full when placed in the landfill; or

(b) Crushed, shredded, or similarly reduced in volume to the maximum practical extent before burial in the landfill.

§ 264.316 Disposal of small containers of hazardous waste in overpacked drums (lab packs).

Small containers of hazardous waste in overpacked drums (lab packs) may be placed in a landfill if the following requirements are met:

(a) Hazardous waste must be packaged in non-leaking inside containers. The inside containers must be of a design and constructed of a material that will not react dangerously with, be decomposed by, or be ignited by the contained waste. Inside containers must be tightly and securely sealed. The inside containers must be of the size and type specified in the Department of Transportation (DOT) hazardous materials regulations (49 CFR parts 173, 178, and 179), if those regulations specify a particular inside container for the waste.

(b) The inside containers must be overpacked in an open head DOT-specification metal shipping container (49 CFR parts 178 and 179) of no more than 416-liter (110 gallon) capacity and surrounded by, at a minimum, a sufficient quantity of sorbent material, determined to be nonbiodegradable in accordance with § 264.314(e), to completely sorb all of the liquid contents of the inside containers. The metal outer container must be full after it has been packed with inside containers and sorbent material.

(c) The sorbent material used must not be capable of reacting dangerously with, being decomposed by, or being ignited by the contents of the inside containers, in accordance with § 264.17(b).

(d) Incompatible wastes, as defined in § 260.10 of this chapter, must not be placed in the same outside container.

(e) Reactive wastes, other than cyanide- or sulfide-bearing waste as defined in § 261.23(a)(5) of this chapter, must be treated or rendered non-reactive prior to packaging in accordance with paragraphs (a) through (d) of this section. Cyanide- and sulfide-bearing reactive waste may be packed in accordance with paragraphs (a) through (d) of this section without first being treated or rendered non-reactive.

(f) Such disposal is in compliance with the requirements of part 268. Persons who incinerate lab packs according to the requirements in 40 CFR 268.42(c)(1) may use fiber drums in place of metal outer containers. Such

fiber drums must meet the DOT specifications in 49 CFR 173.12 and be overpacked according to the requirements in paragraph (b) of this section.

[47 FR 32365, July 26, 1982, as amended at 55 FR 22685, June 1, 1990; 57 FR 54460, Nov. 18, 1992]

§ 264.317 Special requirements for hazardous wastes FO20, FO21, FO22, FO23, FO26, and FO27.

(a) Hazardous Wastes FO20, FO21, FO22, FO23, FO26, and FO27 must not be placed in a landfills unless the owner or operator operates the landfill in accord with a management plan for these wastes that is approved by the Regional Administrator pursuant to the standards set out in this paragraph, and in accord with all other applicable requirements of this part. The factors to be considered are:

(1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through the soil or to volatilize or escape into the atmosphere;

(2) The attenuative properties of underlying and surrounding soils or other materials;

(3) The mobilizing properties of other materials co-disposed with these wastes; and

(4) The effectiveness of additional treatment, design, or monitoring requirements.

(b) The Regional Administrator may determine that additional design, operating, and monitoring requirements are necessary for landfills managing hazardous wastes FO20, FO21, FO22, FO23, FO26, and FO27 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

[50 FR 2004, Jan. 14, 1985]

Subpart O—Incinerators

§ 264.340 Applicability.

(a) The regulations of this subpart apply to owners and operators of hazardous waste incinerators (as defined in § 260.10 of this chapter), except as § 264.1 provides otherwise.

(b) After consideration of the waste analysis included with part B of the permit application, the Regional Administrator, in establishing the permit conditions, must exempt the applicant from all requirements of this subpart except § 264.341 (Waste analysis) and § 264.351 (Closure),

(1) If the Regional Administrator finds that the waste to be burned is:

(i) Listed as a hazardous waste in part 261, subpart D, of this chapter solely because it is ignitable (Hazard Code I), corrosive (Hazard Code C), or both; or

(ii) Listed as a hazardous waste in part 261, subpart D, of this chapter solely because it is reactive (Hazard Code R) for characteristics other than those listed in § 261.23(a) (4) and (5), and will not be burned when other hazardous wastes are present in the combustion zone; or

(iii) A hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the test for characteristics of hazardous wastes under part 261, subpart C, of this chapter; or

(iv) A hazardous waste solely because it possesses any of the reactivity characteristics described by § 261.23(a) (1), (2), (3), (6), (7), and (8) of this chapter, and will not be burned when other hazardous wastes are present in the combustion zone; and

(2) If the waste analysis shows that the waste contains none of the hazardous constituents listed in part 261, appendix VIII, of this chapter, which would reasonably be expected to be in the waste.

(c) If the waste to be burned is one which is described by paragraphs (b)(1)(i), (ii), (iii), or (iv) of this section and contains insignificant concentrations of the hazardous constituents listed in part 261, appendix VIII, of this chapter, then the Regional Administrator may, in establishing permit conditions, exempt the applicant from all requirements of this subpart, except § 264.341 (Waste analysis) and § 264.351 (Closure), after consideration of the waste analysis included with part B of the permit application, unless the Regional Administrator finds that the waste will pose a threat to human health and the environment when burned in an incinerator.

(d) The owner or operator of an incinerator may conduct trial burns subject only to the requirements of §270.62 of this chapter (Short term and incinerator permits).

[46 FR 7678, Jan. 23, 1981, as amended at 47 FR 27532, June 24, 1982; 48 FR 14295, Apr. 1, 1983; 50 FR 665, Jan. 4, 1985; 50 FR 49203, Nov. 29, 1985; 56 FR 7207, Feb. 21, 1991]

§264.341 Waste analysis.

(a) As a portion of the trial burn plan required by §270.62 of this chapter, or with part B of the permit application, the owner or operator must have included an analysis of the waste feed sufficient to provide all information required by §270.62(b) or §270.19 of this chapter. Owners or operators of new hazardous waste incinerators must provide the information required by §270.62(c) or §270.19 of this chapter to the greatest extent possible.

(b) Throughout normal operation the owner or operator must conduct sufficient waste analysis to verify that waste feed to the incinerator is within the physical and chemical composition limits specified in his permit (under §264.345(b)).

[46 FR 7678, Jan. 23, 1981, as amended at 47 FR 27532, June 24, 1982; 48 FR 14295, Apr. 1, 1983; 48 FR 30115, June 30, 1983; 50 FR 4514, Jan. 31, 1985]

§264.342 Principal organic hazardous constituents (POHCs).

(a) Principal Organic Hazardous Constituents (POHCs) in the waste feed must be treated to the extent required by the performance standard of §264.343.

(b)(1) One or more POHCs will be specified in the facility's permit, from among those constituents listed in part 261, appendix VIII of this chapter, for each waste feed to be burned. This specification will be based on the degree of difficulty of incineration of the organic constituents in the waste and on their concentration or mass in the waste feed, considering the results of waste analyses and trial burns or alternative data submitted with part B of the facility's permit application. Organic constituents which represent the greatest degree of difficulty of incineration will be those most likely to be designated as POHCs. Constituents are more likely to be designated as POHCs if they are present in large quantities or concentrations in the waste.

(2) Trial POHCs will be designated for performance of trial burns in accordance with the procedure specified in §270.62 of this chapter for obtaining trial burn permits.

[46 FR 7678, Jan. 23, 1981, as amended at 48 FR 14295, Apr. 1, 1983]

§264.343 Performance standards.

An incinerator burning hazardous waste must be designed, constructed, and maintained so that, when operated in accordance with operating requirements specified under §264.345, it will meet the following performance standards:

(a)(1) Except as provided in paragraph (a)(2) of this section, an incinerator burning hazardous waste must achieve a destruction and removal efficiency (DRE) of 99.99% for each principal organic hazardous constituent (POHC) designated (under §264.342) in its permit for each waste feed. DRE is determined for each POHC from the following equation:

$$DRE = \frac{(W_{in} - W_{out})}{W_{in}} \times 100\%$$

where:

W_{in}=mass feed rate of one principal organic hazardous constituent (POHC) in the waste stream feeding the incinerator

and

W_{out}=mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) An incinerator burning hazardous wastes FO20, FO21, FO22, FO23, FO26, or FO27 must achieve a destruction and removal efficiency (DRE) of 99.9999% for each principal organic hazardous constituent (POHC) designated (under §264.342) in its permit. This performance must be demonstrated on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-*p*-dioxins and dibenzofurans. DRE is determined for each POHC from the equation in §264.343(a)(1). In addition, the owner or operator of the incinerator must notify

the Regional Administrator of his intent to incinerate hazardous wastes FO20, FO21, FO22, FO23, FO26, or FO27.

(b) An incinerator burning hazardous waste and producing stack emissions of more than 1.8 kilograms per hour (4 pounds per hour) of hydrogen chloride (HCl) must control HCl emissions such that the rate of emission is no greater than the larger of either 1.8 kilograms per hour or 1% of the HCl in the stack gas prior to entering any pollution control equipment.

(c) An incinerator burning hazardous waste must not emit particulate matter in excess of 180 milligrams per dry standard cubic meter (0.08 grains per dry standard cubic foot) when corrected for the amount of oxygen in the stack gas according to the formula:

$$P_c = P_m \times \frac{14}{21 - Y}$$

Where P_c is the corrected concentration of particulate matter, P_m is the measured concentration of particulate matter, and Y is the measured concentration of oxygen in the stack gas, using the Orsat method for oxygen analysis of dry flue gas, presented in part 60, appendix A (Method 3), of this chapter. This correction procedure is to be used by all hazardous waste incinerators except those operating under conditions of oxygen enrichment. For these facilities, the Regional Administrator will select an appropriate correction procedure, to be specified in the facility permit.

(d) For purposes of permit enforcement, compliance with the operating requirements specified in the permit (under § 264.345) will be regarded as compliance with this section. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the performance requirements of this section may be ''information'' justifying modification, revocation, or reissuance of a permit under § 270.41 of this chapter.

[46 FR 7678, Jan. 23, 1981, as amended at 47 FR 27532, June 24, 1982; 48 FR 14295, Apr. 1, 1983; 50 FR 2005, Jan. 14, 1985]

§ 264.344 Hazardous waste incinerator permits.

(a) The owner or operator of a hazardous waste incinerator may burn only wastes specified in his permit and only under operating conditions specified for those wastes under § 264.345, except:

(1) In approved trial burns under § 270.62 of this chapter; or

(2) Under exemptions created by § 264.340.

(b) Other hazardous wastes may be burned only after operating conditions have been specified in a new permit or a permit modification as applicable. Operating requirements for new wastes may be be based on either trial burn results or alternative data included with part B of a permit application under § 270.19 of this chapter.

(c) The permit for a new hazardous waste incinerator must establish appropriate conditions for each of the applicable requirements of this subpart, including but not limited to allowable waste feeds and operating conditions necessary to meet the requirements of § 264.345, sufficient to comply with the following standards:

(1) For the period beginning with initial introduction of hazardous waste to the incinerator and ending with initiation of the trial burn, and only for the minimum time required to establish operating conditions required in paragraph (c)(2) of this section, not to exceed a duration of 720 hours operating time for treatment of hazardous waste, the operating requirements must be those most likely to ensure compliance with the performance standards of § 264.343, based on the Regional Administrator's engineering judgment. The Regional Administrator may extend the duration of this period once for up to 720 additional hours when good cause for the extension is demonstrated by the applicant.

(2) For the duration of the trial burn, the operating requirements must be sufficient to demonstrate compliance with the performance standards of § 264.343 and must be in accordance with the approved trial burn plan;

(3) For the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data

computation, and submission of the trial burn results by the applicant, and review of the trial burn results and modification of the facility permit by the Regional Administrator, the operating requirements must be those most likely to ensure compliance with the performance standards of § 264.343, based on the Regional Administrator's engineering judgement.

(4) For the remaining duration of the permit, the operating requirements must be those demonstrated, in a trial burn or by alternative data specified in § 270.19(c) of this chapter, as sufficient to ensure compliance with the performance standards of § 264.343.

[46 FR 7678, Jan. 23, 1981, as amended at 47 FR 27532, June 24, 1982; 48 FR 14295, Apr. 1, 1983; 50 FR 4514, Jan. 31, 1985]

§ 264.345 Operating requirements.

(a) An incinerator must be operated in accordance with operating requirements specified in the permit. These will be specified on a case-by-case basis as those demonstrated (in a trial burn or in alternative data as specified in § 264.344(b) and included with part B of a facility's permit application) to be sufficient to comply with the performance standards of § 264.343.

(b) Each set of operating requirements will specify the composition of the waste feed (including acceptable variations in the physical or chemical properties of the waste feed which will not affect compliance with the performance requirement of § 264.343) to which the operating requirements apply. For each such waste feed, the permit will specify acceptable operating limits including the following conditions:

(1) Carbon monoxide (CO) level in the stack exhaust gas;

(2) Waste feed rate;

(3) Combustion temperature;

(4) An appropriate indicator of combustion gas velocity;

(5) Allowable variations in incinerator system design or operating procedures; and

(6) Such other operating requirements as are necessary to ensure that the performance standards of § 264.343 are met.

(c) During start-up and shut-down of an incinerator, hazardous waste (except wastes exempted in accordance with § 264.340) must not be fed into the incinerator unless the incinerator is operating within the conditions of operation (temperature, air feed rate, etc.) specified in the permit.

(d) Fugitive emissions from the combustion zone must be controlled by:

(1) Keeping the combustion zone totally sealed against fugitive emissions; or

(2) Maintaining a combustion zone pressure lower than atmospheric pressure; or

(3) An alternate means of control demonstrated (with part B of the permit application) to provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure.

(e) An incinerator must be operated with a functioning system to automatically cut off waste feed to the incinerator when operating conditions deviate from limits established under paragraph (a) of this section.

(f) An incinerator must cease operation when changes in waste feed, incinerator design, or operating conditions exceed limits designated in its permit.

[46 FR 7678, Jan. 23, 1981, as amended at 47 FR 27532, June 24, 1982; 50 FR 4514, Jan. 31, 1985]

§ 264.346 [Reserved]

§ 264.347 Monitoring and inspections.

(a) The owner or operator must conduct, as a minimum, the following monitoring while incinerating hazardous waste:

(1) Combustion temperature, waste feed rate, and the indicator of combustion gas velocity specified in the facility permit must be monitored on a continuous basis.

(2) CO must be monitored on a continuous basis at a point in the incinerator downstream of the combustion zone and prior to release to the atmosphere.

(3) Upon request by the Regional Administrator, sampling and analysis of the waste and exhaust emissions must be conducted to verify that the operating requirements established in the permit achieve the performance standards of § 264.343.

(b) The incinerator and associated equipment (pumps, valves, conveyors, pipes, etc.) must be subjected to thorough visual inspection, at least daily, for leaks, spills, fugitive emissions, and signs of tampering.

(c) The emergency waste feed cutoff system and associated alarms must be tested at least weekly to verify operability, unless the applicant demonstrates to the Regional Administrator that weekly inspections will unduly restrict or upset operations and that less frequent inspection will be adequate. At a minimum, operational testing must be conducted at least monthly.

(d) This monitoring and inspection data must be recorded and the records must be placed in the operating log required by § 264.73.

[46 FR 7678, Jan. 23, 1981, as amended at 47 FR 27533, June 24, 1982; 50 FR 4514, Jan. 31, 1985]

§§ 264.348—264.350 [Reserved]

§ 264.351 Closure.

At closure the owner or operator must remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters, and scrubber sludges) from the incinerator site.

[*Comment:* At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with § 261.3(d) of this chapter, that the residue removed from the incinerator is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with applicable requirements of parts 262 through 266 of this chapter.]

[46 FR 7678, Jan. 23, 1981]

Subparts P–R [Reserved]

Subpart S—Corrective Action for Solid Waste Management Units

§ 264.552 Corrective Action Management Units (CAMU).

(a) For the purpose of implementing remedies under § 264.101 or RCRA Section 3008(h), the Regional Administrator may designate an area at the facility as a corrective action management unit, as defined in § 260.10, in accordance with the requirements of this section. One or more CAMUs may be designated at a facility.

(1) Placement of remediation wastes into or within a CAMU does not constitute land disposal of hazardous wastes.

(2) Consolidation or placement of remediation wastes into or within a CAMU does not constitute creation of a unit subject to minimum technology requirements.

(b)(1) The Regional Administrator may designate a regulated unit (as defined in § 264.90(a)(2)) as a CAMU, or may incorporate a regulated unit into a CAMU, if:

(i) The regulated unit is closed or closing, meaning it has begun the closure process under § 264.113 or § 265.113; and

(ii) Inclusion of the regulated unit will enhance implementation of effective, protective and reliable remedial actions for the facility.

(2) The subpart F, G, and H requirements and the unit-specific requirements of part 264 or 265 that applied to that regulated unit will continue to apply to that portion of the CAMU after incorporation into the CAMU.

(c) The Regional Administrator shall designate a CAMU in accordance with the following:

(1) The CAMU shall facilitate the implementation of reliable, effective, protective, and cost-effective remedies;

(2) Waste management activities associated with the CAMU shall not create unacceptable risks to humans or to the environment resulting from exposure to hazardous wastes or hazardous constituents;

(3) The CAMU shall include uncontaminated areas of the facility, only if including such areas for the purpose of managing remediation waste is more protective than management of such wastes at contaminated areas of the facility;

(4) Areas within the CAMU, where wastes remain in place after closure of the CAMU, shall be managed and contained so as to minimize future releases, to the extent practicable;

(5) The CAMU shall expedite the timing of remedial activity implementation, when appropriate and practicable;

(6) The CAMU shall enable the use, when appropriate, of treatment technologies (including innovative technologies) to enhance the long-term effectiveness of remedial actions by reducing the toxicity, mobility, or volume of wastes that will remain in place after closure of the CAMU; and

(7) The CAMU shall, to the extent practicable, minimize the land area of the facility upon which wastes will remain in place after closure of the CAMU.

(d) The owner/operator shall provide sufficient information to enable the Regional Administrator to designate a CAMU in accordance with the criteria in § 264.552.

(e) The Regional Administrator shall specify, in the permit or order, requirements for CAMUs to include the following:

(1) The areal configuration of the CAMU.

(2) Requirements for remediation waste management to include the specification of applicable design, operation and closure requirements.

(3) Requirements for ground water monitoring that are sufficient to:

(i) Continue to detect and to characterize the nature, extent, concentration, direction, and movement of existing releases of hazardous constituents in ground water from sources located within the CAMU; and

(ii) Detect and subsequently characterize releases of hazardous constituents to ground water that may occur from areas of the CAMU in which wastes will remain in place after closure of the CAMU.

(4) Closure and post-closure requirements.

(i) Closure of corrective action management units shall:

(A) Minimize the need for further maintenance; and

(B) Control, minimize, or eliminate, to the extent necessary to protect human health and the environment, for areas where wastes remain in place, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground, to surface waters, or to the atmosphere.

(ii) Requirements for closure of CAMUs shall include the following, as appropriate and as deemed necessary by the Regional Administrator for a given CAMU:

(A) Requirements for excavation, removal, treatment or containment of wastes;

(B) For areas in which wastes will remain after closure of the CAMU, requirements for capping of such areas; and

(C) Requirements for removal and decontamination of equipment, devices, and structures used in remediation waste management activities within the CAMU.

(iii) In establishing specific closure requirements for CAMUs under § 264.552(e), the Regional Administrator shall consider the following factors:

(A) CAMU characteristics;

(B) Volume of wastes which remain in place after closure;

(C) Potential for releases from the CAMU;

(D) Physical and chemical characteristics of the waste;

(E) Hydrological and other relevant environmental conditions at the facility which may influence the migration of any potential or actual releases; and

(F) Potential for exposure of humans and environmental receptors if releases were to occur from the CAMU.

(iv) Post-closure requirements as necessary to protect human health and the environment, to include, for areas where wastes will remain in place, monitoring and maintenance activities, and the frequency with which such activities shall be performed to ensure the integrity of any cap, final cover, or other containment system.

(f) The Regional Administrator shall document the rationale for designating CAMUs and shall make such documentation available to the public.

(g) Incorporation of a CAMU into an existing permit must be approved by the Regional Administrator according to the procedures for Agency-initiated permit modifications under § 270.41 of this chapter, or according to the permit modification procedures of § 270.42 of this chapter.

(h) The designation of a CAMU does not change EPA's existing authority to address clean-up levels, media-specific

points of compliance to be applied to remediation at a facility, or other remedy selection decisions.

[58 FR 8683, Feb. 16, 1993]

§ 264.553 Temporary Units (TU).

(a) For temporary tanks and container storage areas used for treatment or storage of hazardous remediation wastes, during remedial activities required under § 264.101 or RCRA section 3008(h), the Regional Administrator may determine that a design, operating, or closure standard applicable to such units may be replaced by alternative requirements which are protective of human health and the environment.

(b) Any temporary unit to which alternative requirements are applied in accordance with paragraph (a) of this section shall be:

(1) Located within the facility boundary; and

(2) Used only for treatment or storage of remediation wastes.

(c) In establishing standards to be applied to a temporary unit, the Regional Administrator shall consider the following factors:

(1) Length of time such unit will be in operation;

(2) Type of unit;

(3) Volumes of wastes to be managed;

(4) Physical and chemical characteristics of the wastes to be managed in the unit;

(5) Potential for releases from the unit;

(6) Hydrogeological and other relevant environmental conditions at the facility which may influence the migration of any potential releases; and

(7) Potential for exposure of humans and environmental receptors if releases were to occur from the unit.

(d) The Regional Administrator shall specify in the permit or order the length of time a temporary unit will be allowed to operate, to be no longer than a period of one year. The Regional Administrator shall also specify the design, operating, and closure requirements for the unit.

(e) The Regional Administrator may extend the operational period of a temporary unit once for no longer than a period of one year beyond that originally specified in the permit or order, if the Administrator determines that:

(1) Continued operation of the unit will not pose a threat to human health and the environment; and

(2) Continued operation of the unit is necessary to ensure timely and efficient implementation of remedial actions at the facility.

(f) Incorporation of a temporary unit or a time extension for a temporary unit into an existing permit shall be:

(1) Approved in accordance with the procedures for Agency-initiated permit modifications under § 270.41; or

(2) Requested by the owner/operator as a Class II modification according to the procedures under § 270.42 of this chapter.

(g) The Regional Administrator shall document the rationale for designating a temporary unit and for granting time extensions for temporary units and shall make such documentation available to the public.

[58 FR 8683, Feb. 16, 1993]

Subparts T–V [Reserved]

Subpart W—Drip Pads

SOURCE: 56 FR 30196, July 1, 1991, unless otherwise noted.

§ 264.570 Applicability.

(a) The requirements of this subpart apply to owners and operators of facilities that use new or existing drip pads to convey treated wood drippage, precipitation, and/or surface water run-off to an associated collection system. Existing drip pads are those constructed before December 6, 1990 and those for which the owner or operator has a design and has entered into binding financial or other agreements for construction prior to December 6, 1990. All other drip pads are new drip pads. The requirement at § 264.573(b)(3) to install a leak collection system applies only to those drip pads that are constructed after December 24, 1992 except for those constructed after December 24, 1992 for which the owner or operator has a design and has entered into binding financial or other agreements for construction prior to December 24, 1992.

(b) The owner or operator of any drip pad that is inside or under a structure

that provides protection from precipitation so that neither run-off nor run-on is generated is not subject to regulation under § 264.573(e) or § 264.573(f), as appropriate.

(c) The requirements of this subpart are not applicable to the management of infrequent and incidental drippage in storage yards provided that:

(1) The owner or operator maintains and complies with a written contingency plan that describes how the owner or operator will respond immediately to the discharge of such infrequent and incidental drippage. At a minimum, the contingency plan must describe how the owner or operator will do the following:

(i) Clean up the drippage;

(ii) Document the cleanup of the drippage;

(iii) Retain documents regarding cleanup for three years; and

(iv) Manage the contaminated media in a manner consistent with Federal regulations.

[56 FR 30196, July 1, 1991, as amended at 57 FR 61502, Dec. 24, 1992]

§ 264.571 Assessment of existing drip pad integrity.

(a) For each existing drip pad as defined in § 264.570 of this subpart, the owner or operator must evaluate the drip pad and determine that it meets all of the requirements of this subpart, except the requirements for liners and leak detection systems of § 264.573(b). No later than the effective date of this rule, the owner or operator must obtain and keep on file at the facility a written assessment of the drip pad, reviewed and certified by an independent, qualified registered professional engineer that attests to the results of the evaluation. The assessment must be reviewed, updated and re-certified annually until all upgrades, repairs, or modifications necessary to achieve compliance with all of the standards of § 264.573 of this subpart are complete. The evaluation must document the extent to which the drip pad meets each of the design and operating standards of § 264.573 of this subpart, except the standards for liners and leak detection systems, specified in § 264.573(b) of this subpart.

(b) The owner or operator must develop a written plan for upgrading, repairing, and modifying the drip pad to meet the requirements of § 264.573(b) of this subpart, and submit the plan to the Regional Administrator no later than 2 years before the date that all repairs, upgrades, and modifications are complete. This written plan must describe all changes to be made to the drip pad in sufficient detail to document compliance with all the requirements of § 264.573 of this subpart. The plan must be reviewed and certified by an independent qualified registered professional engineer.

(c) Upon completion of all upgrades, repairs, and modifications, the owner or operator must submit to the Regional Administrator or State Director, the as-built drawings for the drip pad together with a certification by an independent qualified registered professional engineer attesting that the drip pad conforms to the drawings.

(d) If the drip pad is found to be leaking or unfit for use, the owner or operator must comply with the provisions of § 264.573 (m) of this subpart or close the drip pad in accordance with § 264.575 of this subpart.

[56 FR 30196, July 1, 1991, as amended at 57 FR 61503, Dec. 24, 1992]

§ 264.572 Design and installation of new drip pads.

Owners and operators of new drip pads must ensure that the pads are designed, installed, and operated in accordance with one of the following:

(a) all of the requirements of §§ 264.573 (except 264.573(a)(4)), 264.574 and 264.575 of this subpart, or

(b) all of the requirements of §§ 264.573 (except § 264.573(b)), 264.574 and 264.575 of this subpart.

[57 FR 61503, Dec. 24, 1992]

§ 264.573 Design and operating requirements.

(a) Drip pads must: (1) Be constructed of non-earthern materials, excluding wood and non-structurally supported asphalt:

(2) Be sloped to free-drain treated wood drippage, rain and other waters, or solutions of drippage and water or

other wastes to the associated collection system;

(3) Have a curb or berm around the perimeter;

(4)(i) Have a hydraulic conductivity of less than or equal to 1×10^{-7} centimeters per second, e.g., existing concrete drip pads must be sealed, coated, or covered with a surface material with a hydraulic conductivity of less than or equal to 1×10^{-7} centimeters per second such that the entire surface where drippage occurs or may run across is capable of containing such drippage and mixtures of drippage and precipitation, materials, or other wastes while being routed to an associated collection system. This surface material must be maintained free of cracks and gaps that could adversely affect its hydraulic conductivity, and the material must be chemically compatible with the preservatives that contact the drip pad. The requirements of this provision apply only to existing drip pads and those drip pads for which the owner or operator elects to comply with § 264.572(a) instead of § 264.572(b).

(ii) The owner or operator must obtain and keep on file at the facility a written assessment of the drip pad, reviewed and certified by an independent, qualified registered professional engineer that attests to the results of the evaluation. The assessment must be reviewed, updated and recertified annually. The evaluation must document the extent to which the drip pad meets the design and operating standards of this section, except for paragraph (b) of this Section.

(5) Be of sufficient structural strength and thickness to prevent failure due to physical contact, climatic conditions, the stress of daily perations, e.g., variable and moving loads such as vehicle traffic, movement of wood, etc.

NOTE: EPA will generally consider applicable standards established by professional organizations generally recognized by the industry such as the American Concrete Institute (ACI) or the American Society of Testing and Materials (ASTM) in judging the structural integrity requirement of this paragraph.

(b) If an owner/operator elects to comply with § 264.572(b) instead of § 264.572(a), the drip pad must have:

(1) A synthetic liner installed below the drip pad that is designed, constructed, and installed to prevent leakage from the drip pad into the adjacent subsurface soil or groundwater or surface water at any time during the active life (including the closure period) of the drip pad. The liner must be constructed of materials that will prevent waste from being absorbed into the liner and to prevent releases into the adjacent subsurface soil or groundwater or surface water during the active life of the facility. The liner must be:

(i) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or drip pad leakage to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation (including stresses from vehicular traffic on the drip pad);

(ii) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression or uplift; and

(iii) Installed to cover all surrounding earth that could come in contact with the waste or leakage; and

(2) A leakage detection system immediately above the liner that is designed, constructed, maintained and operated to detect leakage from the drip pad. The leakage detection system must be:

(i) Constructed of materials that are:

(A) Chemically resistant to the waste managed in the drip pad and the leakage that might be generated; and

(B) Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlaying materials and by any equipment used at the drip pad;

(ii) Designed and operated to function without clogging through the scheduled closure of the drip pad; and

(iii) Designed so that it will detect the failure of the drip pad or the presence of a release of hazardous waste or accumulated liquid at the earliest practicable time.

(3) A leakage collection system immediately above the liner that is designed, constructed, maintained and operated to collect leakage from the drip pad such that it can be removed from below the drip pad. The date, time, and quantity of any leakage collected in this system and removed must be documented in the operating log.

(c) Drip pads must be maintained such that they remain free of cracks, gaps, corrosion, or other deterioration that could cause hazardous waste to be released from the drip pad.

NOTE: See § 264.573(m) for remedial action required if deterioration or leakage is detected.

(d) The drip pad and associated collection system must be designed and operated to convey, drain, and collect liquid resulting from drippage or precipitation in order to prevent run-off.

(e) Unless protected by a structure, as described in § 264.570(b) of this subpart, the owner or operator must design, construct, operate and maintain a run-on control system capable of preventing flow onto the drip pad during peak discharge from at least a 24-hour, 25-year storm, unless the system has sufficient excess capacity to contain any run-off that might enter the system.

(f) Unless protected by a structure or cover as described in § 264.570(b) of this subpart, the owner or operator must design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(g) The drip pad must be evaluated to determine that it meets the requirements of paragraphs (a) through (f) of this section and the owner or operator must obtain a statement from an independent, qualified registered professional engineer certifying that the drip pad design meets the requirements of this section.

(h) Drippage and accumulated precipitation must be removed from the associated collection system as necessary to prevent overflow onto the drip pad.

(i) The drip pad surface must be cleaned thoroughly in a manner and frequency such that accumulated residues of hazardous waste or other materials are removed, with residues being properly managed as hazardous waste, so as to allow weekly inspections of the entire drip pad surface without interference or hindrance from accumulated residues of hazardous waste or other materials on the drip pad. The owner or operator must document the date and time of each cleaning and the cleaning procedure used in the facility's operating log. The owner/operator must determine if the residues are hazardous as per 40 CFR 262.11 and, if so, must manage them under parts 261–268, 270, and section 3010 of RCRA.

(j) Drip pads must be operated and maintained in a manner to minimize tracking of hazardous waste or hazardous waste constituents off the drip pad as a result of activities by personnel or equipment.

(k) After being removed from the treatment vessel, treated wood from pressure and non-pressure processes must be held on the drip pad until drippage has ceased. The owner or operator must maintain records sufficient to document that all treated wood is held on the pad following treatment in accordance with this requirement.

(l) Collection and holding units associated with run-on and run-off control systems must be emptied or otherwise managed as soon as possible after storms to maintain design capacity of the system.

(m) Throughout the active life of the drip pad and as specified in the permit, if the owner or operator detects a condition that may have caused or has caused a release of hazardous waste, the condition must be repaired within a reasonably prompt period of time following discovery, in accordance with the following procedures:

(1) Upon detection of a condition that may have caused or has caused a release of hazardous waste (e.g., upon detection of leakage in the leak detection system), the owner or operator must:

(i) Enter a record of the discovery in the facility operating log;

(ii) Immediately remove the portion of the drip pad affected by the condition from service;

(iii) Determine what steps must be taken to repair the drip pad and clean

up any leakage from below the drip pad, and establish a schedule for accomplishing the repairs;

(iv) Within 24 hours after discovery of the condition, notify the Regional Administrator of the condition and, within 10 working days, provide written notice to the Regional Administrator with a description of the steps that will be taken to repair the drip pad and clean up any leakage, and the schedule for accomplishing this work.

(2) The Regional Administrator will review the information submitted, make a determination regarding whether the pad must be removed from service completely or partially until repairs and clean up are complete and notify the owner or operator of the determination and the underlying rationale in writing.

(3) Upon completing all repairs and clean up, the owner or operator must notify the Regional Administrator in writing and provide a certification signed by an independent, qualified registered professional engineer, that the repairs and clean up have been completed according to the written plan submitted in accordance with paragraph (m)(1)(iv) of this section.

(n) Should a permit be necessary, the Regional Administrator will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

(o) The owner or operator must maintain, as part of the facility operating log, documentation of past operating and waste handling practices. This must include identification of preservative formulations used in the past, a description of drippage management practices, and a description of treated wood storage and handling practices.

[56 FR 30196, July 1, 1991, as amended at 57 FR 5861, Feb. 18, 1992; 57 FR 61503, Dec. 24, 1992]

§ 264.574 Inspections.

(a) During construction or installation, liners and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation, liners must be inspected and certified as meeting the requirements of § 264.573 of this subpart by an independent qualified, registered professional engineer. This certification must be maintained at the facility as part of the facility operating record. After installation, liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters.

(b) While a drip pad is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) Deterioration, malfunctions or improper operation of run-on and run-off control systems;

(2) The presence of leakage in and proper functioning of leak detection system.

(3) Deterioration or cracking of the drip pad surface.

NOTE: See § 264.573(m) for remedial action required if deterioration or leakage is detected.

§ 264.575 Closure.

(a) At closure, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (pad, liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leakage, and manage them as hazardous waste.

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must close the facility and perform post-closure care in accordance with closure and post-closure care requirements that apply to landfills (§ 264.310). For permitted units, the requirement to have a permit continues throughout the post-closure period. In addition, for the purpose of closure, post-closure, and financial responsibility, such a drip pad is then considered to be landfill, and the owner or operator must meet all of the requirements

for landfills specified in subparts G and H of this part.

(c)(1) The owner or operator of an existing drip pad, as defined in § 264.570 of this subpart, that does not comply with the liner requirements of § 264.573(b)(1) must:

(i) Include in the closure plan for the drip pad under § 264.112 both a plan for complying with paragraph (a) of this section and a contingent plan for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure; and

(ii) Prepare a contingent post-closure plan under § 264.118 of this part for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure.

(2) The cost estimates calculated under §§ 264.112 and 264.144 of this part for closure and post-closure care of a drip pad subject to this paragraph must include the cost of complying with the contingent closure plan and the contingent post-closure plan, but are not required to include the cost of expected closure under paragraph (a) of this section.

Subpart X—Miscellaneous Units

SOURCE: 52 FR 46964, Dec. 10, 1987, unless otherwise noted.

§ 264.600 Applicability.

The requirements in this subpart apply to owners and operators of facilities that treat, store, or dispose of hazardous waste in miscellanenous units, except as § 264.1 provide 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. Permit terms and provisions shall include those requirements of subparts I through O and subparts AA through CC of this part, part 270, and part 146 that are appropriate for the miscellaneous unit being permitted. Protection of human health and the environment includes, but is not limited to:

(a) Prevention of any releases that may have adverse effects on human heath or the environment due to migration of waste constituents in the ground water or 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 existing quality of ground water, including other sources of contamination and their cumulative impact on the ground water;

(4) The quantity and direction of ground-water flow;

(5) The proximity to and withdrawal rates of current and potential ground-water users;

(6) The patterns of land use in the region;

(7) 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;

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

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

(b) Prevention of any releases that may have adverse effects on human health or the environment due to migration of waste constituents in surface water, or wetlands or on 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 hydrologic 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 direction 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 waters and surface soils, including other sources of contamination and their cumulative impact on surface waters 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; and

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

(c) Prevention of any release that may have adverse effects on human health or the environment due to migration of waste constituents in the air, considering:

(1) The volume and physical and chemical characteristics of the waste in the unit, including its potential for the emission and dispersal of gases, aerosols and particulates;

(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, metorologic, 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; and

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

[59 FR 62927, Dec. 6, 1994]

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

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, 264.77, and 264.101 as well as meet any additional requirements needed to protect human health and the environment as specified in the permit.

§ 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 or 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.

Subparts Y—Z [Reserved]

Subpart AA—Air Emission Standards for Process Vents

SOURCE: 55 FR 25494, June 21, 1990, unless otherwise noted.

§ 264.1030 Applicability.

(a) The regulations in this subpart apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes (except as provided in § 264.1).

(b) Except for § 264.1034, paragraphs (d) and (e), this subpart applies to process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations that manage hazardous wastes with organic concentrations of at least 10 ppmw, if these operations are conducted in one of the following:

(1) A unit that is subject to the permitting requirements of 40 CFR part 270, or

(2) A unit (including a hazardous waste recycling unit) that is not exempt from permitting under the provisions of 40 CFR 262.34(a) (i.e., a hazardous waste recycling unit that is not a 90-day tank or container) and that is located at a hazardous waste management facility otherwise subject to the permitting requirements of 40 CFR part 270, or

(3) A unit that is exempt from permitting under the provisions of 40 CFR 262.34(a) (i.e., a 90-day tank or container).

(c) If the owner or operator of process vents subject to the requirements of §§264.1032 through 264.1036 has received a permit under section 3005 of RCRA prior to December 21, 1990 the requirements of §§264.1032 through 264.1036 must be incorporated when the permit is reissued under §124.15 or reviewed under §270.50.

[NOTE: The requirements of §§264.1032 through 264.1036 apply to process vents on hazardous waste recycling units previously exempt under §261.6(c)(1). Other exemptions under §§261.4, and 264.1(g) are not affected by these requirements.]

[55 FR 25494, June 21, 1990, as amended at 56 FR 19290, Apr. 26, 1991; 61 FR 59950, Nov. 25, 1996]

§264.1031 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and parts 260–266.

Air stripping operation is a desorption operation employed to transfer one or more volatile components from a liquid mixture into a gas (air) either with or without the application of heat to the liquid. Packed towers, spray towers, and bubble-cap, sieve, or valve-type plate towers are among the process configurations used for contacting the air and a liquid.

Bottoms receiver means a container or tank used to receive and collect the heavier bottoms fractions of the distillation feed stream that remain in the liquid phase.

Closed-vent system means a system that is not open to the atmosphere and that is composed of piping, connections, and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device.

Condenser means a heat-transfer device that reduces a thermodynamic fluid from its vapor phase to its liquid phase.

Connector means flanged, screwed, welded, or other joined fittings used to connect two pipelines or a pipeline and a piece of equipment. For the purposes of reporting and recordkeeping, connector means flanged fittings that are not covered by insulation or other materials that prevent location of the fittings.

Continuous recorder means a data-recording device recording an instantaneous data value at least once every 15 minutes.

Control device means an enclosed combustion device, vapor recovery system, or flare. Any device the primary function of which is the recovery or capture of solvents or other organics for use, reuse, or sale (e.g., a primary condenser on a solvent recovery unit) is not a control device.

Control device shutdown means the cessation of operation of a control device for any purpose.

Distillate receiver means a container or tank used to receive and collect liquid material (condensed) from the overhead condenser of a distillation unit and from which the condensed liquid is pumped to larger storage tanks or other process units.

Distillation operation means an operation, either batch or continuous, separating one or more feed stream(s) into two or more exit streams, each exit stream having component concentrations different from those in the feed stream(s). The separation is achieved by the redistribution of the components between the liquid and vapor phase as they approach equilibrium within the distillation unit.

Double block and bleed system means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

Equipment means each valve, pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, or flange, and any

control devices or systems required by this subpart.

Flame zone means the portion of the combustion chamber in a boiler occupied by the flame envelope.

Flow indicator means a device that indicates whether gas flow is present in a vent stream.

First attempt at repair means to take rapid action for the purpose of stopping or reducing leakage of organic material to the atmosphere using best practices.

Fractionation operation means a distillation operation or method used to separate a mixture of several volatile components of different boiling points in successive stages, each stage removing from the mixture some proportion of one of the components.

Hazardous waste management unit shutdown means a work practice or operational procedure that stops operation of a hazardous waste management unit or part of a hazardous waste management unit. An unscheduled work practice or operational procedure that stops operation of a hazardous waste management unit or part of a hazardous waste management unit for less than 24 hours is not a hazardous waste management unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping operation are not hazardous waste management unit shutdowns.

Hot well means a container for collecting condensate as in a steam condenser serving a vacuum-jet or steam-jet ejector.

In gas/vapor service means that the piece of equipment contains or contacts a hazardous waste stream that is in the gaseous state at operating conditions.

In heavy liquid service means that the piece of equipment is not in gas/vapor service or in light liquid service.

In liqht liquid service means that the piece of equipment contains or contacts a waste stream where the vapor pressure of one or more of the components in the stream is greater than 0.3 kilopascals (kPa) at 20 °C, the total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20 °C is equal to or greater than 20 percent by weight, and the fluid is a liquid at operating conditions.

In situ sampling systems means non-extractive samplers or in-line samplers.

In vacuum service means that equipment is operating at an internal pressure that is at least 5 kPa below ambient pressure.

Malfunction means any sudden failure of a control device or a hazardous waste management unit or failure of a hazardous waste management unit to operate in a normal or usual manner, so that organic emissions are increased.

Open-ended valve or line means any valve, except pressure relief valves, having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping.

Pressure release means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device.

Process heater means a device that transfers heat liberated by burning fuel to fluids contained in tubes, including all fluids except water that are heated to produce steam.

Process vent means any open-ended pipe or stack that is vented to the atmosphere either directly, through a vacuum-producing system, or through a tank (e.g., distillate receiver, condenser, bottoms receiver, surge control tank, separator tank, or hot well) associated with hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations.

Repaired means that equipment is adjusted, or otherwise altered, to eliminate a leak.

Sensor means a device that measures a physical quantity or the change in a physical quantity, such as temperature, pressure, flow rate, pH, or liquid level.

Separator tank means a device used for separation of two immiscible liquids.

Solvent extraction operation means an operation or method of separation in which a solid or solution is contacted with a liquid solvent (the two being mutually insoluble) to preferentially

dissolve and transfer one or more components into the solvent.

Startup means the setting in operation of a hazardous waste management unit or control device for any purpose.

Steam stripping operation means a distillation operation in which vaporization of the volatile constituents of a liquid mixture takes place by the introduction of steam directly into the charge.

Surge control tank means a large-sized pipe or storage reservoir sufficient to contain the surging liquid discharge of the process tank to which it is connected.

Thin-film evaporation operation means a distillation operation that employs a heating surface consisting of a large diameter tube that may be either straight or tapered, horizontal or vertical. Liquid is spread on the tube wall by a rotating assembly of blades that maintain a close clearance from the wall or actually ride on the film of liquid on the wall.

Vapor incinerator means any enclosed combustion device that is used for destroying organic compounds and does not extract energy in the form of steam or process heat.

Vented means discharged through an opening, typically an open-ended pipe or stack, allowing the passage of a stream of liquids, gases, or fumes into the atmosphere. The passage of liquids, gases, or fumes is caused by mechanical means such as compressors or vacuum-producing systems or by process-related means such as evaporation produced by heating and not caused by tank loading and unloading (working losses) or by natural means such as diurnal temperature changes.

§264.1032 Standards: Process vents.

(a) The owner or operator of a facility with process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations managing hazardous wastes with organic concentrations of at least 10 ppmw shall either:

(1) Reduce total organic emissions from all affected process vents at the facility below 1.4 kg/h (3 lb/h) and 2.8 Mg/yr (3.1 tons/yr), or

(2) Reduce, by use of a control device, total organic emissions from all affected process vents at the facility by 95 weight percent.

(b) If the owner or operator installs a closed-vent system and control device to comply with the provisions of paragraph (a) of this section the closed-vent system and control device must meet the requirements of §264.1033.

(c) Determinations of vent emissions and emission reductions or total organic compound concentrations achieved by add-on control devices may be based on engineering calculations or performance tests. If performance tests are used to determine vent emissions, emission reductions, or total organic compound concentrations achieved by add-on control devices, the performance tests must conform with the requirements of §264.1034(c).

(d) When an owner or operator and the Regional Administrator do not agree on determinations of vent emissions and/or emission reductions or total organic compound concentrations achieved by add-on control devices based on engineering calculations, the procedures in §264.1034(c) shall be used to resolve the disagreement.

§264.1033 Standards: Closed-vent systems and control devices.

(a)(1) Owners or operators of closed-vent systems and control devices used to comply with provisions of this part shall comply with the provisions of this section.

(2) The owner or operator of an existing facility who cannot install a closed-vent system and control device to comply with the provisions of this subpart on the effective date that the facility becomes subject to the provisions of this subpart must prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The controls must be installed as soon as possible, but the implementation schedule may allow up to 30 months after the effective date that the facility becomes subject to this subpart for installation and startup. All units that begin operation after December 21, 1990, must comply with the rules immediately (i.e., must have control devices installed and operating on

startup of the affected unit); the 2-year implementation schedule does not apply to these units.

(b) A control device involving vapor recovery (e.g., a condenser or adsorber) shall be designed and operated to recover the organic vapors vented to it with an efficiency of 95 weight percent or greater unless the total organic emission limits of § 264.1032(a)(1) for all affected process vents can be attained at an efficiency less than 95 weight percent.

(c) An enclosed combustion device (e.g., a vapor incinerator, boiler, or process heater) shall be designed and operated to reduce the organic emissions vented to it by 95 weight percent or greater; to achieve a total organic compound concentration of 20 ppmv, expressed as the sum of the actual compounds, not carbon equivalents, on a dry basis corrected to 3 percent oxygen; or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 °C. If a boiler or process heater is used as the control device, then the vent stream shall be introduced into the flame zone of the boiler or process heater.

(d)(1) A flare shall be designed for and operated with no visible emissions as determined by the methods specified in paragraph (e)(1) of this section, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(2) A flare shall be operated with a flame present at all times, as determined by the methods specified in paragraph (f)(2)(iii) of this section.

(3) A flare shall be used only if the net heating value of the gas being combusted is 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or if the net heating value of the gas being combusted is 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (e)(2) of this section.

(4)(i) A steam-assisted or nonassisted flare shall be designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, less than 18.3 m/s (60 ft/s), except as provided in paragraphs (d)(4) (ii) and (iii) of this section.

(ii) A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, equal to or greater than 18.3 m/s (60 ft/s) but less than 122 m/s (400 ft/s) is allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, less than the velocity, V_{max}, as determined by the method specified in paragraph (e)(4) of this section and less than 122 m/s (400 ft/s) is allowed.

(5) An air-assisted flare shall be designed and operated with an exit velocity less than the velocity, V_{max}, as determined by the method specified in paragraph (e)(5) of this section.

(6) A flare used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.

(e)(1) Reference Method 22 in 40 CFR part 60 shall be used to determine the compliance of a flare with the visible emission provisions of this subpart. The observation period is 2 hours and shall be used according to Method 22.

(2) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K\left[\sum_{i=1}^{n} C_i H_i\right]$$

where:

H_T=Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to 1 mol is 20 °C;

K=Constant, 1.74×10^{-7} (1/ppm) (g mol/scm) (MJ/kcal) where standard temperature for (g mol/scm) is 20 °C;

C_i=Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 in 40 CFR part 60 and measured for hydrogen and carbon monoxide by ASTM D 1946–82 (incorporated by reference as specified in § 260.11); and

H_i=Net heat of combustion of sample component i, kcal/9 mol at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D 2382–83 (incorporated by reference as specified in § 260.11) if published values are not available or cannot be calculated.

(3) The actual exit velocity of a flare shall be determined by dividing the volumetric flow rate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D in 40 CFR part 60 as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(4) The maximum allowed velocity in m/s, V_{max}, for a flare complying with paragraph (d)(4)(iii) of this section shall be determined by the following equation:

$$Log_{10}(V_{max})=(H_T+28.8)/31.7$$

where:

28.8=Constant,
31.7=Constant,
H_T=The net heating value as determined in paragraph (e)(2) of this section.

(5) The maximum allowed velocity in m/s, V_{max}, for an air-assisted flare shall be determined by the following equation:

$$V_{max}=8.706+0.7084\ (H_T)$$

where:
8.706=Constant,
0.7084=Constant,
H_T=The net heating value as determined in paragraph (e)(2) of this section.

(f) The owner or operator shall monitor and inspect each control device required to comply with this section to ensure proper operation and maintenance of the control device by implementing the following requirements:

(1) Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow indicator that provides a record of vent stream flow from each affected process vent to the control device at least once every hour. The flow indicator sensor shall be installed in the vent stream at the nearest feasible point to the control device inlet but before the point at which the vent streams are combined.

(2) Install, calibrate, maintain, and operate according to the manufacturer's specifications a device to continuously monitor control device operation as specified below:

(i) For a thermal vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ±1 percent of the temperature being monitored in °C or ±0.5 °C, whichever is greater. The temperature sensor shall be installed at a location in the combustion chamber downstream of the combustion zone.

(ii) For a catalytic vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at two locations and have an accuracy of ±1 percent of the temperature being monitored in °C or ±0.5 °C, whichever is greater. One temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet and a second temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed outlet.

(iii) For a flare, a heat sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame.

(iv) For a boiler or process heater having a design heat input capacity less than 44 MW, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ±1 percent of the temperature being monitored in °C or ±0.5 °C, whichever is greater. The temperature sensor shall be installed at a location in the furnace downstream of the combustion zone.

(v) For a boiler or process heater having a design heat input capacity greater than or equal to 44 MW, a monitoring device equipped with a continuous recorder to measure a parameter(s) that indicates good combustion operating practices are being used.

(vi) For a condenser, either:

(A) A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the condenser, or

(B) A temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature with an accuracy of ±1 percent of the temperature being monitored in degrees Celsius (°C) or ±0.5 °C,

whichever is greater. The temperature sensor shall be installed at a location in the exhaust vent stream from the condenser exit (i.e., product side).

(vii) For a carbon adsorption system that regenerates the carbon bed directly in the control device such as a fixed-bed carbon adsorber, either:

(A) A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the carbon bed, or

(B) A monitoring device equipped with a continuous recorder to measure a parameter that indicates the carbon bed is regenerated on a regular. predetermined time cycle.

(3) Inspect the readings from each monitoring device required by paragraphs (f)(1) and (2) of this section at least once each operating day to check control device operation and, if necessary, immediately implement the corrective measures necessary to ensure the control device operates in compliance with the requirements of this section.

(g) An owner or operator using a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device shall replace the existing carbon in the control device with fresh carbon at a regular, predetermined time interval that is no longer than the carbon service life established as a requirement of § 264.1035(b)(4)(iii)(F).

(h) An owner or operator using a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device shall replace the existing carbon in the control device with fresh carbon on a regular basis by using one of the following procedures:

(1) Monitor the concentration level of the organic compounds in the exhaust vent stream from the carbon adsorption system on a regular schedule, and replace the existing carbon with fresh carbon immediately when carbon breakthrough is indicated. The monitoring frequency shall be daily or at an interval no greater than 20 percent of the time required to consume the total carbon working capacity established as a requirement of § 264.1035(b)(4)(iii)(G), whichever is longer.

(2) Replace the existing carbon with fresh carbon at a regular, predetermined time interval that is less than the design carbon replacement interval established as a requirement of § 264.1035(b)(4)(iii)(G).

(i) An alternative operational or process parameter may be monitored if it can be demonstrated that another parameter will ensure that the control device is operated in conformance with these standards and the control device's design specifications.

(j) An owner or operator of an affected facility seeking to comply with the provisions of this part by using a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system is required to develop documentation including sufficient information to describe the control device operation and identify the process parameter or parameters that indicate proper operation and maintenance of the control device.

(k) A closed-vent system shall meet either of the following design requirements:

(1) A closed-vent system shall be designed to operate with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background as determined by the procedure in § 264.1034(b) of this subpart, and by visual inspections; or

(2) A closed-vent system shall be designed to operate at a pressure below atmospheric pressure. The system shall be equipped with at least one pressure gauge or other pressure measurement device that can be read from a readily accessible location to verify that negative pressure is being maintained in the closed-vent system when the control device is operating.

(l) The owner or operator shall monitor and inspect each closed-vent system required to comply with this section to ensure proper operation and maintenance of the closed-vent system by implementing the following requirements:

(1) Each closed-vent system that is used to comply with paragraph (k)(1) of this section shall be inspected and

monitored in accordance with the following requirements:

(i) An initial leak detection monitoring of the closed-vent system shall be conducted by the owner or operator on or before the date that the system becomes subject to this section. The owner or operator shall monitor the closed-vent system components and connections using the procedures specified in §264.1034(b) of this subpart to demonstrate that the closed-vent system operates with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background.

(ii) After initial leak detection monitoring required in paragraph (l)(1)(i) of this section, the owner or operator shall inspect and monitor the closed-vent system as follows:

(A) Closed-vent system joints, seams, or other connections that are permanently or semi-permanently sealed (e.g., a welded joint between two sections of hard piping or a bolted and gasketed ducting flange) shall be visually inspected at least once per year to check for defects that could result in air pollutant emissions. The owner or operator shall monitor a component or connection using the procedures specified in §264.1034(b) of this subpart to demonstrate that it operates with no detectable emissions following any time the component is repaired or replaced (e.g., a section of damaged hard piping is replaced with new hard piping) or the connection is unsealed (e.g., a flange is unbolted).

(B) Closed-vent system components or connections other than those specified in paragraph (l)(1)(ii)(A) of this section shall be monitored annually and at other times as requested by the Regional Administrator, except as provided for in paragraph (o) of this section, using the procedures specified in §264.1034(b) of this subpart to demonstrate that the components or connections operate with no detectable emissions.

(iii) In the event that a defect or leak is detected, the owner or operator shall repair the defect or leak in accordance with the requirements of paragraph (l)(3) of this section.

(iv) The owner or operator shall maintain a record of the inspection and monitoring in accordance with the requirements specified in §264.1035 of this subpart.

(2) Each closed-vent system that is used to comply with paragraph (k)(2) of this section shall be inspected and monitored in accordance with the following requirements:

(i) The closed-vent system shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in ductwork or piping or loose connections.

(ii) The owner or operator shall perform an initial inspection of the closed-vent system on or before the date that the system becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year.

(iii) In the event that a defect or leak is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (l)(3) of this section.

(iv) The owner or operator shall maintain a record of the inspection and monitoring in accordance with the requirements specified in §264.1035 of this subpart.

(3) The owner or operator shall repair all detected defects as follows:

(i) Detectable emissions, as indicated by visual inspection, or by an instrument reading greater than 500 ppmv above background, shall be controlled as soon as practicable, but not later than 15 calendar days after the emission is detected, except as provided for in paragraph (l)(3)(iii) of this section.

(ii) A first attempt at repair shall be made no later than 5 calendar days after the emission is detected.

(iii) Delay of repair of a closed-vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next process unit shutdown.

(iv) The owner or operator shall maintain a record of the defect repair

in accordance with the requirements specified in § 264.1035 of this subpart.

(m) Closed-vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

(n) The owner or operator using a carbon adsorption system to control air pollutant emissions shall document that all carbon that is a hazardous waste and that is removed from the control device is managed in one of the following manners, regardless of the average volatile organic concentration of the carbon:

(1) Regenerated or reactivated in a thermal treatment unit that meets one of the following:

(i) The owner or operator of the unit has been issued a final permit under 40 CFR part 270 which implements the requirements of subpart X of this part; or

(ii) The unit is equipped with and operating air emission controls in accordance with the applicable requirements of subparts AA and CC of either this part or of 40 CFR part 265; or

(iii) The unit is equipped with and operating air emission controls in accordance with a national emission standard for hazardous air pollutants under 40 CFR part 61 or 40 CFR part 63.

(2) Incinerated in a hazardous waste incinerator for which the owner or operator either:

(i) Has been issued a final permit under 40 CFR part 270 which implements the requirements of subpart O of this part; or

(ii) Has designed and operates the incinerator in accordance with the interim status requirements of 40 CFR part 265, subpart O.

(3) Burned in a boiler or industrial furnace for which the owner or operator either:

(i) Has been issued a final permit under 40 CFR part 270 which implements the requirements of 40 CFR part 266, subpart H; or

(ii) Has designed and operates the boiler or industrial furnace in accordance with the interim status requirements of 40 CFR part 266, subpart H.

(o) Any components of a closed-vent system that are designated, as described in § 264.1035(c)(9) of this subpart, as unsafe to monitor are exempt from the requirements of paragraph (l)(1)(ii)(B) of this section if:

(1) The owner or operator of the closed-vent system determines that the components of the closed-vent system are unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (l)(1)(ii)(B) of this section; and

(2) The owner or operator of the closed-vent system adheres to a written plan that requires monitoring the closed-vent system components using the procedure specified in paragraph (l)(1)(ii)(B) of this section as frequently as practicable during safe-to-monitor times.

[55 FR 25494, June 21, 1990, as amended at 56 FR 19290, Apr. 26, 1991; 59 FR 62927, Dec. 6, 1994; 61 FR 4911, Feb. 9, 1996; 61 FR 59950, Nov. 25, 1996]

§ 264.1034 Test methods and procedures.

(a) Each owner or operator subject to the provisions of this subpart shall comply with the test methods and procedures requirements provided in this section.

(b) When a closed-vent system is tested for compliance with no detectable emissions, as required in § 264.1033(l) of this subpart, the test shall comply with the following requirements:

(1) Monitoring shall comply with Reference Method 21 in 40 CFR part 60.

(2) (6) The detection instrument shall meet the performance criteria of Reference Method 21.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.

(4) Calibration gases shall be:

(i) Zero air (less than 10 ppm of hydrocarbon in air).

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(5) The background level shall be determined as set forth in Reference Method 21.

(6) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(7) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(c) Performance tests to determine compliance with § 264.1032(a) and with the total organic compound concentration limit of § 264.1033(c) shall comply with the following:

(1) Performance tests to determine total organic compound concentrations and mass flow rates entering and exiting control devices shall be conducted and data reduced in accordance with the following reference methods and calculation procedures:

(i) Method 2 in 40 CFR part 60 for velocity and volumetric flow rate.

(ii) Method 18 in 40 CFR part 60 for organic content.

(iii) Each performance test shall consist of three separate runs; each run conducted for at least 1 hour under the conditions that exist when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. For the purpose of determining total organic compound concentrations and mass flow rates, the average of results of all runs shall apply. The average shall be computed on a time-weighted basis.

(iv) Total organic mass flow rates shall be determined by the following equation:

$$E_h = Q_{2sd} \left\{ \sum_{i=1}^{n} C_i MW_i \right\} [0.0416] [10^{-6}]$$

where:

E_h=Total organic mass flow rate, kg/h;

Q_{sd}=Volumetric flow rate of gases entering or exiting control device, as determined by Method 2, dscm/h;

n=Number of organic compounds in the vent gas;

C_i=Organic concentration in ppm, dry basis, of compound i in the vent gas, as determined by Method 18;

MW_i=Molecular weight of organic compound i in the vent gas, kg/kg-mol;

0.0416=Conversion factor for molar volume, kg-mol/m^3 (@ 293 K and 760 mm Hg);

10^{-6}=Conversion from ppm, ppm^{-1}.

(v) The annual total organic emission rate shall be determined by the following equation:

$$E_A = (E_h)(H)$$

where:

E_A=Total organic mass emission rate, kg/y;

E_h=Total organic mass flow rate for the process vent, kg/h;

H=Total annual hours of operations for the affected unit, h.

(vi) Total organic emissions from all affected process vents at the facility shall be determined by summing the hourly total organic mass emission rates (E_h as determined in paragraph (c)(1)(iv) of this section) and by summing the annual total organic mass emission rates (E_A, as determined in paragraph (c)(1)(v) of this section) for all affected process vents at the facility.

(2) The owner or operator shall record such process information as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test.

(3) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

(i) Sampling ports adequate for the test methods specified in paragraph (c)(1) of this section.

(ii) Safe sampling platform(s).

(iii) Safe access to sampling platform(s).

(iv) Utilities for sampling and testing equipment.

(4) For the purpose of making compliance determinations, the time-weighted average of the results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner or operator's control, compliance may, upon the Regional Administrator's approval, be determined using the average of the results of the two other runs.

(d) To show that a process vent associated with a hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation is not subject to the requirements of this subpart, the owner or operator must make an initial determination that the time-weighted, annual average total organic concentration of the waste managed by the waste management unit is less than 10 ppmw using one of the following two methods:

(1) Direct measurement of the organic concentration of the waste using the following procedures:

(i) The owner or operator must take a minimum of four grab samples of waste for each waste stream managed in the affected unit under process conditions expected to cause the maximum waste organic concentration.

(ii) For waste generated onsite, the grab samples must be collected at a point before the waste is exposed to the atmosphere such as in an enclosed pipe or other closed system that is used to transfer the waste after generation to the first affected distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation. For waste generated offsite, the grab samples must be collected at the inlet to the first waste management unit that receives the waste provided the waste has been transferred to the facility in a closed system such as a tank truck and the waste is not diluted or mixed with other waste.

(iii) Each sample shall be analyzed and the total organic concentration of the sample shall be computed using Method 9060 or 8260 of SW–846 (incorporated by reference under § 260.11).

(iv) The arithmetic mean of the results of the analyses of the four samples shall apply for each waste stream managed in the unit in determining the time-weighted, annual average total organic concentration of the waste. The time-weighted average is to be calculated using the annual quantity of each waste stream processed and the mean organic concentration of each waste stream managed in the unit.

(2) Using knowledge of the waste to determine that its total organic concentration is less than 10 ppmw. Documentation of the waste determination is required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to generate a waste stream having a total organic content less than 10 ppmw, or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(e) The determination that distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations manage hazardous wastes with time-weighted, annual average total organic concentrations less than 10 ppmw shall be made as follows:

(1) By the effective date that the facility becomes subject to the provisions of this subpart or by the date when the waste is first managed in a waste management unit, whichever is later, and

(2) For continuously generated waste, annually, or

(3) Whenever there is a change in the waste being managed or a change in the process that generates or treats the waste.

(f) When an owner or operator and the Regional Administrator do not agree on whether a distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation manages a hazardous waste with organic concentrations of at least 10 ppmw based on knowledge of the waste, the procedures in Method 8260 of SW–846 (incorporated by reference under § 260.11) may be used to resolve the dispute.

[55 FR 25494, June 21, 1990, as amended at 61 FR 59951, Nov. 25, 1996; 62 FR 32462, June 13, 1997]

§ 264.1035 Recordkeeping requirements.

(a)(1) Each owner or operator subject to the provisions of this subpart shall

comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one hazardous waste management unit subject to the provisions of this subpart may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

(b) Owners and operators must record the following information in the facility operating record:

(1) For facilities that comply with the provisions of §264.1033(a)(2), an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The schedule must also include a rationale of why the installation cannot be completed at an earlier date. The implementation schedule must be in the facility operating record by the effective date that the facility becomes subject to the provisions of this subpart.

(2) Up-to-date documentation of compliance with the process vent standards in §264.1032, including:

(i) Information and data identifying all affected process vents, annual throughput and operating hours of each affected unit, estimated emission rates for each affected vent and for the overall facility (i.e., the total emissions for all affected vents at the facility), and the approximate location within the facility of each affected unit (e.g., identify the hazardous waste management units on a facility plot plan).

(ii) Information and data supporting determinations of vent emissions and emission reductions achieved by add-on control devices based on engineering calculations or source tests. For the purpose of determining compliance, determinations of vent emissions and emission reductions must be made using operating parameter values (e.g., temperatures, flow rates, or vent stream organic compounds and concentrations) that represent the conditions that result in maximum organic emissions, such as when the waste management unit is operating at the highest load or capacity level reasonably expected to occur. If the owner or operator takes any action (e.g., managing a waste of different composition or increasing operating hours of affected waste management units) that would result in an increase in total organic emissions from affected process vents at the facility, then a new determination is required.

(3) Where an owner or operator chooses to use test data to determine the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan. The test plan must include:

(i) A description of how it is determined that the planned test is going to be conducted when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. This shall include the estimated or design flow rate and organic content of each vent stream and define the acceptable operating ranges of key process and control device parameters during the test program.

(ii) A detailed engineering description of the closed-vent system and control device including:

(A) Manufacturer's name and model number of control device.

(B) Type of control device.

(C) Dimensions of the control device.

(D) Capacity.

(E) Construction materials.

(iii) A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(4) Documentation of compliance with §264.1033 shall include the following information:

(i) A list of all information references and sources used in preparing the documentation.

(ii) Records, including the dates, of each compliance test required by §264.1033(k).

(iii) If engineering calculations are used, a design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of ''APTI Course 415: Control of Gaseous Emissions'' (incorporated by reference as specified in

§ 260.11) or other engineering texts acceptable to the Regional Administrator that present basic control device design information. Documentation provided by the control device manufacturer or vendor that describes the control device design in accordance with paragraphs (b)(4)(iii)(A) through (b)(4)(iii)(G) of this section may be used to comply with this requirement. The design analysis shall address the vent stream characteristics and control device operation parameters as specified below.

(A) For a thermal vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.

(B) For a catalytic vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperatures across the catalyst bed inlet and outlet.

(C) For a boiler or process heater, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average flame zone temperatures, combustion zone residence time, and description of method and location where the vent stream is introduced into the combustion zone.

(D) For a flare, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also consider the requirements specified in § 264.1033(d).

(E) For a condenser, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic compound concentration level, design average temperature of the condenser exhaust vent stream, and design average temperatures of the coolant fluid at the condenser inlet and outlet.

(F) For a carbon adsorption system such as a fixed-bed adsorber that regenerates the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level, number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, design total steam flow over the period of each complete carbon bed regeneration cycle, duration of the carbon bed steaming and cooling/drying cycles, design carbon bed temperature after regeneration, design carbon bed regeneration time, and design service life of carbon.

(G) For a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.

(iv) A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

(v) A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of 95 percent or greater unless the total organic concentration limit of § 264.1032(a) is achieved at an efficiency less than 95 weight percent or the total organic emission limits of § 264.1032(a) for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95 weight percent. A statement provided by the control device manufacturer or vendor certifying that the

control equipment meets the design specifications may be used to comply with this requirement.

(vi) If performance tests are used to demonstrate compliance, all test results.

(c) Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of this part shall be recorded and kept up-to-date in the facility operating record. The information shall include:

(1) Description and date of each modification that is made to the closed-vent system or control device design.

(2) Identification of operating parameter, description of monitoring device, and diagram of monitoring sensor location or locations used to comply with §264.1033 (f)(1) and (f)(2).

(3) Monitoring, operating, and inspection information required by paragraphs (f) through (k) of §264.1033.

(4) Date, time, and duration of each period that occurs while the control device is operating when any monitored parameter exceeds the value established in the control device design analysis as specified below:

(i) For a thermal vapor incinerator designed to operate with a minimum residence time of 0.50 second at a minimum temperature of 760 °C. period when the combustion temperature is below 760 °C.

(ii) For a thermal vapor incinerator designed to operate with an organic emission reduction efficiency of 95 weight percent or greater period when the combustion zone temperature is more than 28 °C below the design average combustion zone temperature established as a requirement of paragraph (b)(4)(iii)(A) of this section.

(iii) For a catalytic vapor incinerator, period when:

(A) Temperature of the vent stream at the catalyst bed inlet is more than 28 °C below the average temperature of the inlet vent stream established as a requirement of paragraph (b)(4)(iii)(B) of this section, or

(B) Temperature difference across the catalyst bed is less than 80 percent of the design average temperature difference established as a requirement of paragraph (b)(4)(iii)(B) of this section.

(iv) For a boiler or process heater, period when:

(A) Flame zone temperature is more than 28 °C below the design average flame zone temperature established as a requirement of paragraph (b)(4)(iii)(C) of this section, or

(B) Position changes where the vent stream is introduced to the combustion zone from the location established as a requirement of paragraph (b)(4)(iii)(C) of this section.

(v) For a flare, period when the pilot flame is not ignited.

(vi) For a condenser that complies with §264.1033(f)(2)(vi)(A), period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the condenser are more than 20 percent greater than the design outlet organic compound concentration level established as a requirement of paragraph (b)(4)(iii)(E) of this section.

(vii) For a condenser that complies with §264.1033(f)(2)(vi)(B), period when:

(A) Temperature of the exhaust vent stream from the condenser is more than 6 °C above the design average exhaust vent stream temperature established as a requirement of paragraph (b)(4)(iii)(E) of this section; or

(B) Temperature of the coolant fluid exiting the condenser is more than 6 °C above the design average coolant fluid temperature at the condenser outlet established as a requirement of paragraph (b)(4)(iii)(E) of this section.

(viii) For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device and complies with §264.1033(f)(2)(vii)(A), period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the carbon bed are more than 20 percent greater than the design exhaust vent stream organic compound concentration level established as a requirement of paragraph (b)(4)(iii)(F) of this section.

(ix) For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device and

complies with § 264.1033(f)(2)(vii)(B), period when the vent stream continues to flow through the control device beyond the predetermined carbon bed regeneration time established as a requirement of paragraph (b)(4)(iii)(F) of this section.

(5) Explanation for each period recorded under paragraph (4) of the cause for control device operating parameter exceeding the design value and the measures implemented to correct the control device operation.

(6) For a carbon adsorption system operated subject to requirements specified in § 264.1033(g) or § 264.1033(h)(2), date when existing carbon in the control device is replaced with fresh carbon.

(7) For a carbon adsorption system operated subject to requirements specified in § 264.1033(h)(1), a log that records:

(i) Date and time when control device is monitored for carbon breakthrough and the monitoring device reading.

(ii) Date when existing carbon in the control device is replaced with fresh carbon.

(8) Date of each control device start-up and shutdown.

(9) An owner or operator designating any components of a closed-vent system as unsafe to monitor pursuant to § 264.1033(o) of this subpart shall record in a log that is kept in the facility operating record the identification of closed-vent system components that are designated as unsafe to monitor in accordance with the requirements of § 264.1033(o) of this subpart, an explanation for each closed-vent system component stating why the closed-vent system component is unsafe to monitor, and the plan for monitoring each closed-vent system component.

(10) When each leak is detected as specified in § 264.1033(l) of this subpart, the following information shall be recorded:

(i) The instrument identification number, the closed-vent system component identification number, and the operator name, initials, or identification number.

(ii) The date the leak was detected and the date of first attempt to repair the leak.

(iii) The date of successful repair of the leak.

(iv) Maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A after it is successfully repaired or determined to be nonrepairable.

(v) ''Repair delayed'' and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(A) The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

(B) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion.

(d) Records of the monitoring, operating, and inspection information required by paragraphs (c)(3) through (c)(10) of this section shall be maintained by the owner or operator for at least 3 years following the date of each occurrence, measurement, maintenance, corrective action, or record.

(e) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, the Regional Administrator will specify the appropriate recordkeeping requirements.

(f) Up-to-date information and data used to determine whether or not a process vent is subject to the requirements in § 264.1032 including supporting documentation as required by § 264.1034(d)(2) when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used, shall be recorded in a log that is kept in the facility operating record.

[55 FR 25494, June 21, 1990, as amended at 56 FR 19290, Apr. 26, 1991; 61 FR 59952, Nov. 25, 1996]

§ 264.1036 Reporting requirements.

(a) A semiannual report shall be submitted by owners and operators subject to the requirements of this subpart to the Regional Administrator by dates

specified by the Regional Administrator. The report shall include the following information:

(1) The Environmental Protection Agency identification number, name, and address of the facility.

(2) For each month during the semiannual reporting period, dates when the control device exceeded or operated outside of the design specifications as defined in §264.1035(c)(4) and as indicated by the control device monitoring required by §264.1033(f) and such exceedances were not corrected within 24 hours, or that a flare operated with visible emissions as defined in §264.1033(d) and as determined by Method 22 monitoring, the duration and cause of each exceedance or visible emissions, and any corrective measures taken.

(b) If, during the semiannual reporting period, the control device does not exceed or operate outside of the design specifications as defined in §264.1035(c)(4) for more than 24 hours or a flare does not operate with visible emissions as defined in §264.1033(d), a report to the Regional Administrator is not required.

§§264.1037—264.1049 [Reserved]

Subpart BB—Air Emission Standards for Equipment Leaks

SOURCE: 55 FR 25501, June 21, 1990, unless otherwise noted.

§264.1050 Applicability.

(a) The regulations in this subpart apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes (except as provided in §264.1).

(b) Except as provided in §264.1064(k), this subpart applies to equipment that contains or contacts hazardous wastes with organic concentrations of at least 10 percent by weight that are managed in one of the following:

(1) A unit that is subject to the permitting requirements of 40 CFR part 270, or

(2) A unit (including a hazardous waste recycling unit) that is not exempt from permitting under the provisions of 40 CFR 262.34(a) (i.e., a hazardous waste recycling unit that is not a ''90-day'' tank or container) and that is located at a hazardous waste management facility otherwise subject to the permitting requirements of 40 CFR part 270, or

(3) A unit that is exempt from permitting under the provisions of 40 CFR 262.34(a) (i.e., a ''90-day'' tank or container).

(c) If the owner or operator of equipment subject to the requirements of §§264.1052 through 264.1065 has received a permit under section 3005 of RCRA prior to December 21, 1990, the requirements of §§264.1052 through 264.1065 must be incorporated when the permit is reissued under §124.15 or reviewed under §270.50.

(d) Each piece of equipment to which this subpart applies shall be marked in such a manner that it can be distinguished readily from other pieces of equipment.

(e) Equipment that is in vacuum service is excluded from the requirements of §264.1052 to §264.1060 if it is identified as required in §264.1064(g)(5).

(f) Equipment that contains or contacts hazardous waste with an organic concentration of at least 10 percent by weight for a period of less than 300 hours per calendar year is excluded from the requirements of §§264.1052 through 264.1060 of this subpart if it is identified as required in §264.1064(g)(6) of this subpart.

[NOTE: The requirements of §§264.1052 through 264.1065 apply to equipment associated with hazardous waste recycling units previously exempt under §261.6(c)(1). Other exemptions under §§261.4, and 264.1(g) are not affected by these requirements.]

[55 FR 25501, June 21, 1990, as amended at 61 FR 59952, Nov. 25, 1996]

§264.1051 Definitions.

As used in this subpart, all terms shall have the meaning given them in §264.1031, the Act, and parts 260–266.

§264.1052 Standards: Pumps in light liquid service.

(a)(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in §264.1063(b), except as provided in paragraphs (d), (e), and (f) of this section.

(2) Each pump in light liquid service shall be checked by visual inspection

each calendar week for indications of liquids dripping from the pump seal.

(b)(1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(2) If there are indications of liquids dripping from the pump seal, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 264.1059.

(2) A first attempt at repair (e.g., tightening the packing gland) shall be made no later than 5 calendar days after each leak is detected.

(d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a) of this section, *provided* the following requirements are met:

(1) Each dual mechanical seal system must be:

(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure, or

(ii) Equipped with a barrier fluid degassing reservoir that is connected by a closed-vent system to a control device that complies with the requirements of § 264.1060, or

(iii) Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to the atmosphere.

(2) The barrier fluid system must not be a hazardous waste with organic concentrations 10 percent or greater by weight.

(3) Each barrier fluid system must be equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(4) Each pump must be checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

(5)(i) Each sensor as described in paragraph (d)(3) of this section must be checked daily or be equipped with an audible alarm that must be checked monthly to ensure that it is functioning properly.

(ii) The owner or operator must determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(6)(i) If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined in paragraph (d)(5)(ii) of this section, a leak is detected.

(ii) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 264.1059.

(iii) A first attempt at repair (e.g., relapping the seal) shall be made no later than 5 calendar days after each leak is detected.

(e) Any pump that is designated, as described in § 264.1064(g)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this section if the pump meets the following requirements:

(1) Must have no externally actuated shaft penetrating the pump housing.

(2) Must operate with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in § 264.1063(c).

(3) Must be tested for compliance with paragraph (e)(2) of this section initially upon designation, annually, and at other times as requested by the Regional Administrator.

(f) If any pump is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a control device that complies with the requirements of § 264.1060, it is exempt from the requirements of paragraphs (a) through (e) of this section.

[55 FR 25501, June 21, 1990, as amended at 56 FR 19290, Apr. 26, 1991]

§ 264.1053 Standards: Compressors.

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of total organic emissions to the atmosphere, except as provided in paragraphs (h) and (i) of this section.

(b) Each compressor seal system as required in paragraph (a) of this section shall be:

(1) Operated with the barrier fluid at a pressure that is at all times greater than the compressor stuffing box pressure, or

(2) Equipped with a barrier fluid system that is connected by a closed-vent system to a control device that complies with the requirements of §264.1060, or

(3) Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to atmosphere.

(c) The barrier fluid must not be a hazardous waste with organic concentrations 10 percent or greater by weight.

(d) Each barrier fluid system as described in paragraphs (a) through (c) of this section shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e)(1) Each sensor as required in paragraph (d) of this section shall be checked daily or shall be equipped with an audible alarm that must be checked monthly to ensure that it is functioning properly unless the compressor is located within the boundary of an unmanned plant site, in which case the sensor must be checked daily.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(f) If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined under paragraph (e)(2) of this section, a leak is detected.

(g)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §264.1059.

(2) A first attempt at repair (e.g., tightening the packing gland) shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of this section if it is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal to a control device that complies with the requirements of §264.1060, except as provided in paragraph (i) of this section.

(i) Any compressor that is designated, as described in §264.1064(g)(2), for no detectable emissions as indicated by an instrument reading of less than 500 ppm above background is exempt from the requirements of paragraphs (a) through (h) of this section if the compressor:

(1) Is determined to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in §264.1063(c).

(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times as requested by the Regional Administrator.

§264.1054 Standards: Pressure relief devices in gas/vapor service.

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in §264.1063(c).

(b)(1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in §264.1059.

(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in §264.1063(c).

(c) Any pressure relief device that is equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in §264.1060 is exempt from the requirements of paragraphs (a) and (b) of this section.

§ 264.1055 Standards: Sampling connection systems.

(a) Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system. This system shall collect the sample purge for return to the process or for routing to the appropriate treatment system. Gases displaced during filling of the sample container are not required to be collected or captured.

(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall meet one of the following requirements:

(1) Return the purged process fluid directly to the process line;

(2) Collect and recycle the purged process fluid; or

(3) Be designed and operated to capture and transport all the purged process fluid to a waste management unit that complies with the applicable requirements of § 264.1084 through § 264.1086 of this subpart or a control device that complies with the requirements of § 264.1060 of this subpart.

(c) *In-situ* sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section.

[61 FR 59952, Nov. 25, 1996]

§ 264.1056 Standards: Open-ended valves or lines.

(a)(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve.

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring hazardous waste stream flow through the open-ended valve or line.

(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the hazardous waste stream end is closed before the second valve is closed.

(c) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) of this section at all other times.

§ 264.1057 Standards: Valves in gas/vapor service or in light liquid service.

(a) Each valve in gas/vapor or light liquid service shall be monitored monthly to detect leaks by the methods specified in § 264.1063(b) and shall comply with paragraphs (b) through (e) of this section, except as provided in paragraphs (f), (g), and (h) of this section, and §§ 264.1061 and 264.1062.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) Any valve for which a leak is not detected for two successive months may be monitored the first month of every succeeding quarter, beginning with the next quarter, until a leak is detected.

(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for two successive months,

(d)(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in § 264.1059.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) First attempts at repair include, but are not limited to, the following best practices where practicable:

(1) Tightening of bonnet bolts.

(2) Replacement of bonnet bolts.

(3) Tightening of packing gland nuts.

(4) Injection of lubricant into lubricated packing.

(f) Any valve that is designated, as described in § 264.1064(g)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraph (a) of this section if the valve:

(1) Has no external actuating mechanism in contact with the hazardous waste stream.

(2) Is operated with emissions less than 500 ppm above background as determined by the method specified in § 264.1063(c).

(3) Is tested for compliance with paragraph (f)(2) of this section initially upon designation, annually, and at other times as requested by the Regional Administrator.

(g) Any valve that is designated, as described in §264.1064(h)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator of the valve determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section.

(2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(h) Any valve that is designated, as described in §264.1064(h)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.

(2) The hazardous waste management unit within which the valve is located was in operation before June 21, 1990.

(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

§264.1058 Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors.

(a) Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors shall be monitored within 5 days by the method specified in §264.1063(b) if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected. except as provided in §264.1059.

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) First attempts at repair include, but are not limited to, the best practices described under §264.1057(e).

(e) Any connector that is inaccessible or is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined) is exempt from the monitoring requirements of paragraph (a) of this section and from the recordkeeping requirements of §264.1064 of this subpart.

[55 FR 25501, June 21, 1990, as amended at 61 FR 59952, Nov. 25, 1996]

§264.1059 Standards: Delay of repair.

(a) Delay of repair of equipment for which leaks have been detected will be allowed if the repair is technically infeasible without a hazardous waste management unit shutdown. In such a case, repair of this equipment shall occur before the end of the next hazardous waste management unit shutdown.

(b) Delay of repair of equipment for which leaks have been detected will be allowed for equipment that is isolated from the hazardous waste management unit and that does not continue to contain or contact hazardous waste with organic concentrations at least 10 percent by weight.

(c) Delay of repair for valves will be allowed if:

(1) The owner or operator determines that emissions of purged material resulting from immediate repair are greater than the emissions likely to result from delay of repair.

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with §264.1060.

(d) Delay of repair for pumps will be allowed if:

(1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system.

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a hazardous waste management unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the hazardous waste management unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted.

Delay of repair beyond the next hazardous waste management unit shutdown will not be allowed unless the next hazardous waste management unit shutdown occurs sooner than 6 months after the first hazardous waste management unit shutdown.

§ 264.1060 Standards: Closed-vent systems and control devices.

Owners or operators of closed-vent systems and control devices shall comply with the provisions of § 264.1033.

§ 264.1061 Alternative standards for valves in gas/vapor service or in light liquid service: percentage of valves allowed to leak.

(a) An owner or operator subject to the requirements of § 264.1057 may elect to have all valves within a hazardous waste management unit comply with an alternative standard that allows no greater than 2 percent of the valves to leak.

(b) The following requirements shall be met if an owner or operator decides to comply with the alternative standard of allowing 2 percent of valves to leak:

(1) An owner or operator must notify the Regional Administrator that the owner or operator has elected to comply with the requirements of this section.

(2) A performance test as specified in paragraph (c) of this section shall be conducted initially upon designation, annually, and at other times requested by the Regional Administrator.

(3) If a valve leak is detected, it shall be repaired in accordance with § 264.1057(d) and (e).

(c) Performance tests shall be conducted in the following manner:

(1) All valves subject to the requirements in § 264.1057 within the hazardous waste management unit shall be monitored within 1 week by the methods specified in § 264.1063(b).

(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(3) The leak percentage shall be determined by dividing the number of valves subject to the requirements in § 264.1057 for which leaks are detected by the total number of valves subject to the requirements in § 264.1057 within the hazardous waste management unit.

(d) If an owner or operator decides to comply with this section no longer, the owner or operator must notify the Regional Administrator in writing that the work practice standard described in § 264.1057(a) through (e) will be followed.

§ 264.1062 Alternative standards for valves in gas/vapor service or in light liquid service: skip period leak detection and repair.

(a)(1) An owner or operator subject to the requirements of § 264.1057 may elect for all valves within a hazardous waste management unit to comply with one of the alternative work practices specified in paragraphs (b) (2) and (3) of this section.

(2) An owner or operator must notify the Regional Administrator before implementing one of the alternative work practices.

(b)(1) An owner or operator shall comply with the requirements for valves, as described in § 264.1057, except as described in paragraphs (b)(2) and (b)(3) of this section.

(2) After two consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2 percent, an owner or operator may begin to skip one of the quarterly leak detection periods for the valves subject to the requirements in § 264.1057.

(3) After five consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2 percent, an owner or operator may begin to skip three of the quarterly leak detection periods for the valves subject to the requirements in § 264.1057.

(4) If the percentage of valves leaking is greater than 2 percent, the owner or operator shall monitor monthly in compliance with the requirements in § 264.1057, but may again elect to use this section after meeting the requirements of § 264.1057(c)(1).

§ 264.1063 Test methods and procedures.

(a) Each owner or operator subject to the provisions of this subpart shall

comply with the test methods and procedures requirements provided in this section.

(b) Leak detection monitoring, as required in §§264.1052–264.1062, shall comply with the following requirements:

(1) Monitoring shall comply with Reference Method 21 in 40 CFR part 60.

(2) The detection instrument shall meet the performance criteria of Reference Method 21.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.

(4) Calibration gases shall be:

(i) Zero air (less than 10 ppm of hydrocarbon in air).

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(5) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(c) When equipment is tested for compliance with no detectable emissions, as required in §§264.1052(e), 264.1053(i), 264.1054, and 264.1057(f), the test shall comply with the following requirements:

(1) The requirements of paragraphs (b)(1) through (4) of this section shall apply.

(2) The background level shall be determined as set forth in Reference Method 21.

(3) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(4) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(d) In accordance with the waste analysis plan required by §264.13(b), an owner or operator of a facility must determine, for each piece of equipment, whether the equipment contains or contacts a hazardous waste with organic concentration that equals or exceeds 10 percent by weight using the following:

(1) Methods described in ASTM Methods D 2267–88, E 169–87, E 168–88, E 260–85 (incorporated by reference under §260.11);

(2) Method 9060 or 8260 of SW–846 (incorporated by reference under §260.11); or

(3) Application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced. Documentation of a waste determination by knowledge is required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to have a total organic content less than 10 percent, or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(e) If an owner or operator determines that a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10 percent by weight, the determination can be revised only after following the procedures in paragraph (d)(1) or (d)(2) of this section.

(f) When an owner or operator and the Regional Administrator do not agree on whether a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10 percent by weight, the procedures in paragraph (d)(1) or (d)(2) of this section can be used to resolve the dispute.

(g) Samples used in determining the percent organic content shall be representative of the highest total organic content hazardous waste that is expected to be contained in or contact the equipment.

(h) To determine if pumps or valves are in light liquid service, the vapor pressures of constituents may be obtained from standard reference texts or may be determined by ASTM D–2879–86 (incorporated by reference under §260.11).

(i) Performance tests to determine if a control device achieves 95 weight percent organic emission reduction shall comply with the procedures of § 264.1034(c)(1) through (c)(4).

[55 FR 25501, June 21, 1990, as amended at 62 FR 32462, June 13, 1997]

§ 264.1064 Recordkeeping requirements.

(a)(1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one hazardous waste management unit subject to the provisions of this subpart may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

(b) Owners and operators must record the following information in the facility operating record:

(1) For each piece of equipment to which subpart BB of part 264 applies:

(i) Equipment identification number and hazardous waste management unit identification.

(ii) Approximate locations within the facility (e.g., identify the hazardous waste management unit on a facility plot plan).

(iii) Type of equipment (e.g.. a pump or pipeline valve).

(iv) Percent-by-weight total organics in the hazardous waste stream at the equipment.

(v) Hazardous waste state at the equipment (e.g., gas/vapor or liquid).

(vi) Method of compliance with the standard (e.g., ''monthly leak detection and repair'' or ''equipped with dual mechanical seals'').

(2) For facilities that comply with the provisions of § 264.1033(a)(2), an implementation schedule as specified in § 264.1033(a)(2).

(3) Where an owner or operator chooses to use test data to demonstrate the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan as specified in § 264.1035(b)(3).

(4) Documentation of compliance with § 264.1060, including the detailed design documentation or performance test results specified in § 264.1035(b)(4).

(c) When each leak is detected as specified in §§ 264.1052, 264.1053, 264.1057, and 264.1058, the following requirements apply:

(1) A weatherproof and readily visible identification, marked with the equipment identification number, the date evidence of a potential leak was found in accordance with § 264.1058(a), and the date the leak was detected, shall be attached to the leaking equipment.

(2) The identification on equipment, except on a valve, may be removed after it has been repaired.

(3) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in §§ 264.1057(c) and no leak has been detected during those 2 months.

(d) When each leak is detected as specified in §§ 264.1052, 264.1053, 264.1057, and 264.1058, the following information shall be recorded in an inspection log and shall be kept in the facility operating record:

(1) The instrument and operator identification numbers and the equipment identification number.

(2) The date evidence of a potential leak was found in accordance with § 264.1058(a).

(3) The date the leak was detected and the dates of each attempt to repair the leak.

(4) Repair methods applied in each attempt to repair the leak.

(5) ''Above 10,000'' if the maximum instrument reading measured by the methods specified in § 264.1063(b) after each repair attempt is equal to or greater than 10,000 ppm.

(6) ''Repair delayed'' and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(7) Documentation supporting the delay of repair of a valve in compliance with § 264.1059(c).

(8) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a hazardous waste management unit shutdown.

(9) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.

(10) The date of successful repair of the leak.

(e) Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of §264.1060 shall be recorded and kept up-to-date in the facility operating record as specified in §264.1035(c). Design documentation is specified in §264.1035 (c)(1) and (c)(2) and monitoring, operating, and inspection information in §264.1035 (c)(3)–(c)(8).

(f) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, the Regional Administrator will specify the appropriate recordkeeping requirements.

(g) The following information pertaining to all equipment subject to the requirements in §§264.1052 through 264.1060 shall be recorded in a log that is kept in the facility operating record:

(1) A list of identification numbers for equipment (except welded fittings) subject to the requirements of this subpart.

(2)(i) A list of identification numbers for equipment that the owner or operator elects to designate for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, under the provisions of §§264.1052(e), 264.1053(i), and 264.1057(f).

(ii) The designation of this equipment as subject to the requirements of §§264.1052(e), 264.1053(i), or 264.1057(f) shall be signed by the owner or operator.

(3) A list of equipment identification numbers for pressure relief devices required to comply with §264.1054(a).

(4)(i) The dates of each compliance test required in §§264.1052(e), 264.1053(i), 264.1054, and 264.1057(f).

(ii) The background level measured during each compliance test.

(iii) The maximum instrument reading measured at the equipment during each compliance test.

(5) A list of identification numbers for equipment in vacuum service.

(6) Identification, either by list or location (area or group) of equipment that contains or contacts hazardous waste with an organic concentration of at least 10 percent by weight for a period of less than 300 hours per year.

(h) The following information pertaining to all valves subject to the requirements of §264.1057 (g) and (h) shall be recorded in a log that is kept in the facility operating record:

(1) A list of identification numbers for valves that are designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve.

(2) A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the planned schedule for monitoring each valve.

(i) The following information shall be recorded in the facility operating record for valves complying with §264.1062:

(1) A schedule of monitoring.

(2) The percent of valves found leaking during each monitoring period.

(j) The following information shall be recorded in a log that is kept in the facility operating record:

(1) Criteria required in §264.1052(d)(5)(ii) and §264.1053(e)(2) and an explanation of the design criteria.

(2) Any changes to these criteria and the reasons for the changes.

(k) The following information shall be recorded in a log that is kept in the facility operating record for use in determining exemptions as provided in the applicability section of this subpart and other specific subparts:

(1) An analysis determining the design capacity of the hazardous waste management unit.

(2) A statement listing the hazardous waste influent to and effluent from each hazardous waste management unit subject to the requirements in §§264.1052 through 264.1060 and an analysis determining whether these hazardous wastes are heavy liquids.

(3) An up-to-date analysis and the supporting information and data used to determine whether or not equipment is subject to the requirements in §§264.1052 through 264.1060. The record shall include supporting documentation as required by §264.1063(d)(3) when

application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used. If the owner or operator takes any action (e.g., changing the process that produced the waste) that could result in an increase in the total organic content of the waste contained in or contacted by equipment determined not to be subject to the requirements in §§ 264.1052 through 264.1060, then a new determination is required.

(l) Records of the equipment leak information required by paragraph (d) of this section and the operating information required by paragraph (e) of this section need be kept only 3 years.

(m) 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 determine compliance with this subpart by documentation either pursuant to § 264.1064 of this subpart, or pursuant to those provisions of 40 CFR part 60 or 61, to the extent that the documentation under the regulation at 40 CFR part 60 or part 61 duplicates the documentation required under this subpart. The documentation under the regulation at 40 CFR part 60 or part 61 shall be kept with or made readily available with the facility operating record.

[55 FR 25501, June 21, 1990, as amended at 61 FR 59952, Nov. 25, 1996]

§ 264.1065 Reporting requirements.

(a) A semiannual report shall be submitted by owners and operators subject to the requirements of this subpart to the Regional Administrator by dates specified by the Regional Administrator. The report shall include the following information:

(1) The Environmental Protection Agency identification number, name, and address of the facility.

(2) For each month during the semiannual reporting period:

(i) The equipment identification number of each valve for which a leak was not repaired as required in § 264.1057(d).

(ii) The equipment identification number of each pump for which a leak was not repaired as required in § 264.1052 (c) and (d)(6).

(iii) The equipment identification number of each compressor for which a leak was not repaired as required in § 264.1053(g).

(3) Dates of hazardous waste management unit shutdowns that occurred within the semiannual reporting period.

(4) For each month during the semiannual reporting period, dates when the control device installed as required by § 264.1052, 264.1053, 264.1054, or 264.1055 exceeded or operated outside of the design specifications as defined in § 264.1064(e) and as indicated by the control device monitoring required by § 264.1060 and was not corrected within 24 hours, the duration and cause of each exceedance, and any corrective measures taken.

(b) If, during the semiannual reporting period, leaks from valves, pumps, and compressors are repaired as required in §§ 264.1057 (d), 264.1052 (c) and (d)(6), and 264.1053 (g), respectively, and the control device does not exceed or operate outside of the design specifications as defined in § 264.1064(e) for more than 24 hours, a report to the Regional Administrator is not required.

§§ 264.1066—264.1079 [Reserved]

Subpart CC—Air Emission Standards for Tanks, Surface Impoundments, and Containers

SOURCE: 59 FR 62927, Dec. 6, 1994, unless otherwise noted.

§ 264.1080 Applicability.

(a) The requirements of this subpart apply to owners and operators of all facilities that treat, store, or dispose of hazardous waste in tanks, surface impoundments, or containers subject to either subparts I, J, or K of this part except as § 264.1 and paragraph (b) of this section provide otherwise.

(b) The requirements of this subpart do not apply to the following waste management units at the facility:

(1) A waste management unit that holds hazardous waste placed in the unit before October 6, 1996, and in which no hazardous waste is added to the unit on or after this date.

(2) A container that has a design capacity less than or equal to 0.1 m^3.

(3) A tank in which an owner or operator has stopped adding hazardous waste and the owner or operator has begun implementing or completed closure pursuant to an approved closure plan.

(4) A surface impoundment in which an owner or operator has stopped adding hazardous waste (except to implement an approved closure plan) and the owner or operator has begun implementing or completed closure pursuant to an approved closure plan.

(5) A waste management unit that is used solely for on-site treatment or storage of hazardous waste that is generated as the result of implementing remedial activities required under the corrective action authorities of RCRA sections 3004(u), 3004(v) or 3008(h), CERCLA authorities, or similar Federal or State authorities.

(6) A waste management unit that is used solely for the management of radioactive mixed waste in accordance with all applicable regulations under the authority of the Atomic Energy Act and the Nuclear Waste Policy Act.

(7) A hazardous waste management unit that the owner or operator certifies is equipped with and operating air emission controls in accordance with the requirements of an applicable Clean Air Act regulation codified under 40 CFR part 60, part 61, or part 63. For the purpose of complying with this paragraph, a tank for which the air emission control includes an enclosure, as opposed to a cover, must be in compliance with the enclosure and control device requirements of § 264.1084(i), except as provided in § 264.1082(c)(5).

(8) A tank that has a process vent as defined in 40 CFR 264.1031.

(c) For the owner and operator of a facility subject to this subpart and who received a final permit under RCRA section 3005 prior to October 6, 1996, the requirements of this subpart shall be incorporated into the permit when the permit is reissued in accordance with the requirements of 40 CFR 124.15 of this chapter or reviewed in accordance with the requirements of 40 CFR 270.50(d) of this chapter. Until such date when the owner and operator receives a final permit incorporating the requirements of this subpart, the owner and operator is subject to the requirements of 40 CFR part 265, subpart CC.

(d) The requirements of this subpart, except for the recordkeeping requirements specified in § 264.1089(i) of this subpart, are administratively stayed for a tank or a container used for the management of hazardous waste generated by organic peroxide manufacturing and its associated laboratory operations when the owner or operator of the unit meets all of the following conditions:

(1) The owner or operator identifies that the tank or container receives hazardous waste generated by an organic peroxide manufacturing process producing more than one functional family of organic peroxides or multiple organic peroxides within one functional family, that one or more of these organic peroxides could potentially undergo self-accelerating thermal decomposition at or below ambient temperatures, and that organic peroxides are the predominant products manufactured by the process. For the purpose of meeting the conditions of this paragraph, ''organic peroxide'' means an organic compound that contains the bivalent —O—O— structure and which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms has been replaced by an organic radical.

(2) The owner or operator prepares documentation, in accordance with the requirements of § 264.1089(i) of this subpart, explaining why an undue safety hazard would be created if air emission controls specified in §§ 264.1084 through 264.1087 of this subpart are installed and operated on the tanks and containers used at the facility to manage the hazardous waste generated by the organic peroxide manufacturing process or processes meeting the conditions of paragraph (d)(1) of this section.

(3) The owner or operator notifies the Regional Administrator in writing that hazardous waste generated by an organic peroxide manufacturing process or processes meeting the conditions of paragraph (d)(1) of this section are managed at the facility in tanks or containers meeting the conditions of

paragraph (d)(2) of this section. The notification shall state the name and address of the facility, and be signed and dated by an authorized representative of the facility owner or operator.

[59 FR 62927, Dec. 6, 1994, as amended at 60 FR 26828, May 19, 1995; 60 FR 50428, Sept. 29, 1995; 60 FR 56953, Nov. 13, 1995; 61 FR 28509, June 5, 1996; 61 FR 59952, Nov. 25, 1996]

§ 264.1081 Definitions.

As used in this subpart, all terms shall have the meaning given to them in 40 CFR 265.1081, the Act, and parts 260 through 266 of this chapter.

§ 264.1082 Standards: General.

(a) This section applies to the management of hazardous waste in tanks, surface impoundments, and containers subject to this subpart.

(b) The owner or operator shall control air pollutant emissions from each waste management unit in accordance with standards specified in § 264.1084 through § 264.1087 of this subpart, as applicable to the waste management unit, except as provided for in paragraph (c) of this section.

(c) A tank, surface impoundment, or container is exempt from standards specified in § 264.1084 through § 264.1087 of this subpart, as applicable, provided that the waste management unit is one of the following:

(1) A tank, surface impoundment, or container for which all hazardous waste entering the unit has an average VO concentration at the point of waste origination of less than 500 parts per million by weight (ppmw). The average VO concentration shall be determined using the procedures specified in § 264.1083(a) of this subpart. The owner or operator shall review and update, as necessary, this determination at least once every 12 months following the date of the initial determination for the hazardous waste streams entering the unit.

(2) A tank, surface impoundment, or container for which the organic content of all the hazardous waste entering the waste management unit has been reduced by an organic destruction or removal process that achieves any one of the following conditions:

(i) A process that removes or destroys the organics contained in the hazardous waste to a level such that the average VO concentration of the hazardous waste at the point of waste treatment is less than the exit concentration limit (C_t) established for the process. The average VO concentration of the hazardous waste at the point of waste treatment and the exit concentration limit for the process shall be determined using the procedures specified in § 264.1083(b) of this subpart.

(ii) A process that removes or destroys the organics contained in the hazardous waste to a level such that the organic reduction efficiency (R) for the process is equal to or greater than 95 percent, and the average VO concentration of the hazardous waste at the point of waste treatment is less than 100 ppmw. The organic reduction efficiency for the process and the average VO concentration of the hazardous waste at the point of waste treatment shall be determined using the procedures specified in § 264.1083(b) of this subpart.

(iii) A process that removes or destroys the organics contained in the hazardous waste to a level such that the actual organic mass removal rate (MR) for the process is equal to or greater than the required organic mass removal rate (RMR) established for the process. The required organic mass removal rate and the actual organic mass removal rate for the process shall be determined using the procedures specified in § 264.1083(b) of this subpart.

(iv) A biological process that destroys or degrades the organics contained in the hazardous waste, such that either of the following conditions is met:

(A) The organic reduction efficiency (R) for the process is equal to or greater than 95 percent, and the organic biodegradation efficiency (R_{bio}) for the process is equal to or greater than 95 percent. The organic reduction efficiency and the organic biodegradation efficiency for the process shall be determined using the procedures specified in § 264.1083(b) of this subpart.

(B) The total actual organic mass biodegradation rate (MR_{bio}) for all hazardous waste treated by the process is equal to or greater than the required organic mass removal rate (RMR). The required organic mass removal rate

and the actual organic mass biodegradation rate for the process shall be determined using the procedures specified in §264.1083(b) of this subpart.

(v) A process that removes or destroys the organics contained in the hazardous waste and meets all of the following conditions:

(A) From the point of waste origination through the point where the hazardous waste enters the treatment process, the hazardous waste is managed continuously in waste management units which use air emission controls in accordance with the standards specified in §264.1084 through §264.1087 of this subpart, as applicable to the waste management unit.

(B) From the point of waste origination through the point where the hazardous waste enters the treatment process, any transfer of the hazardous waste is accomplished through continuous hard-piping or other closed system transfer that does not allow exposure of the waste to the atmosphere. The EPA considers a drain system that meets the requirements of 40 CFR part 63, subpart RR—National Emission Standards for Individual Drain Systems to be a closed system.

(C) The average VO concentration of the hazardous waste at the point of waste treatment is less than the lowest average VO concentration at the point of waste origination determined for each of the individual waste streams entering the process or 500 ppmw, whichever value is lower. The average VO concentration of each individual waste stream at the point of waste origination shall be determined using the procedures specified in §264.1083(a) of this subpart. The average VO concentration of the hazardous waste at the point of waste treatment shall be determined using the procedures specified in §264.1083(b) of this subpart.

(vi) A process that removes or destroys the organics contained in the hazardous waste to a level such that the organic reduction efficiency (R) for the process is equal to or greater than 95 percent and the owner or operator certifies that the average VO concentration at the point of waste origination for each of the individual waste streams entering the process is less than 10,000 ppmw. The organic reduction efficiency for the process and the average VO concentration of the hazardous waste at the point of waste origination shall be determined using the procedures specified in §264.1083(b) and §264.1083(a) of this subpart, respectively.

(vii) A hazardous waste incinerator for which the owner or operator has either:

(A) Been issued a final permit under 40 CFR part 270 which implements the requirements of subpart O of this part; or

(B) Has designed and operates the incinerator in accordance with the interim status requirements of 40 CFR part 265, subpart O.

(viii) A boiler or industrial furnace for which the owner or operator has either:

(A) Been issued a final permit under 40 CFR part 270 which implements the requirements of 40 CFR part 266, subpart H, or

(B) Has designed and operates the boiler or industrial furnace in accordance with the interim status requirements of 40 CFR part 266, subpart H.

(ix) For the purpose of determining the performance of an organic destruction or removal process in accordance with the conditions in each of paragraphs (c)(2)(i) through (c)(2)(vi) of this section, the owner or operator shall account for VO concentrations determined to be below the limit of detection of the analytical method by using the following VO concentration:

(A) If Method 25D in 40 CFR part 60, appendix A is used for the analysis, one-half the blank value determined in the method.

(B) If any other analytical method is used, one-half the limit of detection established for the method.

(3) A tank used for biological treatment of hazardous waste in accordance with the requirements of paragraph (c)(2)(iv) of this section.

(4) A tank, surface impoundment, or container for which all hazardous waste placed in the unit either:

(i) Meets the numerical concentration limits for organic hazardous constituents, applicable to the hazardous waste, as specified in 40 CFR part 268—Land Disposal Restrictions under Table

''Treatment Standards for Hazardous Waste'' in 40 CFR 268.40; or

(ii) Has been treated by the treatment technology established by EPA for the waste in 40 CFR 268.42(a), or treated by an equivalent method of treatment approved by EPA pursuant to 40 CFR 268.42(b).

(5) A tank used for bulk feed of hazardous waste to a waste incinerator and all of the following conditions are met:

(i) The tank is located inside an enclosure vented to a control device that is designed and operated in accordance with all applicable requirements specified under 40 CFR part 61, subpart FF—National Emission Standards for Benzene Waste Operations for a facility at which the total annual benzene quantity from the facility waste is equal to or greater than 10 megagrams per year;

(ii) The enclosure and control device serving the tank were installed and began operation prior to November 25, 1996 and

(iii) The enclosure is designed and operated in accordance with the criteria for a permanent total enclosure as specified in ''Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure'' under 40 CFR 52.741, appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the enclosure by conveyor, vehicles, or other mechanical or electrical equipment; or to direct air flow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in Section 5.0 to ''Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure'' annually.

(d) The Regional Administrator may at any time perform or request that the owner or operator perform a waste determination for a hazardous waste managed in a tank, surface impoundment, or container exempted from using air emission controls under the provisions of this section as follows:

(1) The waste determination for average VO concentration of a hazardous waste at the point of waste origination shall be performed using direct measurement in accordance with the applicable requirements of § 264.1083(a) of this subpart. The waste determination for a hazardous waste at the point of waste treatment shall be performed in accordance with the applicable requirements of § 264.1083(b) of this subpart.

(2) In performing a waste determination pursuant to paragraph (d)(1) of this section, the sample preparation and analysis shall be conducted as follows:

(i) In accordance with the method used by the owner or operator to perform the waste analysis, except in the case specified in paragraph (d)(2)(ii) of this section.

(ii) If the Regional Administrator determines that the method used by the owner or operator was not appropriate for the hazardous waste managed in the tank, surface impoundment, or container, then the Regional Administrator may choose an appropriate method.

(3) In a case when the owner or operator is requested to perform the waste determination, the Regional Administrator may elect to have an authorized representative observe the collection of the hazardous waste samples used for the analysis.

(4) In a case when the results of the waste determination performed or requested by the Regional Administrator do not agree with the results of a waste determination performed by the owner or operator using knowledge of the waste, then the results of the waste determination performed in accordance with the requirements of paragraph (d)(1) of this section shall be used to establish compliance with the requirements of this subpart.

(5) In a case when the owner or operator has used an averaging period greater than 1 hour for determining the average VO concentration of a hazardous waste at the point of waste origination, the Regional Administrator may elect to establish compliance with this subpart by performing or requesting that the owner or operator perform a waste determination using direct measurement based on waste samples collected within a 1-hour period as follows:

(i) The average VO concentration of the hazardous waste at the point of waste origination shall be determined by direct measurement in accordance

with the requirements of §264.1083(a) of this subpart.

(ii) Results of the waste determination performed or requested by the Regional Administrator showing that the average VO concentration of the hazardous waste at the point of waste origination is equal to or greater than 500 ppmw shall constitute noncompliance with this subpart except in a case as provided for in paragraph (d)(5)(iii) of this section.

(iii) For the case when the average VO concentration of the hazardous waste at the point of waste origination previously has been determined by the owner or operator using an averaging period greater than 1 hour to be less than 500 ppmw but because of normal operating process variations the VO concentration of the hazardous waste determined by direct measurement for any given 1-hour period may be equal to or greater than 500 ppmw, information that was used by the owner or operator to determine the average VO concentration of the hazardous waste (e.g., test results, measurements, calculations, and other documentation) and recorded in the facility records in accordance with the requirements of §264.1083(a) and §264.1089 of this subpart shall be considered by the Regional Administrator together with the results of the waste determination performed or requested by the Regional Administrator in establishing compliance with this subpart.

[61 FR 59953, Nov. 25, 1996]

§264.1083 Waste determination procedures.

(a) Waste determination procedure to determine average volatile organic (VO) concentration of a hazardous waste at the point of waste origination.

(1) An owner or operator shall determine the average VO concentration at the point of waste origination for each hazardous waste placed in a waste management unit exempted under the provisions of §264.1082(c)(1) of this subpart from using air emission controls in accordance with standards specified in §264.1084 through §264.1087 of this subpart, as applicable to the waste management unit.

(2) The average VO concentration of a hazardous waste at the point of waste origination may be determined in accordance with the procedures specified in 40 CFR 265.1084 (a)(2) through (a)(4).

(b) Waste determination procedures for treated hazardous waste.

(1) An owner or operator shall perform the applicable waste determination for each treated hazardous waste placed in a waste management unit exempted under the provisions of §264.1082(c)(2) of this subpart from using air emission controls in accordance with standards specified in §264.1084 through §264.1087 of this subpart, as applicable to the waste management unit.

(2) The waste determination for a treated hazardous waste shall be performed in accordance with the procedures specified in 40 CFR 265.1084 (b)(2) through (b)(9), as applicable to the treated hazardous waste.

(c) Procedure to determine the maximum organic vapor pressure of a hazardous waste in a tank.

(1) An owner or operator shall determine the maximum organic vapor pressure for each hazardous waste placed in a tank using Tank Level 1 controls in accordance with standards specified in §264.1084(c) of this subpart.

(2) The maximum organic vapor pressure of the hazardous waste may be determined in accordance with the procedures specified in 40 CFR 265.1084 (c)(2) through (c)(4).

(d) The procedure for determining no detectable organic emissions for the purpose of complying with this subpart shall be conducted in accordance with the procedures specified in 40 CFR 265.1084(d).

[61 FR 59954, Nov. 25, 1996]

§264.1084 Standards: Tanks.

(a) The provisions of this section apply to the control of air pollutant emissions from tanks for which §264.1082(b) of this subpart references the use of this section for such air emission control.

(b) The owner or operator shall control air pollutant emissions from each tank subject to this section in accordance with the following requirements as applicable:

(1) For a tank that manages hazardous waste that meets all of the conditions specified in paragraphs (b)(1)(i)

through (b)(1)(iii) of this section, the owner or operator shall control air pollutant emissions from the tank in accordance with the Tank Level 1 controls specified in paragraph (c) of this section or the Tank Level 2 controls specified in paragraph (d) of this section.

(i) The hazardous waste in the tank has a maximum organic vapor pressure which is less than the maximum organic vapor pressure limit for the tank's design capacity category as follows:

(A) For a tank design capacity equal to or greater than 151 m^3, the maximum organic vapor pressure limit for the tank is 5.2 kPa.

(B) For a tank design capacity equal to or greater than 75 m^3 but less than 151 m^3, the maximum organic vapor pressure limit for the tank is 27.6 kPa.

(C) For a tank design capacity less than 75 m^3, the maximum organic vapor pressure limit for the tank is 76.6 kPa.

(ii) The hazardous waste in the tank is not heated by the owner or operator to a temperature that is greater than the temperature at which the maximum organic vapor pressure of the hazardous waste is determined for the purpose of complying with paragraph (b)(1)(i) of this section.

(iii) The hazardous waste in the tank is not treated by the owner or operator using a waste stabilization process, as defined in 40 CFR 265.1081.

(2) For a tank that manages hazardous waste that does not meet all of the conditions specified in paragraphs (b)(1)(i) through (b)(1)(iii) of this section, the owner or operator shall control air pollutant emissions from the tank by using Tank Level 2 controls in accordance with the requirements of paragraph (d) of this section. Examples of tanks required to use Tank Level 2 controls include: A tank used for a waste stabilization process; and a tank for which the hazardous waste in the tank has a maximum organic vapor pressure that is equal to or greater than the maximum organic vapor pressure limit for the tank's design capacity category as specified in paragraph (b)(1)(i) of this section.

(c) Owners and operators controlling air pollutant emissions from a tank using Tank Level 1 controls shall meet the requirements specified in paragraphs (c)(1) through (c)(4) of this section:

(1) The owner or operator shall determine the maximum organic vapor pressure for a hazardous waste to be managed in the tank using Tank Level 1 controls before the first time the hazardous waste is placed in the tank. The maximum organic vapor pressure shall be determined using the procedures specified in § 264.1083(c) of this subpart. Thereafter, the owner or operator shall perform a new determination whenever changes to the hazardous waste managed in the tank could potentially cause the maximum organic vapor pressure to increase to a level that is equal to or greater than the maximum organic vapor pressure limit for the tank design capacity category specified in paragraph (b)(1)(i) of this section, as applicable to the tank.

(2) The tank shall be equipped with a fixed roof designed to meet the following specifications:

(i) The fixed roof and its closure devices shall be designed to form a continuous barrier over the entire surface area of the hazardous waste in the tank. The fixed roof may be a separate cover installed on the tank (e.g., a removable cover mounted on an open-top tank) or may be an integral part of the tank structural design (e.g., a horizontal cylindrical tank equipped with a hatch).

(ii) The fixed roof shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between roof section joints or between the interface of the roof edge and the tank wall.

(iii) Each opening in the fixed roof shall be either:

(A) Equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the opening and the closure device; or

(B) Connected by a closed-vent system that is vented to a control device. The control device shall remove or destroy organics in the vent stream, and

it shall be operating whenever hazardous waste is managed in the tank.

(iv) The fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include: Organic vapor permeability, the effects of any contact with the hazardous waste or its vapors managed in the tank; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the tank on which the fixed roof is installed.

(3) Whenever a hazardous waste is in the tank, the fixed roof shall be installed with each closure device secured in the closed position except as follows:

(i) Opening of closure devices or removal of the fixed roof is allowed at the following times:

(A) To provide access to the tank for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample the liquid in the tank, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank.

(B) To remove accumulated sludge or other residues from the bottom of tank.

(ii) Opening of a spring-loaded pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the tank internal pressure in accordance with the tank design specifications. The device shall be designed to operate with no detectable organic emissions when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the tank internal pressure is within the internal pressure operating range determined by the owner or operator based on the tank manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the tank internal pressure exceeds the internal pressure operating range for the tank as a result of loading operations or diurnal ambient temperature fluctuations.

(iii) Opening of a safety device, as defined in 40 CFR 265.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(4) The owner or operator shall inspect the air emission control equipment in accordance with the following requirements.

(i) The fixed roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the tank wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The owner or operator shall perform an initial inspection of the fixed roof and its closure devices on or before the date that the tank becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except under the special conditions provided for in paragraph (l) of this section.

(iii) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(iv) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in §264.1089(b) of this subpart.

(d) Owners and operators controlling air pollutant emissions from a tank

using Tank Level 2 controls shall use one of the following tanks:

(1) A fixed-roof tank equipped with an internal floating roof in accordance with the requirements specified in paragraph (e) of this section;

(2) A tank equipped with an external floating roof in accordance with the requirements specified in paragraph (f) of this section;

(3) A tank vented through a closed-vent system to a control device in accordance with the requirements specified in paragraph (g) of this section;

(4) A pressure tank designed and operated in accordance with the requirements specified in paragraph (h) of this section; or

(5) A tank located inside an enclosure that is vented through a closed-vent system to an enclosed combustion control device in accordance with the requirements specified in paragraph (i) of this section.

(e) The owner or operator who controls air pollutant emissions from a tank using a fixed roof with an internal floating roof shall meet the requirements specified in paragraphs (e)(1) through (e)(3) of this section.

(1) The tank shall be equipped with a fixed roof and an internal floating roof in accordance with the following requirements:

(i) The internal floating roof shall be designed to float on the liquid surface except when the floating roof must be supported by the leg supports.

(ii) The internal floating roof shall be equipped with a continuous seal between the wall of the tank and the floating roof edge that meets either of the following requirements:

(A) A single continuous seal that is either a liquid-mounted seal or a metallic shoe seal, as defined in 40 CFR 265.1081; or

(B) Two continuous seals mounted one above the other. The lower seal may be a vapor-mounted seal.

(iii) The internal floating roof shall meet the following specifications:

(A) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

(B) Each opening in the internal floating roof shall be equipped with a gasketed cover or a gasketed lid except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains.

(C) Each penetration of the internal floating roof for the purpose of sampling shall have a slit fabric cover that covers at least 90 percent of the opening.

(D) Each automatic bleeder vent and rim space vent shall be gasketed.

(E) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(F) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

(2) The owner or operator shall operate the tank in accordance with the following requirements:

(i) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be completed as soon as practical.

(ii) Automatic bleeder vents are to be set closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the leg supports.

(iii) Prior to filling the tank, each cover, access hatch, gauge float well or lid on any opening in the internal floating roof shall be bolted or fastened closed (i.e., no visible gaps). Rim space vents are to be set to open only when the internal floating roof is not floating or when the pressure beneath the rim exceeds the manufacturer's recommended setting.

(3) The owner or operator shall inspect the internal floating roof in accordance with the procedures specified as follows:

(i) The floating roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to: The internal floating roof is not floating on the surface of the liquid inside the tank; liquid has accumulated on top of the internal floating roof; any

portion of the roof seals have detached from the roof rim; holes, tears, or other openings are visible in the seal fabric; the gaskets no longer close off the hazardous waste surface from the atmosphere; or the slotted membrane has more than 10 percent open area.

(ii) The owner or operator shall inspect the internal floating roof components as follows except as provided in paragraph (e)(3)(iii) of this section:

(A) Visually inspect the internal floating roof components through openings on the fixed-roof (e.g., manholes and roof hatches) at least once every 12 months after initial fill, and

(B) Visually inspect the internal floating roof, primary seal, secondary seal (if one is in service), gaskets, slotted membranes, and sleeve seals (if any) each time the tank is emptied and degassed and at least every 10 years.

(iii) As an alternative to performing the inspections specified in paragraph (e)(3)(ii) of this section for an internal floating roof equipped with two continuous seals mounted one above the other, the owner or operator may visually inspect the internal floating roof, primary and secondary seals, gaskets, slotted membranes, and sleeve seals (if any) each time the tank is emptied and degassed and at least every 5 years.

(iv) Prior to each inspection required by paragraph (e)(3)(ii) or (e)(3)(iii) of this section, the owner or operator shall notify the Regional Administrator in advance of each inspection to provide the Regional Administrator with the opportunity to have an observer present during the inspection. The owner or operator shall notify the Regional Administrator of the date and location of the inspection as follows:

(A) Prior to each visual inspection of an internal floating roof in a tank that has been emptied and degassed, written notification shall be prepared and sent by the owner or operator so that it is received by the Regional Administrator at least 30 calendar days before refilling the tank except when an inspection is not planned as provided for in paragraph (e)(3)(iv)(B) of this section.

(B) When a visual inspection is not planned and the owner or operator could not have known about the inspection 30 calendar days before refilling the tank, the owner or operator shall notify the Regional Administrator as soon as possible, but no later than 7 calendar days before refilling of the tank. This notification may be made by telephone and immediately followed by a written explanation for why the inspection is unplanned. Alternatively, written notification, including the explanation for the unplanned inspection, may be sent so that it is received by the Regional Administrator at least 7 calendar days before refilling the tank.

(v) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(vi) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 264.1089(b) of this subpart.

(f) The owner or operator who controls air pollutant emissions from a tank using an external floating roof shall meet the requirements specified in paragraphs (f)(1) through (f)(3) of this section.

(1) The owner or operator shall design the external floating roof in accordance with the following requirements:

(i) The external floating roof shall be designed to float on the liquid surface except when the floating roof must be supported by the leg supports.

(ii) The floating roof shall be equipped with two continuous seals, one above the other, between the wall of the tank and the roof edge. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

(A) The primary seal shall be a liquid-mounted seal or a metallic shoe seal, as defined in 40 CFR 265.1081. The total area of the gaps between the tank wall and the primary seal shall not exceed 212 square centimeters (cm^2) per meter of tank diameter, and the width of any portion of these gaps shall not exceed 3.8 centimeters (cm). If a metallic shoe seal is used for the primary seal, the metallic shoe seal shall be designed so that one end extends into the liquid in the tank and the other end extends a vertical distance of at least 61 centimeters above the liquid surface.

(B) The secondary seal shall be mounted above the primary seal and cover the annular space between the floating roof and the wall of the tank. The total area of the gaps between the tank wall and the secondary seal shall not exceed 21.2 square centimeters (cm^2) per meter of tank diameter, and the width of any portion of these gaps shall not exceed 1.3 centimeters (cm).

(iii) The external floating roof shall meet the following specifications:

(A) Except for automatic bleeder vents (vacuum breaker vents) and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface.

(B) Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof shall be equipped with a gasketed cover, seal, or lid.

(C) Each access hatch and each gauge float well shall be equipped with a cover designed to be bolted or fastened when the cover is secured in the closed position.

(D) Each automatic bleeder vent and each rim space vent shall be equipped with a gasket.

(E) Each roof drain that empties into the liquid managed in the tank shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(F) Each unslotted and slotted guide pole well shall be equipped with a gasketed sliding cover or a flexible fabric sleeve seal.

(G) Each unslotted guide pole shall be equipped with a gasketed cap on the end of the pole.

(H) Each slotted guide pole shall be equipped with a gasketed float or other device which closes off the liquid surface from the atmosphere.

(I) Each gauge hatch and each sample well shall be equipped with a gasketed cover.

(2) The owner or operator shall operate the tank in accordance with the following requirements:

(i) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be completed as soon as practical.

(ii) Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof shall be secured and maintained in a closed position at all times except when the closure device must be open for access.

(iii) Covers on each access hatch and each gauge float well shall be bolted or fastened when secured in the closed position.

(iv) Automatic bleeder vents shall be set closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the leg supports.

(v) Rim space vents shall be set to open only at those times that the roof is being floated off the roof leg supports or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting.

(vi) The cap on the end of each unslotted guide pole shall be secured in the closed position at all times except when measuring the level or collecting samples of the liquid in the tank.

(vii) The cover on each gauge hatch or sample well shall be secured in the closed position at all times except when the hatch or well must be opened for access.

(viii) Both the primary seal and the secondary seal shall completely cover the annular space between the external floating roof and the wall of the tank in a continuous fashion except during inspections.

(3) The owner or operator shall inspect the external floating roof in accordance with the procedures specified as follows:

(i) The owner or operator shall measure the external floating roof seal gaps in accordance with the following requirements:

(A) The owner or operator shall perform measurements of gaps between the tank wall and the primary seal within 60 calendar days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every 5 years.

(B) The owner or operator shall perform measurements of gaps between the tank wall and the secondary seal

within 60 calendar days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every year.

(C) If a tank ceases to hold hazardous waste for a period of 1 year or more, subsequent introduction of hazardous waste into the tank shall be considered an initial operation for the purposes of paragraphs (f)(3)(i)(A) and (f)(3)(i)(B) of this section.

(D) The owner or operator shall determine the total surface area of gaps in the primary seal and in the secondary seal individually using the following procedure:

(*1*) The seal gap measurements shall be performed at one or more floating roof levels when the roof is floating off the roof supports.

(*2*) Seal gaps, if any, shall be measured around the entire perimeter of the floating roof in each place where a 0.32-centimeter (cm) diameter uniform probe passes freely (without forcing or binding against the seal) between the seal and the wall of the tank and measure the circumferential distance of each such location.

(*3*) For a seal gap measured under paragraph (f)(3) of this section, the gap surface area shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.

(*4*) The total gap area shall be calculated by adding the gap surface areas determined for each identified gap location for the primary seal and the secondary seal individually, and then dividing the sum for each seal type by the nominal perimeter of the tank. These total gap areas for the primary seal and secondary seal are then compared to the respective standards for the seal type as specified in paragraph (f)(1)(ii) of this section.

(E) In the event that the seal gap measurements do not conform to the specifications in paragraph (f)(1)(ii) of this section, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(F) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 264.1089(b) of this subpart.

(ii) The owner or operator shall visually inspect the external floating roof in accordance with the following requirements:

(A) The floating roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to: Holes, tears, or other openings in the rim seal or seal fabric of the floating roof; a rim seal detached from the floating roof; all or a portion of the floating roof deck being submerged below the surface of the liquid in the tank; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(B) The owner or operator shall perform an initial inspection of the external floating roof and its closure devices on or before the date that the tank becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in paragraph (l) of this section.

(C) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(D) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 264.1089(b) of this subpart.

(iii) Prior to each inspection required by paragraph (f)(3)(i) or (f)(3)(ii) of this subpart, the owner or operator shall notify the Regional Administrator in advance of each inspection to provide the Regional Administrator with the opportunity to have an observer present during the inspection. The owner or operator shall notify the Regional Administrator of the date and location of the inspection as follows:

(A) Prior to each inspection to measure external floating roof seal gaps as required under paragraph (f)(3)(i) of this section, written notification shall be prepared and sent by the owner or operator so that it is received by the

Regional Administrator at least 30 calendar days before the date the measurements are scheduled to be performed.

(B) Prior to each visual inspection of an external floating roof in a tank that has been emptied and degassed, written notification shall be prepared and sent by the owner or operator so that it is received by the Regional Administrator at least 30 calendar days before refilling the tank except when an inspection is not planned as provided for in paragraph (f)(3)(iii)(C) of this section.

(C) When a visual inspection is not planned and the owner or operator could not have known about the inspection 30 calendar days before refilling the tank, the owner or operator shall notify the Regional Administrator as soon as possible, but no later than 7 calendar days before refilling of the tank. This notification may be made by telephone and immediately followed by a written explanation for why the inspection is unplanned. Alternatively, written notification, including the explanation for the unplanned inspection, may be sent so that it is received by the Regional Administrator at least 7 calendar days before refilling the tank.

(g) The owner or operator who controls air pollutant emissions from a tank by venting the tank to a control device shall meet the requirements specified in paragraphs (g)(1) through (g)(3) of this section.

(1) The tank shall be covered by a fixed roof and vented directly through a closed-vent system to a control device in accordance with the following requirements:

(i) The fixed roof and its closure devices shall be designed to form a continuous barrier over the entire surface area of the liquid in the tank.

(ii) Each opening in the fixed roof not vented to the control device shall be equipped with a closure device. If the pressure in the vapor headspace underneath the fixed roof is less than atmospheric pressure when the control device is operating, the closure devices shall be designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the pressure in the vapor headspace underneath the fixed roof is equal to or greater than atmospheric pressure when the control device is operating, the closure device shall be designed to operate with no detectable organic emissions.

(iii) The fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include: Organic vapor permeability, the effects of any contact with the liquid and its vapor managed in the tank; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the tank on which the fixed roof is installed.

(iv) The closed-vent system and control device shall be designed and operated in accordance with the requirements of § 264.1087 of this subpart.

(2) Whenever a hazardous waste is in the tank, the fixed roof shall be installed with each closure device secured in the closed position and the vapor headspace underneath the fixed roof vented to the control device except as follows:

(i) Venting to the control device is not required, and opening of closure devices or removal of the fixed roof is allowed at the following times:

(A) To provide access to the tank for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample liquid in the tank, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank.

(B) To remove accumulated sludge or other residues from the bottom of a tank.

(ii) Opening of a safety device, as defined in 40 CFR 265.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(3) The owner or operator shall inspect and monitor the air emission control equipment in accordance with the following procedures:

(i) The fixed roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the tank wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The closed-vent system and control device shall be inspected and monitored by the owner or operator in accordance with the procedures specified in §264.1087 of this subpart.

(iii) The owner or operator shall perform an initial inspection of the air emission control equipment on or before the date that the tank becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in paragraph (l) of this section.

(iv) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(v) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in §264.1089(b) of this subpart.

(h) The owner or operator who controls air pollutant emissions by using a pressure tank shall meet the following requirements.

(1) The tank shall be designed not to vent to the atmosphere as a result of compression of the vapor headspace in the tank during filling of the tank to its design capacity.

(2) All tank openings shall be equipped with closure devices designed to operate with no detectable organic emissions as determined using the procedure specified in §264.1083(d) of this subpart.

(3) Whenever a hazardous waste is in the tank, the tank shall be operated as a closed system that does not vent to the atmosphere except in the event that a safety device, as defined in 40 CFR 265.1081, is required to open to avoid an unsafe condition.

(i) The owner or operator who controls air pollutant emissions by using an enclosure vented through a closed-vent system to an enclosed combustion control device shall meet the requirements specified in paragraphs (i)(1) through (i)(4) of this section.

(1) The tank shall be located inside an enclosure. The enclosure shall be designed and operated in accordance with the criteria for a permanent total enclosure as specified in ''Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure'' under 40 CFR 52.741, appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the enclosure by conveyor, vehicles, or other mechanical means; entry of permanent mechanical or electrical equipment; or direct airflow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in Section 5.0 to ''Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure'' initially when the enclosure is first installed and, thereafter, annually.

(2) The enclosure shall be vented through a closed-vent system to an enclosed combustion control device that is designed and operated in accordance with the standards for either a vapor incinerator, boiler, or process heater specified in §264.1087 of this subpart.

(3) Safety devices, as defined in 40 CFR 265.1081, may be installed and operated as necessary on any enclosure, closed-vent system, or control device used to comply with the requirements of paragraphs (i)(1) and (i)(2) of this section.

(4) The owner or operator shall inspect and monitor the closed-vent system and control device as specified in §264.1087 of this subpart.

(j) The owner or operator shall transfer hazardous waste to a tank subject to this section in accordance with the following requirements:

(1) Transfer of hazardous waste, except as provided in paragraph (j)(2) of this section, to the tank from another tank subject to this section or from a surface impoundment subject to § 264.1085 of this subpart shall be conducted using continuous hard-piping or another closed system that does not allow exposure of the hazardous waste to the atmosphere. For the purpose of complying with this provision, an individual drain system is considered to be a closed system when it meets the requirements of 40 CFR part 63, subpart RR—National Emission Standards for Individual Drain Systems.

(2) The requirements of paragraph (j)(1) of this section do not apply when transferring a hazardous waste to the tank under any of the following conditions:

(i) The hazardous waste meets the average VO concentration conditions specified in § 264.1082(c)(1) of this subpart at the point of waste origination.

(ii) The hazardous waste has been treated by an organic destruction or removal process to meet the requirements in § 264.1082(c)(2) of this subpart.

(k) The owner or operator shall repair each defect detected during an inspection performed in accordance with the requirements of paragraph (c)(4), (e)(3), (f)(3), or (g)(3) of this section as follows:

(1) The owner or operator shall make first efforts at repair of the defect no later than 5 calendar days after detection, and repair shall be completed as soon as possible but no later than 45 calendar days after detection except as provided in paragraph (k)(2) of this section.

(2) Repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the tank and no alternative tank capacity is available at the site to accept the hazardous waste normally managed in the tank. In this case, the owner or operator shall repair the defect the next time the process or unit that is generating the hazardous waste managed in the tank stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

(l) Following the initial inspection and monitoring of the cover as required by the applicable provisions of this subpart, subsequent inspection and monitoring may be performed at intervals longer than 1 year under the following special conditions:

(1) In the case when inspecting or monitoring the cover would expose a worker to dangerous, hazardous, or other unsafe conditions, then the owner or operator may designate a cover as an ''unsafe to inspect and monitor cover'' and comply with all of the following requirements:

(i) Prepare a written explanation for the cover stating the reasons why the cover is unsafe to visually inspect or to monitor, if required.

(ii) Develop and implement a written plan and schedule to inspect and monitor the cover, using the procedures specified in the applicable section of this subpart, as frequently as practicable during those times when a worker can safely access the cover.

(2) In the case when a tank is buried partially or entirely underground, an owner or operator is required to inspect and monitor, as required by the applicable provisions of this section, only those portions of the tank cover and those connections to the tank (e.g., fill ports, access hatches, gauge wells, etc.) that are located on or above the ground surface.

[61 FR 59955, Nov. 25, 1996]

§ 264.1085 Standards: Surface impoundments.

(a) The provisions of this section apply to the control of air pollutant emissions from surface impoundments for which § 264.1082(b) of this subpart references the use of this section for such air emission control.

(b) The owner or operator shall control air pollutant emissions from the surface impoundment by installing and operating either of the following:

(1) A floating membrane cover in accordance with the provisions specified in paragraph (c) of this section; or

(2) A cover that is vented through a closed-vent system to a control device in accordance with the provisions specified in paragraph (d) of this sections.

(c) The owner or operator who controls air pollutant emissions from a

surface impoundment using a floating membrane cover shall meet the requirements specified in paragraphs (c)(1) through (c)(3) of this section.

(1) The surface impoundment shall be equipped with a floating membrane cover designed to meet the following specifications:

(i) The floating membrane cover shall be designed to float on the liquid surface during normal operations and form a continuous barrier over the entire surface area of the liquid.

(ii) The cover shall be fabricated from a synthetic membrane material that is either:

(A) High density polyethylene (HDPE) with a thickness no less than 2.5 millimeters (mm); or

(B) A material or a composite of different materials determined to have both organic permeability properties that are equivalent to those of the material listed in paragraph (c)(1)(ii)(A) of this section and chemical and physical properties that maintain the material integrity for the intended service life of the material.

(iii) The cover shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between cover section seams or between the interface of the cover edge and its foundation mountings.

(iv) Except as provided for in paragraph (c)(1)(v) of this section, each opening in the floating membrane cover shall be equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device.

(v) The floating membrane cover may be equipped with one or more emergency cover drains for removal of stormwater. Each emergency cover drain shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening or a flexible fabric sleeve seal.

(vi) The closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the closure devices throughout their intended service life. Factors to be considered when selecting the materials of construction and designing the cover and closure devices shall include: Organic vapor permeability; the effects of any contact with the liquid and its vapor managed in the surface impoundment; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the surface impoundment on which the floating membrane cover is installed.

(2) Whenever a hazardous waste is in the surface impoundment, the floating membrane cover shall float on the liquid and each closure device shall be secured in the closed position except as follows:

(i) Opening of closure devices or removal of the cover is allowed at the following times:

(A) To provide access to the surface impoundment for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample the liquid in the surface impoundment, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly replace the cover and secure the closure device in the closed position, as applicable.

(B) To remove accumulated sludge or other residues from the bottom of surface impoundment.

(ii) Opening of a safety device, as defined in 40 CFR 265.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(3) The owner or operator shall inspect the floating membrane cover in accordance with the following procedures:

(i) The floating membrane cover and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the cover section seams or between the interface of the cover edge and its foundation mountings; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing

hatches, access covers, caps, or other closure devices.

(ii) The owner or operator shall perform an initial inspection of the floating membrane cover and its closure devices on or before the date that the surface impoundment becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in paragraph (g) of this section.

(iii) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (f) of this section.

(iv) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 264.1089(c) of this subpart.

(d) The owner or operator who controls air pollutant emissions from a surface impoundment using a cover vented to a control device shall meet the requirements specified in paragraphs (d)(1) through (d)(3) of this section.

(1) The surface impoundment shall be covered by a cover and vented directly through a closed-vent system to a control device in accordance with the following requirements:

(i) The cover and its closure devices shall be designed to form a continuous barrier over the entire surface area of the liquid in the surface impoundment.

(ii) Each opening in the cover not vented to the control device shall be equipped with a closure device. If the pressure in the vapor headspace underneath the cover is less than atmospheric pressure when the control device is operating, the closure devices shall be designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the pressure in the vapor headspace underneath the cover is equal to or greater than atmospheric pressure when the control device is operating, the closure device shall be designed to operate with no detectable organic emissions using the procedure specified in § 264.1083(d) of this subpart.

(iii) The cover and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the cover and closure devices throughout their intended service life. Factors to be considered when selecting the materials for and designing the cover and closure devices shall include: Organic vapor permeability; the effects of any contact with the liquid or its vapors managed in the surface impoundment; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the surface impoundment on which the cover is installed.

(iv) The closed-vent system and control device shall be designed and operated in accordance with the requirements of § 264.1087 of this subpart.

(2) Whenever a hazardous waste is in the surface impoundment, the cover shall be installed with each closure device secured in the closed position and the vapor headspace underneath the cover vented to the control device except as follows:

(i) Venting to the control device is not required, and opening of closure devices or removal of the cover is allowed at the following times:

(A) To provide access to the surface impoundment for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample liquid in the surface impoundment, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the surface impoundment.

(B) To remove accumulated sludge or other residues from the bottom of surface impoundment.

(ii) Opening of a safety device, as defined in 40 CFR 265.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(3) The owner or operator shall inspect and monitor the air emission control equipment in accordance with the following procedures:

(i) The surface impoundment cover and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the cover section seams or between the interface of the cover edge and its foundation mountings; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The closed-vent system and control device shall be inspected and monitored by the owner or operator in accordance with the procedures specified in §264.1087 of this subpart.

(iii) The owner or operator shall perform an initial inspection of the air emission control equipment on or before the date that the surface impoundment becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in paragraph (g) of this section.

(iv) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (f) of this section.

(v) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in §264.1089(c) of this subpart.

(e) The owner or operator shall transfer hazardous waste to a surface impoundment subject to this section in accordance with the following requirements:

(1) Transfer of hazardous waste, except as provided in paragraph (e)(2) of this section, to the surface impoundment from another surface impoundment subject to this section or from a tank subject to §264.1084 of this subpart shall be conducted using continuous hard-piping or another closed system that does not allow exposure of the waste to the atmosphere. For the purpose of complying with this provision, an individual drain system is considered to be a closed system when it meets the requirements of 40 CFR part 63, subpart RR—National Emission Standards for Individual Drain Systems.

(2) The requirements of paragraph (e)(1) of this section do not apply when transferring a hazardous waste to the surface impoundment under either of the following conditions:

(i) The hazardous waste meets the average VO concentration conditions specified in §264.1082(c)(1) of this subpart at the point of waste origination.

(ii) The hazardous waste has been treated by an organic destruction or removal process to meet the requirements in §264.1082(c)(2) of this subpart.

(f) The owner or operator shall repair each defect detected during an inspection performed in accordance with the requirements of paragraph (c)(3) or (d)(3) of this section as follows:

(1) The owner or operator shall make first efforts at repair of the defect no later than 5 calendar days after detection and repair shall be completed as soon as possible but no later than 45 calendar days after detection except as provided in paragraph (f)(2) of this section.

(2) Repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the surface impoundment and no alternative capacity is available at the site to accept the hazardous waste normally managed in the surface impoundment. In this case, the owner or operator shall repair the defect the next time the process or unit that is generating the hazardous waste managed in the surface impoundment stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

(g) Following the initial inspection and monitoring of the cover as required by the applicable provisions of this subpart, subsequent inspection and monitoring may be performed at intervals longer than 1 year in the case when inspecting or monitoring the cover would expose a worker to dangerous, hazardous, or other unsafe conditions. In this case, the owner or operator may designate the cover as an ''unsafe to inspect and monitor cover'' and comply with all of the following requirements:

(1) Prepare a written explanation for the cover stating the reasons why the cover is unsafe to visually inspect or to monitor, if required.

(2) Develop and implement a written plan and schedule to inspect and monitor the cover using the procedures specified in the applicable section of this subpart as frequently as practicable during those times when a worker can safely access the cover.

[61 FR 59960, Nov. 25, 1996]

§ 264.1086 Standards: Containers.

(a) The provisions of this section apply to the control of air pollutant emissions from containers for which § 264.1082(b) of this subpart references the use of this section for such air emission control.

(b) *General requirements.* The owner or operator shall control air pollutant emissions from each container subject to this section in accordance with the following requirements, as applicable to the container, except when the special provisions for waste stabilization processes specified in paragraph (b)(2) of this section apply to the container.

(i) For a container having a design capacity greater than 0.1 m^3 and less than or equal to 0.46 m^3, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 1 standards specified in paragraph (c) of this section.

(ii) For a container having a design capacity greater than 0.46 m^3 that is not in light material service, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 1 standards specified in paragraph (c) of this section.

(iii) For a container having a design capacity greater than 0.46 m^3 that is in light material service, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 2 standards specified in paragraph (d) of this section.

(2) When a container having a design capacity greater than 0.1 m^3 is used for treatment of a hazardous waste by a waste stabilization process, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 3 standards specified in paragraph (e) of this section at those times during the waste stabilization process when the hazardous waste in the container is exposed to the atmosphere.

(c) *Container Level 1 standards.* A container using Container Level 1 controls is one of the following:

(i) A container that meets the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as specified in paragraph (f) of this section.

(ii) A container equipped with a cover and closure devices that form a continuous barrier over the container openings such that when the cover and closure devices are secured in the closed position there are no visible holes, gaps, or other open spaces into the interior of the container. The cover may be a separate cover installed on the container (e.g., a lid on a drum or a suitably secured tarp on a roll-off box) or may be an integral part of the container structural design (e.g., a ''portable tank'' or bulk cargo container equipped with a screw-type cap).

(iii) An open-top container in which an organic-vapor suppressing barrier is placed on or over the hazardous waste in the container such that no hazardous waste is exposed to the atmosphere. One example of such a barrier is application of a suitable organic-vapor suppressing foam.

(2) A container used to meet the requirements of paragraph (c)(1)(ii) or (c)(1)(iii) of this section shall be equipped with covers and closure devices, as applicable to the container, that are composed of suitable materials to minimize exposure of the hazardous waste to the atmosphere and to maintain the equipment integrity for as long as it is in service. Factors to be considered in selecting the materials of construction and designing the cover and closure devices shall include: Organic vapor permeability, the effects of contact with the hazardous waste or its vapor managed in the container; the effects of outdoor exposure of the closure device or cover material to wind, moisture, and sunlight; and the operating practices for which the container is intended to be used.

(3) Whenever a hazardous waste is in a container using Container Level 1 controls, the owner or operator shall install all covers and closure devices for the container, as applicable to the container, and secure and maintain each closure device in the closed position except as follows:

(i) Opening of a closure device or cover is allowed for the purpose of adding hazardous waste or other material to the container as follows:

(A) In the case when the container is filled to the intended final level in one continuous operation, the owner or operator shall promptly secure the closure devices in the closed position and install the covers, as applicable to the container, upon conclusion of the filling operation.

(B) In the case when discrete quantities or batches of material intermittently are added to the container over a period of time, the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon either the container being filled to the intended final level; the completion of a batch loading after which no additional material will be added to the container within 15 minutes; the person performing the loading operation leaving the immediate vicinity of the container; or the shutdown of the process generating the material being added to the container, whichever condition occurs first.

(ii) Opening of a closure device or cover is allowed for the purpose of removing hazardous waste from the container as follows:

(A) For the purpose of meeting the requirements of this section, an empty container as defined in 40 CFR 261.7(b) may be open to the atmosphere at any time (i.e., covers and closure devices are not required to be secured in the closed position on an empty container).

(B) In the case when discrete quantities or batches of material are removed from the container but the container does not meet the conditions to be an empty container as defined in 40 CFR 261.7(b), the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon the completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first.

(iii) Opening of a closure device or cover is allowed when access inside the container is needed to perform routine activities other than transfer of hazardous waste. Examples of such activities include those times when a worker needs to open a port to measure the depth of or sample the material in the container, or when a worker needs to open a manhole hatch to access equipment inside the container. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable to the container.

(iv) Opening of a spring-loaded pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the internal pressure of the container in accordance with the container design specifications. The device shall be designed to operate with no detectable organic emissions when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the internal pressure of the container is within the internal pressure operating range determined by the owner or operator based on container manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the internal pressure of the container exceeds the internal pressure operating range for the container as a result of loading operations or diurnal ambient temperature fluctuations.

(v) Opening of a safety device, as defined in 40 CFR 265.1081, is allowed at

any time conditions require doing so to avoid an unsafe condition.

(4) The owner or operator of containers using Container Level 1 controls shall inspect the containers and their covers and closure devices as follows:

(i) In the case when a hazardous waste already is in the container at the time the owner or operator first accepts possession of the container at the facility and the container is not emptied (i.e., does not meet the conditions for an empty container as specified in 40 CFR 261.7(b)) within 24 hours after the container is accepted at the facility, the owner or operator shall visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (c)(4)(iii) of this section.

(ii) In the case when a container used for managing hazardous waste remains at the facility for a period of 1 year or more, the owner or operator shall visually inspect the container and its cover and closure devices initially and thereafter, at least once every 12 months, to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (c)(4)(iii) of this section.

(iii) When a defect is detected for the container, cover, or closure devices, the owner or operator shall make first efforts at repair of the defect no later than 24 hours after detection and repair shall be completed as soon as possible but no later than 5 calendar days after detection. If repair of a defect cannot be completed within 5 calendar days, then the hazardous waste shall be removed from the container and the container shall not be used to manage hazardous waste until the defect is repaired.

(5) The owner or operator shall maintain at the facility a copy of the procedure used to determine that containers with capacity of 0.46 m^3 or greater, which do not meet applicable DOT regulations as specified in paragraph (f) of this section, are not managing hazardous waste in light material service.

(d) *Container Level 2 standards.* A container using Container Level 2 controls is one of the following:

(i) A container that meets the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as specified in paragraph (f) of this section.

(ii) A container that operates with no detectable organic emissions as defined in 40 CFR 265.1081 and determined in accordance with the procedure specified in paragraph (g) of this section.

(iii) A container that has been demonstrated within the preceding 12 months to be vapor-tight by using 40 CFR part 60, appendix A, Method 27 in accordance with the procedure specified in paragraph (h) of this section.

(2) Transfer of hazardous waste in or out of a container using Container Level 2 controls shall be conducted in such a manner as to minimize exposure of the hazardous waste to the atmosphere, to the extent practical, considering the physical properties of the hazardous waste and good engineering and safety practices for handling flammable, ignitable, explosive, reactive, or other hazardous materials. Examples of container loading procedures that the EPA considers to meet the requirements of this paragraph include using any one of the following: a submerged-fill pipe or other submerged-fill method to load liquids into the container; a vapor-balancing system or a vapor-recovery system to collect and control the vapors displaced from the container during filling operations; or a fitted opening in the top of a container through which the hazardous waste is filled and subsequently purging the transfer line before removing it from the container opening.

(3) Whenever a hazardous waste is in a container using Container Level 2 controls, the owner or operator shall install all covers and closure devices for the container, and secure and maintain each closure device in the closed position except as follows:

(i) Opening of a closure device or cover is allowed for the purpose of adding hazardous waste or other material to the container as follows:

(A) In the case when the container is filled to the intended final level in one continuous operation, the owner or operator shall promptly secure the closure devices in the closed position and install the covers, as applicable to the container, upon conclusion of the filling operation.

(B) In the case when discrete quantities or batches of material intermittently are added to the container over a period of time, the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon either the container being filled to the intended final level; the completion of a batch loading after which no additional material will be added to the container within 15 minutes; the person performing the loading operation leaving the immediate vicinity of the container; or the shutdown of the process generating the material being added to the container, whichever condition occurs first.

(ii) Opening of a closure device or cover is allowed for the purpose of removing hazardous waste from the container as follows:

(A) For the purpose of meeting the requirements of this section, an empty container as defined in 40 CFR 261.7(b) may be open to the atmosphere at any time (i.e., covers and closure devices are not required to be secured in the closed position on an empty container).

(B) In the case when discrete quantities or batches of material are removed from the container but the container does not meet the conditions to be an empty container as defined in 40 CFR 261.7(b), the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon the completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first.

(iii) Opening of a closure device or cover is allowed when access inside the container is needed to perform routine activities other than transfer of hazardous waste.

Examples of such activities include those times when a worker needs to open a port to measure the depth of or sample the material in the container, or when a worker needs to open a manhole hatch to access equipment inside the container. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable to the container.

(iv) Opening of a spring-loaded, pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the internal pressure of the container in accordance with the container design specifications. The device shall be designed to operate with no detectable organic emission when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the internal pressure of the container is within the internal pressure operating range determined by the owner or operator based on container manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the internal pressure of the container exceeds the internal pressure operating range for the container as a result of loading operations or diurnal ambient temperature fluctuations.

(v) Opening of a safety device, as defined in 40 CFR 265.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(4) The owner or operator of containers using Container Level 2 controls shall inspect the containers and their covers and closure devices as follows:

(i) In the case when a hazardous waste already is in the container at the time the owner or operator first accepts possession of the container at the facility and the container is not emptied (i.e., does not meet the conditions for an empty container as specified in 40 CFR 261.7(b)) within 24 hours after the container arrives at the facility, the owner or operator shall visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (d)(4)(iii) of this section.

(ii) In the case when a container used for managing hazardous waste remains at the facility for a period of 1 year or more, the owner or operator shall visually inspect the container and its cover and closure devices initially and thereafter, at least once every 12 months, to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (d)(4)(iii) of this section.

(iii) When a defect is detected for the container, cover, or closure devices, the owner or operator shall make first efforts at repair of the defect no later than 24 hours after detection, and repair shall be completed as soon as possible but no later than 5 calendar days after detection. If repair of a defect cannot be completed within 5 calendar days, then the hazardous waste shall be removed from the container and the container shall not be used to manage hazardous waste until the defect is repaired.

(e) *Container Level 3 standards.* A container using Container Level 3 controls is one of the following:

(i) A container that is vented directly through a closed-vent system to a control device in accordance with the requirements of paragraph (e)(2)(ii) of this section.

(ii) A container that is vented inside an enclosure which is exhausted through a closed-vent system to a control device in accordance with the requirements of paragraphs (e)(2)(i) and (e)(2)(ii) of this section.

(2) The owner or operator shall meet the following requirements, as applicable to the type of air emission control equipment selected by the owner or operator:

(i) The container enclosure shall be designed and operated in accordance with the criteria for a permanent total enclosure as specified in ''Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure'' under 40 CFR 52.741, appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of containers through the enclosure by conveyor or other mechanical means; entry of permanent mechanical or electrical equipment; or direct airflow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in Section 5.0 to ''Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure'' initially when the enclosure is first installed and, thereafter, annually.

(ii) The closed-vent system and control device shall be designed and operated in accordance with the requirements of § 264.1087 of this subpart.

(3) Safety devices, as defined in 40 CFR 265.1081, may be installed and operated as necessary on any container, enclosure, closed-vent system, or control device used to comply with the requirements of paragraph (e)(1) of this section.

(4) Owners and operators using Container Level 3 controls in accordance with the provisions of this subpart shall inspect and monitor the closed-vent systems and control devices as specified in § 264.1087 of this subpart.

(5) Owners and operators that use Container Level 3 controls in accordance with the provisions of this subpart shall prepare and maintain the records specified in § 264.1089(d) of this subpart.

(f) For the purpose of compliance with paragraph (c)(1)(i) or (d)(1)(i) of this section, containers shall be used

that meet the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as follows:

(1) The container meets the applicable requirements specified in 49 CFR part 178—Specifications for Packaging or 49 CFR part 179—Specifications for Tank Cars.

(2) Hazardous waste is managed in the container in accordance with the applicable requirements specified in 49 CFR part 107, subpart B—Exemptions; 49 CFR part 172—Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements; 49 CFR part 173—Shippers—General Requirements for Shipments and Packages; and 49 CFR part 180—Continuing Qualification and Maintenance of Packagings.

(3) For the purpose of complying with this subpart, no exceptions to the 49 CFR part 178 or part 179 regulations are allowed except as provided for in paragraph (f)(4) of this section.

(4) For a lab pack that is managed in accordance with the requirements of 49 CFR part 178 for the purpose of complying with this subpart, an owner or operator may comply with the exceptions for combination packagings specified in 49 CFR 173.12(b).

(g) The owner or operator shall use the procedure specified in §264.1083(d) of this subpart for determining a container operates with no detectable organic emissions for the purpose of complying with paragraph (d)(1)(ii) of this section.

(1) Each potential leak interface (i.e., a location where organic vapor leakage could occur) on the container, its cover, and associated closure devices, as applicable to the container, shall be checked. Potential leak interfaces that are associated with containers include, but are not limited to: The interface of the cover rim and the container wall; the periphery of any opening on the container or container cover and its associated closure device; and the sealing seat interface on a spring-loaded pressure-relief valve.

(2) The test shall be performed when the container is filled with a material having a volatile organic concentration representative of the range of volatile organic concentrations for the hazardous wastes expected to be managed in this type of container. During the test, the container cover and closure devices shall be secured in the closed position.

(h) Procedure for determining a container to be vapor-tight using Method 27 of 40 CFR part 60, appendix A for the purpose of complying with paragraph (d)(1)(iii) of this section.

(1) The test shall be performed in accordance with Method 27 of 40 CFR part 60, appendix A of this chapter.

(2) A pressure measurement device shall be used that has a precision of ± 2.5 mm water and that is capable of measuring above the pressure at which the container is to be tested for vapor tightness.

(3) If the test results determined by Method 27 indicate that the container sustains a pressure change less than or equal to 750 Pascals within 5 minutes after it is pressurized to a minimum of 4,500 Pascals, then the container is determined to be vapor-tight.

[61 FR 59962, Nov. 25, 1996]

§264.1087 Standards: Closed-vent systems and control devices.

(a) This section applies to each closed-vent system and control device installed and operated by the owner or operator to control air emissions in accordance with standards of this subpart.

(b) The closed-vent system shall meet the following requirements:

(1) The closed-vent system shall route the gases, vapors, and fumes emitted from the hazardous waste in the waste management unit to a control device that meets the requirements specified in paragraph (c) of this section.

(2) The closed-vent system shall be designed and operated in accordance with the requirements specified in §264.1033(k) of this part.

(3) In the case when the closed-vent system includes bypass devices that could be used to divert the gas or vapor stream to the atmosphere before entering the control device, each bypass device shall be equipped with either a flow indicator as specified in paragraph (b)(3)(i) of this section or a seal or

locking device as specified in paragraph (b)(3)(ii) of this section. For the purpose of complying with this paragraph, low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, spring loaded pressure relief valves, and other fittings used for safety purposes are not considered to be bypass devices.

(i) If a flow indicator is used to comply with paragraph (b)(3) of this section, the indicator shall be installed at the inlet to the bypass line used to divert gases and vapors from the closed-vent system to the atmosphere at a point upstream of the control device inlet. For this paragraph, a flow indicator means a device which indicates the presence of either gas or vapor flow in the bypass line.

(ii) If a seal or locking device is used to comply with paragraph (b)(3) of this section, the device shall be placed on the mechanism by which the bypass device position is controlled (e.g., valve handle, damper lever) when the bypass device is in the closed position such that the bypass device cannot be opened without breaking the seal or removing the lock. Examples of such devices include, but are not limited to, a car-seal or a lock-and-key configuration valve. The owner or operator shall visually inspect the seal or closure mechanism at least once every month to verify that the bypass mechanism is maintained in the closed position.

(4) The closed-vent system shall be inspected and monitored by the owner or operator in accordance with the procedure specified in § 264.1033(l).

(c) The control device shall meet the following requirements:

(1) The control device shall be one of the following devices:

(i) A control device designed and operated to reduce the total organic content of the inlet vapor stream vented to the control device by at least 95 percent by weight;

(ii) An enclosed combustion device designed and operated in accordance with the requirements of § 264.1033(c) of this part; or

(iii) A flare designed and operated in accordance with the requirements of § 264.1033(d) of this part.

(2) The owner or operator who elects to use a closed-vent system and control device to comply with the requirements of this section shall comply with the requirements specified in paragraphs (c)(2)(i) through (c)(2)(vi) of this section.

(i) Periods of planned routine maintenance of the control device, during which the control device does not meet the specifications of paragraphs (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this section, as applicable, shall not exceed 240 hours per year.

(ii) The specifications and requirements in paragraphs (c)(1)(i), (c)(1)(ii), and (c)(1)(iii) of this section for control devices do not apply during periods of planned routine maintenance.

(iii) The specifications and requirements in paragraphs (c)(1)(i), (c)(1)(ii), and (c)(1)(iii) of this section for control devices do not apply during a control device system malfunction.

(iv) The owner or operator shall demonstrate compliance with the requirements of paragraph (c)(2)(i) of this section (i.e., planned routine maintenance of a control device, during which the control device does not meet the specifications of paragraphs (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this section, as applicable, shall not exceed 240 hours per year) by recording the information specified in § 264.1089(e)(1)(v) of this subpart.

(v) The owner or operator shall correct control device system malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of air pollutants.

(vi) The owner or operator shall operate the closed-vent system such that gases, vapors, or fumes are not actively vented to the control device during periods of planned maintenance or control device system malfunction (i.e., periods when the control device is not operating or not operating normally) except in cases when it is necessary to vent the gases, vapors, and/or fumes to avoid an unsafe condition or to implement malfunction corrective actions or planned maintenance actions.

(3) The owner or operator using a carbon adsorption system to comply with paragraph (c)(1) of this section shall operate and maintain the control device in accordance with the following requirements:

(i) Following the initial startup of the control device, all activated carbon in the control device shall be replaced with fresh carbon on a regular basis in accordance with the requirements of §264.1033(g) or §264.1033(h) of this part.

(ii) All carbon removed from the control device shall be managed in accordance with the requirements of 40 CFR 264.1033(n).

(4) An owner or operator using a control device other than a thermal vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system to comply with paragraph (c)(1) of this section shall operate and maintain the control device in accordance with the requirements of §264.1033(j) of this part.

(5) The owner or operator shall demonstrate that a control device achieves the performance requirements of paragraph (c)(1) of this section as follows:

(i) An owner or operator shall demonstrate using either a performance test as specified in paragraph (c)(5)(iii) of this section or a design analysis as specified in paragraph (c)(5)(iv) of this section the performance of each control device except for the following:

(A) A flare;

(B) A boiler or process heater with a design heat input capacity of 44 megawatts or greater;

(C) A boiler or process heater into which the vent stream is introduced with the primary fuel;

(D) A boiler or industrial furnace burning hazardous waste for which the owner or operator has been issued a final permit under 40 CFR part 270 and has designed and operates the unit in accordance with the requirements of 40 CFR part 266, subpart H; or

(E) A boiler or industrial furnace burning hazardous waste for which the owner or operator has designed and operates in accordance with the interim status requirements of 40 CFR part 266, subpart H.

(ii) An owner or operator shall demonstrate the performance of each flare in accordance with the requirements specified in §264.1033(e).

(iii) For a performance test conducted to meet the requirements of paragraph (c)(5)(i) of this section, the owner or operator shall use the test methods and procedures specified in §264.1034(c)(1) through (c)(4).

(iv) For a design analysis conducted to meet the requirements of paragraph (c)(5)(i) of this section, the design analysis shall meet the requirements specified in §264.1035(b)(4)(iii).

(v) The owner or operator shall demonstrate that a carbon adsorption system achieves the performance requirements of paragraph (c)(1) of this section based on the total quantity of organics vented to the atmosphere from all carbon adsorption system equipment that is used for organic adsorption, organic desorption or carbon regeneration, organic recovery, and carbon disposal.

(6) If the owner or operator and the Regional Administrator do not agree on a demonstration of control device performance using a design analysis then the disagreement shall be resolved using the results of a performance test performed by the owner or operator in accordance with the requirements of paragraph (c)(5)(iii) of this section. The Regional Administrator may choose to have an authorized representative observe the performance test.

(7) The control device shall be inspected and monitored by the owner or operator in accordance with the procedures specified in 40 CFR 264.1033(f)(2) and 40 CFR 264.1033(l). The readings from each monitoring device required by 40 CFR 264.1033(f)(2) shall be inspected at least once each operating day to check control device operation. Any necessary corrective measures shall be immediately implemented to ensure the control device is operated in compliance with the requirements of this section.

[59 FR 62927, Dec. 6, 1994, as amended at 61 FR 4913, Feb. 9, 1996; 61 FR 59965, Nov. 25, 1996]

§264.1088 Inspection and monitoring requirements.

(a) The owner or operator shall inspect and monitor air emission control equipment used to comply with this subpart in accordance with the applicable requirements specified in §264.1084 through §264.1087 of this subpart.

(b) The owner or operator shall develop and implement a written plan

and schedule to perform the inspections and monitoring required by paragraph (a) of this section. The owner or operator shall incorporate this plan and schedule into the facility inspection plan required under 40 CFR 264.15.

[61 FR 59966, Nov. 25, 1996]

§ 264.1089 Recordkeeping requirements.

(a) Each owner or operator of a facility subject to requirements in this subpart shall record and maintain the information specified in paragraphs (b) through (i) of this section, as applicable to the facility. Except for air emission control equipment design documentation and information required by paragraph (i) of this section, records required by this section shall be maintained in the operating record for a minimum of 3 years. Air emission control equipment design documentation shall be maintained in the operating record until the air emission control equipment is replaced or otherwise no longer in service. Information required by paragraph (i) of this section shall be maintained in the operating record for as long as the tank or container is not using air emission controls specified in §§ 264.1084 through 264.1087 of this subpart in accordance with the conditions specified in § 264.1084(d) of this subpart.

(b) The owner or operator of a tank using air emission controls in accordance with the requirements of § 264.1084 of this subpart shall prepare and maintain records for the tank that include the following information:

(1) For each tank using air emission controls in accordance with the requirements of § 264.1084 of this subpart, the owner or operator shall record:

(i) A tank identification number (or other unique identification description as selected by the owner or operator).

(ii) A record for each inspection required by § 264.1084 of this subpart that includes the following information:

(A) Date inspection was conducted.

(B) For each defect detected during the inspection, the following information: The location of the defect, a description of the defect, the date of detection, and corrective action taken to repair the defect. In the event that repair of the defect is delayed in accordance with the provisions of § 264.1084 of this subpart, the owner or operator shall also record the reason for the delay and the date that completion of repair of the defect is expected.

(2) In addition to the information required by paragraph (b)(1) of this section, the owner or operator shall record the following information, as applicable to the tank:

(i) The owner or operator using a fixed roof to comply with the Tank Level 1 control requirements specified in § 264.1084(c) of this subpart shall prepare and maintain records for each determination for the maximum organic vapor pressure of the hazardous waste in the tank performed in accordance with the requirements of § 264.1084(c) of this subpart. The records shall include the date and time the samples were collected, the analysis method used, and the analysis results.

(ii) The owner or operator using an internal floating roof to comply with the Tank Level 2 control requirements specified in § 264.1084(e) of this subpart shall prepare and maintain documentation describing the floating roof design.

(iii) Owners and operators using an external floating roof to comply with the Tank Level 2 control requirements specified in § 264.1084(f) of this subpart shall prepare and maintain the following records:

(A) Documentation describing the floating roof design and the dimensions of the tank.

(B) Records for each seal gap inspection required by § 264.1084(f)(3) of this subpart describing the results of the seal gap measurements. The records shall include the date that the measurements were performed, the raw data obtained for the measurements, and the calculations of the total gap surface area. In the event that the seal gap measurements do not conform to the specifications in § 264.1084(f)(1) of this subpart, the records shall include a description of the repairs that were made, the date the repairs were made, and the date the tank was emptied, if necessary.

(iv) Each owner or operator using an enclosure to comply with the Tank Level 2 control requirements specified in § 264.1084(i) of this subpart shall prepare and maintain the following records:

(A) Records for the most recent set of calculations and measurements performed by the owner or operator to verify that the enclosure meets the criteria of a permanent total enclosure as specified in ''Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure'' under 40 CFR 52.741, appendix B.

(B) Records required for the closed-vent system and control device in accordance with the requirements of paragraph (e) of this section.

(c) The owner or operator of a surface impoundment using air emission controls in accordance with the requirements of §264.1085 of this subpart shall prepare and maintain records for the surface impoundment that include the following information:

(1) A surface impoundment identification number (or other unique identification description as selected by the owner or operator).

(2) Documentation describing the floating membrane cover or cover design, as applicable to the surface impoundment, that includes information prepared by the owner or operator or provided by the cover manufacturer or vendor describing the cover design, and certification by the owner or operator that the cover meets the specifications listed in §264.1085(c) of this subpart.

(3) A record for each inspection required by §264.1085 of this subpart that includes the following information:

(i) Date inspection was conducted.

(ii) For each defect detected during the inspection the following information: The location of the defect, a description of the defect, the date of detection, and corrective action taken to repair the defect. In the event that repair of the defect is delayed in accordance with the provisions of §264.1085(f) of this subpart, the owner or operator shall also record the reason for the delay and the date that completion of repair of the defect is expected.

(4) For a surface impoundment equipped with a cover and vented through a closed-vent system to a control device, the owner or operator shall prepare and maintain the records specified in paragraph (e) of this section.

(d) The owner or operator of containers using Container Level 3 air emission controls in accordance with the requirements of §264.1086 of this subpart shall prepare and maintain records that include the following information:

(1) Records for the most recent set of calculations and measurements performed by the owner or operator to verify that the enclosure meets the criteria of a permanent total enclosure as specified in ''Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure'' under 40 CFR 52.741, appendix B.

(2) Records required for the closed-vent system and control device in accordance with the requirements of paragraph (e) of this section.

(e) The owner or operator using a closed-vent system and control device in accordance with the requirements of §264.1087 of this subpart shall prepare and maintain records that include the following information:

(1) Documentation for the closed-vent system and control device that includes:

(i) Certification that is signed and dated by the owner or operator stating that the control device is designed to operate at the performance level documented by a design analysis as specified in paragraph (e)(1)(ii) of this section or by performance tests as specified in paragraph (e)(1)(iii) of this section when the tank, surface impoundment, or container is or would be operating at capacity or the highest level reasonably expected to occur.

(ii) If a design analysis is used, then design documentation as specified in 40 CFR 264.1035(b)(4). The documentation shall include information prepared by the owner or operator or provided by the control device manufacturer or vendor that describes the control device design in accordance with 40 CFR 264.1035(b)(4)(iii) and certification by the owner or operator that the control equipment meets the applicable specifications.

(iii) If performance tests are used, then a performance test plan as specified in 40 CFR 264.1035(b)(3) and all test results.

(iv) Information as required by 40 CFR 264.1035(c)(1) and 40 CFR 264.1035(c)(2), as applicable.

(v) An owner or operator shall record, on a semiannual basis, the information

specified in paragraphs (e)(1)(v)(A) and (e)(1)(v)(B) of this section for those planned routine maintenance operations that would require the control device not to meet the requirements of § 264.1087(c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this subpart, as applicable.

(A) A description of the planned routine maintenance that is anticipated to be performed for the control device during the next 6-month period. This description shall include the type of maintenance necessary, planned frequency of maintenance, and lengths of maintenance periods.

(B) A description of the planned routine maintenance that was performed for the control device during the previous 6-month period. This description shall include the type of maintenance performed and the total number of hours during those 6 months that the control device did not meet the requirements of § 264.1087 (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this subpart, as applicable, due to planned routine maintenance.

(vi) An owner or operator shall record the information specified in paragraphs (e)(1)(vi)(A) through (e)(1)(vi)(C) of this section for those unexpected control device system malfunctions that would require the control device not to meet the requirements of § 264.1087 (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this subpart, as applicable.

(A) The occurrence and duration of each malfunction of the control device system.

(B) The duration of each period during a malfunction when gases, vapors, or fumes are vented from the waste management unit through the closed-vent system to the control device while the control device is not properly functioning.

(C) Actions taken during periods of malfunction to restore a malfunctioning control device to its normal or usual manner of operation.

(vii) Records of the management of carbon removed from a carbon adsorption system conducted in accordance with § 264.1087(c)(3)(ii) of this subpart.

(f) The owner or operator of a tank, surface impoundment, or container exempted from standards in accordance with the provisions of § 264.1082(c) of this subpart shall prepare and maintain the following records, as applicable:

(1) For tanks, surface impoundments, or containers exempted under the hazardous waste organic concentration conditions specified in § 264.1082 (c)(1) or (c)(2) of this subpart, the owner or operator shall record the information used for each waste determination (e.g., test results, measurements, calculations, and other documentation) in the facility operating log. If analysis results for waste samples are used for the waste determination, then the owner or operator shall record the date, time, and location that each waste sample is collected in accordance with applicable requirements of § 264.1083 of this subpart.

(2) For tanks, surface impoundments, or containers exempted under the provisions of § 264.1082(c)(2)(vii) or § 264.1082(c)(2)(viii) of this subpart, the owner or operator shall record the identification number for the incinerator, boiler, or industrial furnace in which the hazardous waste is treated.

(g) An owner or operator designating a cover as ''unsafe to inspect and monitor'' pursuant to § 264.1084(l) or § 264.1085(g) of this subpart shall record in a log that is kept in the facility operating record the following information: The identification numbers for waste management units with covers that are designated as ''unsafe to inspect and monitor,'' the explanation for each cover stating why the cover is unsafe to inspect and monitor, and the plan and schedule for inspecting and monitoring each cover.

(h) The owner or operator of a facility that is subject to this subpart and to the control device standards in 40 CFR part 60, subpart VV, or 40 CFR part 61, subpart V, may elect to demonstrate compliance with the applicable sections of this subpart by documentation either pursuant to this subpart, or pursuant to the provisions of 40 CFR part 60, subpart VV or 40 CFR part 61, subpart V, to the extent that the documentation required by 40 CFR parts 60 or 61 duplicates the documentation required by this section.

(i) For each tank or container not using air emission controls specified in §§ 264.1084 through 264.1087 of this subpart in accordance with the conditions

specified in §264.1080(d) of this subpart, the owner or operator shall record and maintain the following information:

(1) A list of the individual organic peroxide compounds manufactured at the facility that meet the conditions specified in §264.1080(d)(1).

(2) A description of how the hazardous waste containing the organic peroxide compounds identified in paragraph (i)(1) of this section are managed at the facility in tanks and containers. This description shall include:

(i) For the tanks used at the facility to manage this hazardous waste, sufficient information shall be provided to describe for each tank: A facility identification number for the tank; the purpose and placement of this tank in the management train of this hazardous waste; and the procedures used to ultimately dispose of the hazardous waste managed in the tanks.

(ii) For containers used at the facility to manage these hazardous wastes, sufficient information shall be provided to describe: A facility identification number for the container or group of containers; the purpose and placement of this container, or group of containers, in the management train of this hazardous waste; and the procedures used to ultimately dispose of the hazardous waste handled in the containers.

(3) An explanation of why managing the hazardous waste containing the organic peroxide compounds identified in paragraph (i)(1) of this section in the tanks and containers as described in paragraph (i)(2) of this section would create an undue safety hazard if the air emission controls, as required under §§264.1084 through 264.1087 of this subpart, are installed and operated on these waste management units. This explanation shall include the following information:

(i) For tanks used at the facility to manage these hazardous wastes, sufficient information shall be provided to explain: How use of the required air emission controls on the tanks would affect the tank design features and facility operating procedures currently used to prevent an undue safety hazard during the management of this hazardous waste in the tanks; and why installation of safety devices on the required air emission controls, as allowed under this subpart, will not address those situations in which evacuation of tanks equipped with these air emission controls is necessary and consistent with good engineering and safety practices for handling organic peroxides.

(ii) For containers used at the facility to manage these hazardous wastes, sufficient information shall be provided to explain: How use of the required air emission controls on the containers would affect the container design features and handling procedures currently used to prevent an undue safety hazard during the management of this hazardous waste in the containers; and why installation of safety devices on the required air emission controls, as allowed under this subpart, will not address those situations in which evacuation of containers equipped with these air emission controls is necessary and consistent with good engineering and safety practices for handling organic peroxides.

[61 FR 59966, Nov. 25, 1996]

§264.1090 Reporting requirements.

(a) Each owner or operator managing hazardous waste in a tank, surface impoundment, or container exempted from using air emission controls under the provisions of §264.1082(c) of this subpart shall report to the Regional Administrator each occurrence when hazardous waste is placed in the waste management unit in noncompliance with the conditions specified in §264.1082 (c)(1) or (c)(2) of this subpart, as applicable. Examples of such occurrences include placing in the waste management unit a hazardous waste having an average VO concentration equal to or greater than 500 ppmw at the point of waste origination; or placing in the waste management unit a treated hazardous waste of which the organic content has been reduced by an organic destruction or removal process that fails to achieve the applicable conditions specified in §264.1082 (c)(2)(i) through (c)(2)(vi) of this subpart. The owner or operator shall submit a written report within 15 calendar days of the time that the owner or operator becomes aware of the occurrence. The written report shall contain the EPA identification number, facility name

and address, a description of the noncompliance event and the cause, the dates of the noncompliance, and the actions taken to correct the noncompliance and prevent recurrence of the noncompliance. The report shall be signed and dated by an authorized representative of the owner or operator.

(b) Each owner or operator using air emission controls on a tank in accordance with the requirements § 264.1084(c) of this subpart shall report to the Regional Administrator each occurrence when hazardous waste is managed in the tank in noncompliance with the conditions specified in § 264.1084(b) of this subpart. The owner or operator shall submit a written report within 15 calendar days of the time that the owner or operator becomes aware of the occurrence. The written report shall contain the EPA identification number, facility name and address, a description of the noncompliance event and the cause, the dates of the noncompliance, and the actions taken to correct the noncompliance and prevent recurrence of the noncompliance. The report shall be signed and dated by an authorized representative of the owner or operator.

(c) Each owner or operator using a control device in accordance with the requirements of § 264.1087 of this subpart shall submit a semiannual written report to the Regional Administrator excepted as provided for in paragraph (d) of this section. The report shall describe each occurrence during the previous 6-month period when either: (1) A control device is operated continuously for 24 hours or longer in noncompliance with the applicable operating values defined in § 264.1035(c)(4); or (2) A flare is operated with visible emissions for 5 minutes or longer in a two-hour period, as defined in § 264.1033(d). The report shall describe each occurrence during the previous 6-month period when a control device is operated continuously for 24 hours or longer in noncompliance with the applicable operating values defined in § 264.1035(c)(4) or when a flare is operated with visible emissions as defined in § 264.1033(d). The written report shall include the EPA identification number, facility name and address, and an explanation why the control device could not be returned to compliance within 24 hours, and actions taken to correct the noncompliance. The report shall be signed and dated by an authorized representative of the owner or operator.

(d) A report to the Regional Administrator in accordance with the requirements of paragraph (c) of this section is not required for a 6-month period during which all control devices subject to this subpart are operated by the owner or operator such that:

(1) During no period of 24 hours or longer did a control device operate continuously in noncompliance with the applicable operating values defined in § 264.1035(c)(4); and

(2) No flare was operated with visible emissions for 5 minutes or longer in a two-hour period, as defined in § 264.1033(d).

[59 FR 62927, Dec. 6, 1994, as amended at 61 FR 4913, Feb. 9, 1996; 61 FR 59968, Nov. 25, 1996]

§ 264.1091 [Reserved]

Subpart DD—Containment Buildings

SOURCE: 57 FR 37265, Aug. 18, 1992, unless otherwise noted.

§ 264.1100 Applicability.

The requirements of this subpart apply to owners or operators who store or treat hazardous waste in units designed and operated under § 264.1101 of this subpart. These provisions will become effective on February 18, 1993, although owner or operator may notify the Regional Administrator of his intent to be bound by this subpart at an earlier time. The owner or operator is not subject to the definition of land disposal in RCRA section 3004(k) provided that the unit:

(a) Is a completely enclosed, self-supporting structure that is designed and constructed of manmade materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the unit, and to prevent failure due to pressure gradients, settlement, compression, or uplift, physical contact with the hazardous wastes to which they are exposed; climatic conditions; and the

stresses of daily operation, including the movement of heavy equipment within the unit and contact of such equipment with containment walls;

(b) Has a primary barrier that is designed to be sufficiently durable to withstand the movement of personnel, wastes, and handling equipment within the unit;

(c) If the unit is used to manage liquids, has:

(1) A primary barrier designed and constructed of materials to prevent migration of hazardous constituents into the barrier;

(2) A liquid collection system designed and constructed of materials to minimize the accumulation of liquid on the primary barrier; and

(3) A secondary containment system designed and constructed of materials to prevent migration of hazardous constituents into the barrier, with a leak detection and liquid collection system capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time, unless the unit has been granted a variance from the secondary containment system requirements under §264.1101(b)(4);

(d) Has controls sufficient to prevent fugitive dust emissions to meet the no visible emission standard in §264.1101(c)(1)(iv); and

(e) Is designed and operated to ensure containment and prevent the tracking of materials from the unit by personnel or equipment.

§264.1101 Design and operating standards.

(a) All containment buildings must comply with the following design standards:

(1) The containment building must be completely enclosed with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation, wind, run-on), and to assure containment of managed wastes.

(2) The floor and containment walls of the unit, including the secondary containment system if required under paragraph (b) of this section, must be designed and constructed of materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the unit, and to prevent failure due to pressure gradients, settlement, compression, or uplift, physical contact with the hazardous wastes to which they are exposed; climatic conditions; and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of such equipment with containment walls. The unit must be designed so that it has sufficient structural strength to prevent collapse or other failure. All surfaces to be in contact with hazardous wastes must be chemically compatible with those wastes. EPA will consider standards established by professional organizations generally recognized by the industry such as the American Concrete Institute (ACI) and the American Society of Testing Materials (ASTM) in judging the structural integrity requirements of this paragraph. If appropriate to the nature of the waste management operation to take place in the unit, an exception to the structural strength requirement may be made for light-weight doors and windows that meet these criteria:

(i) They provide an effective barrier against fugitive dust emissions under paragraph (c)(1)(iv); and

(ii) The unit is designed and operated in a fashion that assures that wastes will not actually come in contact with these openings.

(3) Incompatible hazardous wastes or treatment reagents must not be placed in the unit or its secondary containment system if they could cause the unit or secondary containment system to leak, corrode, or otherwise fail.

(4) A containment building must have a primary barrier designed to withstand the movement of personnel, waste, and handling equipment in the unit during the operating life of the unit and appropriate for the physical and chemical characteristics of the waste to be managed.

(b) For a containment building used to manage hazardous wastes containing free liquids or treated with free liquids (the presence of which is determined by the paint filter test, a visual examination, or other appropriate means), the owner or operator must include:

(1) A primary barrier designed and constructed of materials to prevent the

migration of hazardous constituents into the barrier (e.g., a geomembrane covered by a concrete wear surface).

(2) A liquid collection and removal system to minimize the accumulation of liquid on the primary barrier of the containment building:

(i) The primary barrier must be sloped to drain liquids to the associated collection system; and

(ii) Liquids and waste must be collected and removed to minimize hydraulic head on the containment system at the earliest practicable time.

(3) A secondary containment system including a secondary barrier designed and constructed to prevent migration of hazardous constituents into the barrier, and a leak detection system that is capable of detecting failure of the primary barrier and collecting accumulated hazardous wastes and liquids at the earliest practicable time.

(i) The requirements of the leak detection component of the secondary containment system are satisfied by installation of a system that is, at a minimum:

(A) Constructed with a bottom slope of 1 percent or more; and

(B) Constructed of a granular drainage material with a hydraulic conductivity of 1×10^{-2} cm/sec or more and a thickness of 12 inches (30.5 cm) or more, or constructed of synthetic or geonet drainage materials with a transmissivity of 3×10^{-5} m^2/sec or more.

(ii) If treatment is to be conducted in the building, an area in which such treatment will be conducted must be designed to prevent the release of liquids, wet materials, or liquid aerosols to other portions of the building.

(iii) The secondary containment system must be constructed of materials that are chemically resistant to the waste and liquids managed in the containment building and of sufficient strength and thickness to prevent collapse under the pressure exerted by overlaying materials and by any equipment used in the containment building. (Containment buildings can serve as secondary containment systems for tanks placed within the building under certain conditions. A containment building can serve as an external liner system for a tank, provided it meets the requirements of § 264.193(d)(1). In addition, the containment building must meet the requirements of § 264.193(b) and §§ 264.193(c) (1) and (2) to be considered an acceptable secondary containment system for a tank.)

(4) For existing units other than 90-day generator units, the Regional Administrator may delay the secondary containment requirement for up to two years, based on a demonstration by the owner or operator that the unit substantially meets the standards of this subpart. In making this demonstration, the owner or operator must:

(i) Provide written notice to the Regional Administrator of their request by November 16, 1992. This notification must describe the unit and its operating practices with specific reference to the performance of existing containment systems, and specific plans for retrofitting the unit with secondary containment;

(ii) Respond to any comments from the Regional Administrator on these plans within 30 days; and

(iii) Fulfill the terms of the revised plans, if such plans are approved by the Regional Administrator.

(c) Owners or operators of all containment buildings must:

(1) Use controls and practices to ensure containment of the hazardous waste within the unit; and, at a minimum:

(i) Maintain the primary barrier to be free of significant cracks, gaps, corrosion, or other deterioration that could cause hazardous waste to be released from the primary barrier;

(ii) Maintain the level of the stored/treated hazardous waste within the containment walls of the unit so that the height of any containment wall is not exceeded;

(iii) Take measures to prevent the tracking of hazardous waste out of the unit by personnel or by equipment used in handling the waste. An area must be designated to decontaminate equipment and any rinsate must be collected and properly managed; and

(iv) Take measures to control fugitive dust emissions such that any openings (doors, windows, vents, cracks, etc.) exhibit no visible emissions (see 40 CFR part 60, appendix A, Method 22—Visual Determination of Fugitive Emissions from Material Sources and

Smoke Emissions from Flares). In addition, all associated particulate collection devices (e.g., fabric filter, electrostatic precipitator) must be operated and maintained with sound air pollution control practices (see 40 CFR part 60 subpart 292 for guidance). This state of no visible emissions must be maintained effectively at all times during routine operating and maintenance conditions, including when vehicles and personnel are entering and exiting the unit.

(2) Obtain certification by a qualified registered professional engineer that the containment building design meets the requirements of paragraphs (a) through (c) of this section. For units placed into operation prior to February 18, 1993, this certification must be placed in the facility's operating record (on-site files for generators who are not formally required to have operating records) no later than 60 days after the date of initial operation of the unit. After February 18, 1993, PE certification will be required prior to operation of the unit.

(3) Throughout the active life of the containment building, if the owner or operator detects a condition that could lead to or has caused a release of hazardous waste, must repair the condition promptly, in accordance with the following procedures.

(i) Upon detection of a condition that has lead to a release of hazardous waste (e.g., upon detection of leakage from the primary barrier) the owner or operator must:

(A) Enter a record of the discovery in the facility operating record;

(B) Immediately remove the portion of the containment building affected by the condition from service;

(C) Determine what steps must be taken to repair the containment building, remove any leakage from the secondary collection system, and establish a schedule for accomplishing the clean-up and repairs; and

(D) Within 7 days after the discovery of the condition, notify the Regional Administrator of the condition, and within 14 working days, provide a written notice to the Regional Administrator with a description of the steps taken to repair the containment building, and the schedule for accomplishing the work.

(ii) The Regional Administrator will review the information submitted, make a determination regarding whether the containment building must be removed from service completely or partially until repairs and cleanup are complete, and notify the owner or operator of the determination and the underlying rationale in writing.

(iii) Upon completing all repairs and cleanup the owner or operator must notify the Regional Administrator in writing and provide a verification, signed by a qualified, registered professional engineer, that the repairs and cleanup have been completed according to the written plan submitted in accordance with paragraph (c)(3)(i)(D) of this section.

(4) Inspect and record in the facility's operating record, at least once every seven days, data gathered from monitoring equipment and leak detection equipment as well as the containment building and the area immediately surrounding the containment building to detect signs of releases of hazardous waste.

(d) For containment buildings that contain areas both with and without secondary containment, the owner or operator must:

(1) Design and operate each area in accordance with the requirements enumerated in paragraphs (a) through (c) of this section;

(2) Take measures to prevent the release of liquids or wet materials into areas without secondary containment; and

(3) Maintain in the facility's operating log a written description of the operating procedures used to maintain the integrity of areas without secondary containment.

(e) Notwithstanding any other provision of this subpart the Regional Administrator may waive requirements for secondary containment for a permitted containment building where the owner operator demonstrates that the only free liquids in the unit are limited amounts of dust suppression liquids required to meet occupational health and

safety requirements, and where containment of managed wastes and liquids can be assured without a secondary containment system.

§ 264.1102 Closure and post-closure care.

(a) At closure of a containment building, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.,) contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless § 261.3(d) of this chapter applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for containment buildings must meet all of the requirements specified in subparts G and H of this part.

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must close the facility and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills (§ 264.310). In addition, for the purposes of closure, post-closure, and financial responsibility, such a containment building is then considered to be a landfill, and the owner or operator must meet all of the requirements for landfills specified in subparts G and H of this part.

§§ 264.1103—264.1110 [Reserved]

Subpart EE—Hazardous Waste Munitions and Explosives Storage

SOURCE: 62 FR 6652, Feb. 12, 1997, unless otherwise noted.

EFFECTIVE DATE NOTE: At 62 FR 6652, Feb. 12, 1997, subpart EE was added, effective Aug. 12, 1997.

§ 264.1200 Applicability.

The requirements of this subpart apply to owners or operators who store munitions and explosive hazardous wastes, except as § 264.1 provides otherwise. (NOTE: Depending on explosive hazards, hazardous waste munitions and explosives may also be managed in other types of storage units, including containment buildings (40 CFR part 264, subpart DD), tanks (40 CFR part 264, subpart J), or containers (40 CFR part 264, subpart I); See 40 CFR 266.205 for storage of waste military munitions).

§ 264.1201 Design and operating standards.

(a) Hazardous waste munitions and explosives storage units must be designed and operated with containment systems, controls, and monitoring, that:

(1) Minimize the potential for detonation or other means of release of hazardous waste, hazardous constituents, hazardous decomposition products, or contaminated run-off, to the soil, ground water, surface water, and atmosphere;

(2) Provide a primary barrier, which may be a container (including a shell) or tank, designed to contain the hazardous waste;

(3) For wastes stored outdoors, provide that the waste and containers will not be in standing precipitation;

(4) For liquid wastes, provide a secondary containment system that assures that any released liquids are contained and promptly detected and removed from the waste area, or vapor detection system that assures that any released liquids or vapors are promptly detected and an appropriate response taken (e.g., additional containment, such as overpacking, or removal from the waste area); and

(5) Provide monitoring and inspection procedures that assure the controls and containment systems are working as designed and that releases that may adversely impact human health or the environment are not escaping from the unit.

(b) Hazardous waste munitions and explosives stored under this subpart may be stored in one of the following:

(1) *Earth-covered magazines.* Earth-covered magazines must be:

(i) Constructed of waterproofed, reinforced concrete or structural steel

arches, with steel doors that are kept closed when not being accessed;

(ii) Designed and constructed:

(A) To be of sufficient strength and thickness to support the weight of any explosives or munitions stored and any equipment used in the unit;

(B) To provide working space for personnel and equipment in the unit; and

(C) To withstand movement activities that occur in the unit; and

(iii) Located and designed, with walls and earthen covers that direct an explosion in the unit in a safe direction, so as to minimize the propagation of an explosion to adjacent units and to minimize other effects of any explosion.

(2) *Above-ground magazines.* Above-ground magazines must be located and designed so as to minimize the propagation of an explosion to adjacent units and to minimize other effects of any explosion.

(3) *Outdoor or open storage areas.* Outdoor or open storage areas must be located and designed so as to minimize the propagation of an explosion to adjacent units and to minimize other effects of any explosion.

(c) Hazardous waste munitions and explosives must be stored in accordance with a Standard Operating Procedure specifying procedures to ensure safety, security, and environmental protection. If these procedures serve the same purpose as the security and inspection requirements of 40 CFR 264.14, the preparedness and prevention procedures of 40 CFR part 264, subpart C, and the contingency plan and emergency procedures requirements of 40 CFR part 264, subpart D, then these procedures will be used to fulfill those requirements.

(d) Hazardous waste munitions and explosives must be packaged to ensure safety in handling and storage.

(e) Hazardous waste munitions and explosives must be inventoried at least annually.

(f) Hazardous waste munitions and explosives and their storage units must be inspected and monitored as necessary to ensure explosives safety and to ensure that there is no migration of contaminants out of the unit.

§ 264.1202 Closure and post-closure care.

(a) At closure of a magazine or unit which stored hazardous waste under this subpart, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components, contaminated subsoils, and structures and equipment contaminated with waste, and manage them as hazardous waste unless § 261.3(d) of this chapter applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for magazines or units must meet all of the requirements specified in subparts G and H of this part, except that the owner or operator may defer closure of the unit as long as it remains in service as a munitions or explosives magazine or storage unit.

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he or she must close the facility and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills (§ 264.310).

APPENDICES TO PART 264

APPENDIX I TO PART 264—RECORDKEEPING INSTRUCTIONS

The recordkeeping provisions of § 264.73 specify that an owner or operator must keep a written operating record at his facility. This appendix provides additional instructions for keeping *portions* of the operating record. See § 264.73(b) for additional recordkeeping requirements.

The following information must be recorded, as it becomes available, and maintained in the operating record until closure of the facility in the following manner:

Records of each hazardous waste received, treated, stored, or disposed of at the facility which include the following:

(1) A description by its common name and the EPA Hazardous Waste Number(s) from part 261 of this chapter which apply to the waste. The waste description also must include the waste's physical form, i.e., liquid, sludge, solid, or contained gas. If the waste

is not listed in part 261, subpart D, of this chapter, the description also must include the process that produced it (for example, solid filter cake from production of ——, EPA Hazardous Waste Number W051).

Each hazardous waste listed in part 261, subpart D, of this chapter, and each hazardous waste characteristic defined in part 261, subpart C, of this chapter, has a four-digit EPA Hazardous Waste Number assigned to it. This number must be used for recordkeeping and reporting purposes. Where a hazardous waste contains more than one listed hazardous waste, or where more than one hazardous waste characteristic applies to the waste, the waste description must include all applicable EPA Hazardous Waste Numbers.

(2) The estimated or manifest-reported weight, or volume and density, where applicable, in one of the units of measure specified in Table 1;

TABLE 1

Unit of measure	Code [1]
Gallons	G
Gallons per Hour	E
Gallons per Day	U
Liters	L
Liters per Hour	H
Liters per Day	V
Short Tons per Hour	D
Metric Tons per Hour	W
Short Tons per Day	N
Metric Tons per Day	S
Pounds per Hour	J
Kilograms per Hour	R
Cubic Yards	Y
Cubic Meters	C
Acres	B
Acre-feet	A
Hectares	Q
Hectare-meter	F
Btu's per Hour	I

[1] Single digit symbols are used here for data processing purposes.

(3) The method(s) (by handling code(s) as specified in Table 2) and date(s) of treatment, storage, or disposal.

Table 2.—Handling Codes for Treatment, Storage and Disposal Methods

Enter the handling code(s) listed below that most closely represents the technique(s) used at the facility to treat, store or dispose of each quantity of hazardous waste received.

1. Storage

S01 Container (barrel, drum, etc.)
S02 Tank
S03 Waste Pile
S04 Surface Impoundment
S05 Drip Pad
S06 Containment Building (Storage)
S99 Other Storage (specify)

2. Treatment

(a) Thermal Treatment—

T06 Liquid injection incinerator
T07 Rotary kiln incinerator
T08 Fluidized bed incinerator
T09 Multiple hearth incinerator
T10 Infrared furnace incinerator
T11 Molten salt destructor
T12 Pyrolysis
T13 Wet air oxidation
T14 Calcination
T15 Microwave discharge
T18 Other (specify)

(b) Chemical Treatment—

T19 Absorption mound
T20 Absorption field
T21 Chemical fixation
T22 Chemical oxidation
T23 Chemical precipitation
T24 Chemical reduction
T25 Chlorination
T26 Chlorinolysis
T27 Cyanide destruction
T28 Degradation
T29 Detoxification
T30 Ion exchange
T31 Neutralization
T32 Ozonation
T33 Photolysis
T34 Other (specify)

(c) Physical Treatment—

(1) Separation of components:

T35 Centrifugation
T36 Clarification
T37 Coagulation
T38 Decanting
T39 Encapsulation
T40 Filtration
T41 Flocculation
T42 Flotation
T43 Foaming
T44 Sedimentation
T45 Thickening
T46 Ultrafiltration
T47 Other (specify)

(2) Removal of Specific Components:

T48 Absorption-molecular sieve
T49 Activated carbon
T50 Blending
T51 Catalysis
T52 Crystallization
T53 Dialysis
T54 Distillation
T55 Electrodialysis
T56 Electrolysis
T57 Evaporation
T58 High gradient magnetic separation
T59 Leaching
T60 Liquid ion exchange
T61 Liquid-liquid extraction
T62 Reverse osmosis
T63 Solvent recovery

T64 Stripping
T65 Sand filter
T66 Other (specify)

(d) Biological Treatment

T67 Activated sludge
T68 Aerobic lagoon
T69 Aerobic tank
T70 Anaerobic tank
T71 Composting
T72 Septic tank
T73 Spray irrigation
T74 Thickening filter
T75 Tricking filter
T76 Waste stabilization pond
T77 Other (specify)
T78 [Reserved]
T79 [Reserved]

(e) Boilers and Industrial Furnaces

T80 Boiler
T81 Cement Kiln
T82 Lime Kiln
T83 Aggregate Kiln
T84 Phosphate Kiln
T85 Coke Oven
T86 Blast Furnace
T87 Smelting, Melting, or Refining Furnace
T88 Titanium Dioxide Chloride Process Oxidation Reactor
T89 Methane Reforming Furnace
T90 Pulping Liquor Recovery Furnace
T91 Combustion Device Used in the Recovery of Sulfur Values from Spent Sulfuric Acid
T92 Halogen Acid Furnaces
T93 Other Industrial Furnaces Listed in 40 CFR 260.10 (specify)

(f) Other Treatment

T94 Containment Building (Treatment)

3. Disposal

D79 Underground Injection
D80 Landfill
D81 Land Treatment
D82 Ocean Disposal
D83 Surface Impoundment (to be closed as a landfill)
D99 Other Disposal (specify)

4. Miscellaneous (Subpart X)

X01 Open Burning/Open Detonation
X02 Mechanical Processing
X03 Thermal Unit
X04 Geologic Repository
X99 Other Subpart X (specify)

[45 FR 33221, May 19, 1980, as amended at 59 FR 13891, Mar. 24, 1994]

APPENDICES II—III TO PART 264—[RESERVED]

APPENDIX IV TO PART 264—COCHRAN'S APPROXIMATION TO THE BEHRENS-FISHER STUDENTS' T-TEST

Using all the available background data (n_b readings), calculate the background mean (X_b) and background variance (s_b^2). For the single monitoring well under investigation (n_m reading), calculate the monitoring mean (X_m) and monitoring variance (s_m^2).

For any set of data (X_1, X_2, . . ., X_n) the mean is calculated by:

$$\bar{X} = \frac{X_1 + X_2 \ldots + X_n}{n}$$

and the variance is calculated by:

$$s^2 = \frac{(X_1 - \bar{X})^2 + (X_2 - \bar{X})^2 \ldots + (X_n - \bar{X})^2}{n - 1}$$

where ''n'' denotes the number of observations in the set of data.

The t-test uses these data summary measures to calculate a t-statistic (t*) and a comparison t-statistic (t_c). The t* value is compared to the t_c value and a conclusion reached as to whether there has been a statistically significant change in any indicator parameter.

The t-statistic for all parameters except pH and similar monitoring parameters is:

$$t^* = \frac{X_m - \overline{X}_s}{\sqrt{\frac{S_m^2}{n_m} + \frac{S_b^2}{n_b}}}$$

If the value of this t-statistic is negative then there is no significant difference between the monitoring data and background data. It should be noted that significantly small negative values may be indicative of a failure of the assumption made for test validity or errors have been made in collecting the background data.

The t-statistic (t_c), against which t* will be compared, necessitates finding t_b and t_m from standard (one-tailed) tables where,

t_b=t-tables with ($n_b - 1$) degrees of freedom, at the 0.05 level of significance.

t_m=t-tables with ($n_m - 1$) degrees of freedom, at the 0.05 level of significance.

Finally, the special weightings W_b and W_m are defined as:

$$W_B = \frac{s_b^2}{n_b} \quad \text{and} \quad W_m = \frac{s_m^2}{n_m}$$

and so the comparison t-statistic is:

$$t_c = \frac{W_b t_b + W_m t_m}{W_b + W_m}$$

The t-statistic (t*) is now compared with the comparison t-statistic (t_c) using the following decision-rule:

If *t* is equal to or larger than* t_c, then conclude that there most likely *has been a significant increase* in this specific parameter. If *t* is less than* t_c, then conclude that most likely *there has not been a change* in this specific parameter.

The t-statistic for testing pH and similar monitoring parameters is constructed in the same manner as previously described except the negative sign (if any) is discarded and the caveat concerning the negative value is ignored. The standard (two-tailed) tables are used in the construction t_c for pH and similar monitoring parameters.

If t* is equal to or larger than t_c, then conclude that there most likely *has been a significant increase* (if the initial t* had been negative, this would imply a significant decrease). If t* is less than t_c, then conclude that there most likely has been no change.

A further discussion of the test may be found in *Statistical Methods* (6th Edition, Section 4.14) by G. W. Snedecor and W. G. Cochran, or *Principles and Procedures of Statistics* (1st Edition, Section 5.8) by R. G. D. Steel and J. H. Torrie.

STANDARD T—TABLES 0.05 LEVEL OF SIGNIFICANCE

Degrees of freedom	t-values (one-tail)	t-values (two-tail)
1	6.314	12.706
2	2.920	4.303
3	2.353	3.182
4	2.132	2.776
5	2.015	2.571
6	1.943	2.447
7	1.895	2.365
8	1.860	2.306
9	1.833	2.262
10	1.812	2.228
11	1.796	2.201
12	1.782	2.179
13	1.771	2.160
14	1.761	2.145
15	1.753	2.131
16	1.746	2.120
17	1.740	2.110
18	1.734	2.101
19	1.729	2.093
20	1.725	2.086
21	1.721	2.080
22	1.717	2.074

STANDARD T—TABLES 0.05 LEVEL OF SIGNIFICANCE—Continued

Degrees of freedom	t-values (one-tail)	t-values (two-tail)
23	1.714	2.069
24	1.711	2.064
25	1.708	2.060
30	1.697	2.042
40	1.684	2.021

Adopted from Table III of "*Statistical Tables for Biological, Agricultural, and Medical Research*" (1947, R. A. Fisher and F. Yates).

[47 FR 32367, July 26, 1982]

APPENDIX V TO PART 264—EXAMPLES OF POTENTIALLY INCOMPATIBLE WASTE

Many hazardous wastes, when mixed with other waste or materials at a hazardous waste facility, can produce effects which are harmful to human health and the environment, such as (1) heat or pressure, (2) fire or explosion, (3) violent reaction, (4) toxic dusts, mists, fumes, or gases, or (5) flammable fumes or gases.

Below are examples of potentially incompatible wastes, waste components, and materials, along with the harmful consequences which result from mixing materials in one group with materials in another group. The list is intended as a guide to owners or operators of treatment, storage, and disposal facilities, and to enforcement and permit granting officials, to indicate the need for special precautions when managing these potentially incompatible waste materials or components.

This list is not intended to be exhaustive. An owner or operator must, as the regulations require, adequately analyze his wastes so that he can avoid creating uncontrolled substances or reactions of the type listed below, whether they are listed below or not.

It is possible for potentially incompatible wastes to be mixed in a way that precludes a reaction (e.g., adding acid to water rather than water to acid) or that neutralizes them (e.g., a strong acid mixed with a strong base), or that controls substances produced (e.g., by generating flammable gases in a closed tank equipped so that ignition cannot occur, and burning the gases in an incinerator).

In the lists below, the mixing of a Group A material with a Group B material may have the potential consequence as noted.

GROUP 1–A

Acetylene sludge
Alkaline caustic liquids
Alkaline cleaner
Alkaline corrosive liquids
Alkaline corrosive battery fluid
Caustic wastewater
Lime sludge and other corrosive alkalies

Lime wastewater
Lime and water
Spent caustic

GROUP 1–B

Acid sludge
Acid and water
Battery acid
Chemical cleaners
Electrolyte, acid
Etching acid liquid or solvent
Pickling liquor and other corrosive acids
Spent acid
Spent mixed acid
Spent sulfuric acid

Potential consequences: Heat generation; violent reaction.

GROUP 2–A

Aluminum
Beryllium
Calcium
Lithium
Magnesium
Potassium
Sodium
Zinc powder
Other reactive metals and metal hydrides

GROUP 2–B

Any waste in Group 1–A or 1–B

Potential consequences: Fire or explosion; generation of flammable hydrogen gas.

GROUP 3–A

Alcohols
Water

GROUP 3–B

Any concentrated waste in Groups 1–A or 1–B
Calcium
Lithium
Metal hydrides
Potassium
SO_2Cl_2, $SOCl_2$, PCl_3, CH_3 $SiCl_3$
Other water-reactive waste

Potential consequences: Fire, explosion, or heat generation; generation of flammable or toxic gases.

GROUP 4–A

Alcohols
Aldehydes
Halogenated hydrocarbons
Nitrated hydrocarbons
Unsaturated hydrocarbons
Other reactive organic compounds and solvents

GROUP 4–B

Concentrated Group 1–A or 1–B wastes
Group 2–A wastes

Potential consequences: Fire, explosion, or violent reaction.

GROUP 5–A

Spent cyanide and sulfide solutions

GROUP 5–B

Group 1–B wastes

Potential consequences: Generation of toxic hydrogen cyanide or hydrogen sulfide gas.

GROUP 6–A

Chlorates
Chlorine
Chlorites
Chromic acid
Hypochlorites
Nitrates
Nitric acid, fuming
Perchlorates
Permanganates
Peroxides
Other strong oxidizers

GROUP 6–B

Acetic acid and other organic acids
Concentrated mineral acids
Group 2–A wastes
Group 4–A wastes
Other flammable and combustible wastes

Potential consequences: Fire, explosion, or violent reaction.

Source: ''Law, Regulations, and Guidelines for Handling of Hazardous Waste.'' California Department of Health, February 1975.
[46 FR 2872, Jan. 12, 1981]

APPENDIX VI TO PART 264—POLITICAL JURISDICTIONS[1] IN WHICH COMPLIANCE WITH §264.18(a) MUST BE DEMONSTRATED

ALASKA

Aleutian Islands
Anchorage
Bethel
Bristol Bay
Cordova-Valdez
Fairbanks-Fort Yukon
Juneau
Kenai-Cook Inlet
Ketchikan-Prince of Wales
Kodiak
Lynn Canal-Icy Straits
Palmer-Wasilla-Talkeena
Seward
Sitka
Wade Hampton
Wrangell Petersburg
Yukon-Kuskokwim

[1] These include counties, city-county consolidations, and independent cities. In the case of Alaska, the political jurisdictions are election districts, and, in the case of Hawaii, the political jurisdiction listed is the island of Hawaii.

ARIZONA

Cochise
Graham
Greenlee
Yuma

CALIFORNIA

All

COLORADO

Archuleta
Conejos
Hinsdale
Mineral
Rio Grande
Saguache

HAWAII

Hawaii

IDAHO

Bannock
Bear Lake
Bingham
Bonneville
Caribou
Cassia
Clark
Franklin
Fremont
Jefferson
Madison
Oneida
Power
Teton

MONTANA

Beaverhead
Broadwater
Cascade
Deer Lodge
Flathead
Gallatin
Granite
Jefferson
Lake
Lewis and Clark
Madison
Meagher
Missoula
Park
Powell
Sanders
Silver Bow
Stillwater
Sweet Grass
Teton
Wheatland

NEVADA

All

NEW MEXICO

Bernalillo
Catron
Grant
Hidalgo
Los Alamos
Rio Arriba
Sandoval
Sante Fe
Sierra
Socorro
Taos
Torrance
Valencia

UTAH

Beaver
Box Elder
Cache
Carbon
Davis
Duchesne
Emery
Garfield
Iron
Juab
Millard
Morgan
Piute
Rich
Salt Lake
Sanpete
Sevier
Summit
Tooele
Utah
Wasatch
Washington
Wayne
Weber

WASHINGTON

Chelan
Clallam
Clark
Cowlitz
Douglas
Ferry
Grant
Grays Harbor
Jefferson
King
Kitsap
Kittitas
Lewis
Mason
Okanogan
Pacific
Pierce
San Juan Islands
Skagit
Skamania
Snohomish
Thurston
Wahkiakum
Whatcom
Yakima

WYOMING

Fremont
Lincoln
Park
Sublette
Teton
Uinta
Yellowstone National Park

[46 FR 57285, Nov. 23, 1981; 47 FR 953, Jan. 8, 1982]

APPENDICES VII—VIII TO PART 264—[RESERVED]

APPENDIX IX TO PART 264—GROUND-WATER MONITORING LIST [1]

GROUND-WATER MONITORING LIST [1]

Common name [2]	CAS RN [3]	Chemical abstracts service index name [4]	Suggested methods [5]	PQL (µg/L) [6]
Acenaphthene	83–32–9	Acenaphthylene, 1,2-dihydro-	8100	200
			8270	10
Acenaphthylene	208–96–8	Acenaphthylene	8100	200
			8270	10
Acetone	67–64–1	2-Propanone	8240	100
Acetophenone	98–86–2	Ethanone, 1-phenyl-	8270	10
Acetonitrile; Methyl cyanide	75–05–8	Acetonitrile	8015	100
2-Acetylaminofluorene; 2-AAF	53–96–3	Acetamide, N-9H-fluoren-2-yl-	8270	10
Acrolein	107–02–8	2-Propenal	8030	5
			8240	5
Acrylonitrile	107–13–1	2-Propenenitrile	8030	5

GROUND-WATER MONITORING LIST [1]—Continued

Common name [2]	CAS RN [3]	Chemical abstracts service index name [4]	Suggested methods [5]	PQL (μg/L) [6]
			8240	5
Aldrin	309–00–2	1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro- 1,4,4a,5,8,8a-hexahydro- (1α,4α, 4aβ, 5α,8α,8aβ)-	8080	0.05
			8270	10
Allyl chloride	107–05–1	1-Propene, 3-chloro-	8010	5
			8240	100
4-Aminobiphenyl	92–67–1	[1,1′-Biphenyl]- 4-amine	8270	10
Aniline	62–53–3	Benzenamine	8270	10
Anthracene	120–12–7	Anthracene	8100	200
			8270	10
Antimony	(Total)	Antimony	6010	300
			7040	2,000
			7041	30
Aramite	140–57–8	Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester.	8270	10
Arsenic	(Total)	Arsenic	6010	500
			7060	10
			7061	20
Barium	(Total)	Barium	6010	20
			7080	1,000
Benzene	71–43–2	Benzene	8020	2
			8240	5
Benzo[a]anthracene; Benzanthracene.	56–55–3	Benz[a]anthracene	8100	200
			8270	10
Benzo[b]fluoranthene	205–99–2	Benz[e]acephenanthrylene	8100	200
			8270	10
Benzo[k]fluoranthene	207–08–9	Benzo[k]fluoranthene	8100	200
			8270	10
Benzo[ghi]perylene	191–24–2	Benzo[ghi]perylene	8100	200
			8270	10
Benzo[a]pyrene	50–32–8	Benzo[a]pyrene	8100	200
			8270	10
Benzyl alcohol	100–51–6	Benzenemethanol	8270	20
Beryllium	(Total)	Beryllium	6010	3
			7090	50
			7091	2
alpha-BHC	319–84–6	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1α, 2α,3β, 4α,5β,6β)-	8080	0.05
			8250	10
beta-BHC	319–85–7	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1α,2β, 3α,4β, 5α,6β)-	8080	0.05
			8250	40
delta-BHC	319–86–8	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1α,2α, 3α, 4β,5α,6β)-	8080	0.1
			8250	30
gamma-BHC; Lindane	58–89–9	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1α, 2α, 3β, 4α,5α,6β)-	8080	0.05
			8250	10
Bis(2-chloroethoxy)methane	111–91–1	Ethane, 1,1′-[methylenebis (oxy)]bis [2-chloro-	8270	10
Bis(2-chloroethyl)ether	111–44–4	Ethane, 1,1′-oxybis[2-chloro-	8270	10
Bis(2-chloro-1-methylethyl) ether; 2,2′-Di-chlorodiisopropyl ether.	108–60–1	Propane, 2,2′-oxybis[1-chloro-	8010	100
			8270	10
Bis(2-ethylhexyl) phthalate	117–81–7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl)ester	8060	20
			8270	10
Bromodichloromethane	75–27–4	Methane, bromodichloro-	8010	1
			8240	5
Bromoform; Tribromomethane	75–25–2	Methane, tribromo-	8010	2
			8240	5
4-Bromophenyl phenyl ether	101–55–3	Benzene, 1-bromo-4-phenoxy-	8270	10
Butyl benzyl phthalate; Benzyl butyl phthalate	85–68–7	1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester.	8060	5
			8270	10
Cadmium	(Total)	Cadmium	6010	40
			7130	50
			7131	1
Carbon disulfide	75–15–0	Carbon disulfide	8240	5
Carbon tetrachloride	56–23–5	Methane, tetrachloro-	8010	1
			8240	5
Chlordane	57–74–9	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a- hexahydro-.	8080	0.1
			8250	10

GROUND-WATER MONITORING LIST [1]—Continued

Common name [2]	CAS RN [3]	Chemical abstracts service index name [4]	Suggested methods [5]	PQL (µg/L) [6]
p-Chloroaniline	106–47–8	Benzenamine, 4-chloro-	8270	20
Chlorobenzene	108–90–7	Benzene, chloro-	8010	2
			8020	2
			8240	5
Chlorobenzilate	510–15–6	Benzeneacetic acid, 4-chloro-α-(4-chlorophenyl)-α-hydroxy-, ethyl ester.	8270	10
p-Chloro-m-cresol	59–50–7	Phenol, 4-chloro-3-methyl-	8040	5
			8270	20
Chloroethane; Ethyl chloride	75–00–3	Ethane, chloro-	8010	5
			8240	10
Chloroform	67–66–3	Methane, trichloro-	8010	0.5
			8240	5
2-Chloronaphthalene	91–58–7	Naphthalene, 2-chloro-	8120	10
			8270	10
2-Chlorophenol	95–57–8	Phenol, 2-chloro-	8040	5
			8270	10
4-Chlorophenyl phenyl ether	7005–72–3	Benzene, 1-chloro-4-phenoxy-	8270	10
Chloroprene	126–99–8	1,3-Butadiene, 2-chloro-	8010	50
			8240	5
Chromium	(Total)	Chromium	6010	70
			7190	500
			7191	10
Chrysene	218–01–9	Chrysene	8100	200
			8270	10
Cobalt	(Total)	Cobalt	6010	70
			7200	500
			7201	10
Copper	(Total)	Copper	6010	60
			7210	200
m-Cresol	108–39–4	Phenol, 3-methyl-	8270	10
o-Cresol	95–48–7	Phenol, 2-methyl-	8270	10
p-Cresol	106–44–5	Phenol, 4-methyl-	8270	10
Cyanide	57–12–5	Cyanide	9010	40
2,4-D; 2,4-Dichlorophenoxyacetic acid.	94–75–7	Acetic acid, (2,4-dichlorophenoxy)-	8150	10
4,4′-DDD	72–54–8	Benzene 1,1′-(2,2-dichloroethylidene) bis[4-chloro-	8080	0.1
			8270	10
4,4′-DDE	72–55–9	Benzene, 1,1′-(dichloroethenylidene) bis[4-chloro-	8080	0.05
			8270	10
4,4′-DDT	50–29–3	Benzene, 1,1′-(2,2,2-trichloroethylidene) bis[4-chloro-	8080	0.1
			8270	10
Diallate	2303–16–4	Carbamothioic acid, bis(1-methylethyl)- , S- (2,3-dichloro-2-propenyl) ester.	8270	10
Dibenz[a,h]anthracene	53–70–3	Dibenz[a,h]anthracene	8100	200
			8270	10
Dibenzofuran	132–64–9	Dibenzofuran	8270	10
Dibromochloromethane; Chlorodibromomethane	124–48–1	Methane, dibromochloro-	8010	1
			8240	5
1,2-Dibromo-3-chloropropane; DBCP.	96–12–8	Propane, 1,2-dibromo-3-chloro-	8010	100
			8240	5
			8270	10
1,2-Dibromoethane; Ethylene dibromide.	106–93–4	Ethane, 1,2-dibromo-	8010	10
			8240	5
Di-n-butyl phthalate	84–74–2	1,2-Benzenedicarboxylic acid, dibutyl ester	8060	5
			8270	10
o-Dichlorobenzene	95–50–1	Benzene, 1,2-dichloro-	8010	2
			8020	5
			8120	10
			8270	10
m-Dichlorobenzene	541–73–1	Benzene, 1,3–dichloro–	8010	5
			8020	5
			8120	10
			8270	10
p-Dichlorobenzene	106–46–7	Benzene, 1,4–dichloro–	8010	2
			8020	5
			8120	15
			8270	10
3,3′-Dichlorobenzidine	91–94–1	[1,1′-Biphenyl]- 4,4′- diamine, 3,3′-dichloro-	8270	20
trans-1,4-Dichloro-2-butene	110–57–6	2-Butene, 1,4-dichloro-, (E)-	8240	5

GROUND-WATER MONITORING LIST [1]—Continued

Common name [2]	CAS RN [3]	Chemical abstracts service index name [4]	Suggested methods [5]	PQL (µg/L) [6]
Dichlorodifluoromethane	75–71–8	Methane, dichlorodifluoro-	8010	10
			8240	5
1,1-Dichloroethane	75–34–3	Ethane, 1,1-dichloro-	8010	1
			8240	5
1,2-Dichloroethane; Ethylene dichloride.	107–06–2	Ethane, 1,2-dichloro–	8010	0.5
			8240	5 ...
1,1-Dichloroethylene; Vinylidene chloride.	75–35–4	Ethene, 1,1-dichloro-	8010	1
			8240	5
trans-1,2-Dichloroethylene	156–60–5	Ethene, 1,2-dichloro-, (E)-	8010	1
			8240	5
2,4-Dichlorophenol	120–83–2	Phenol, 2,4-dichloro-	8040	5
			8270	10
2,6-Dichlorophenol	87–65–0	Phenol, 2,6-dichloro-	8270	10
1,2-Dichloropropane	78–87–5	Propane, 1,2-dichloro-	8010	0.5
			8240	5 ...
cis-1,3-Dichloropropene	10061–01–5	1-Propene, 1,3-dichloro-, (Z)-	8010	20
			8240	5
trans-1,3-Dichloropropene	10061–02–6	1-Propene, 1,3-dichloro-, (E)-	8010	5
			8240	5
Dieldrin	60–57–1	2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro- 1a,2,2a,3,6,6a,7,7a- octahydro-, (1aα,2β, 2aα, 3β,6β,6aα,7β,7aα)-	8080	0.05
			8270	10
Diethyl phthalate	84–66–2	1,2-Benzenedicarboxylic acid, diethyl ester	8060	5
			8270	10
O,O-Diethyl O-2-pyrazinyl phosphorothioate; Thionazin	297–97–2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester	8270	10
Dimethoate	60–51–5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester.	8270	10
p-(Dimethylamino)azobenzene	60–11–7	Benzenamine, N,N-dimethyl-4-(phenylazo)-	8270	10
7,12-Dimethylbenz[a]anthracene	57–97–6	Benz[a]anthracene, 7,12-dimethyl-	8270	10
3,3′-Dimethylbenzidine	119–93–7	[1,1′-Biphenyl]-4,4′-diamine, 3,3′-dimethyl-	8270	10
alpha, alpha-Dimethylphenethylamine.	122–09–8	Benzeneethanamine, α,α-dimethyl-	8270	10
2,4-Dimethylphenol	105–67–9	Phenol, 2,4-dimethyl-	8040	5
			8270	10
Dimethyl phthalate	131–11–3	1,2-Benzenedicarboxylic acid, dimethyl ester	8060	5
			8270	10
m-Dinitrobenzene	99–65–0	Benzene, 1,3-dinitro-	8270	10
4,6-Dinitro-o-cresol	534–52–1	Phenol, 2-methyl-4,6-dinitro-	8040	150
			8270	50
2,4-Dinitrophenol	51–28–5	Phenol, 2,4-dinitro-	8040	150
			8270	50
2,4-Dinitrotoluene	121–14–2	Benzene, 1-methyl-2,4-dinitro-	8090	0.2
			8270	10
2,6-Dinitrotoluene	606–20–2	Benzene, 2-methyl-1,3-dinitro-	8090	0.1
			8270	10
Dinoseb; DNBP; 2-sec-Butyl-4,6-dinitrophenol	88–85–7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-	8150	1
			8270	10
Di-n-octyl phthalate	117–84–0	1,2-Benzenedicarboxylic acid, dioctyl ester	8060	30
			8270	10
1,4-Dioxane	123–91–1	1,4-Dioxane	8015	150
Diphenylamine	122–39–4	Benzenamine, N-phenyl-	8270	10
Disulfoton	298–04–4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl]ester	8140	2
			8270	10
Endosulfan I	959–98–8	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide, (3α,5aβ,6α,9α,9aβ)-.	8080	0.1
			8250	10
Endosulfan II	33213–65–9	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro- 1,5,5a,6,9,9a-hexahydro-, 3-oxide, (3α,5aα, 6β,9β, 9aα)-	8080	0.05
Endosulfan sulfate	1031–07–8	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro- 1,5,5a,6,9,9a-hexahydro-, 3,3-dioxide.	8080	0.5
			8270	10
Endrin	72–20–8	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro- 1a,2,2a,3,6,6a,7,7a- octahydro-, (1aα, 2β,2aβ, 3α,6α, 6aβ,7β, 7aα)-	8080	0.1
			8250	10
Endrin aldehyde	7421–93–4	1,2,4-Methenocyclopenta[cd]pentalene-5-carboxaldehyde, 2,2a,3,3,4,7-hexachlorodecahydro-, (1α,2β, 2aβ,4β, 4aβ,5β,6aβ,6bβ,7R*)-	8080	0.2
			8270	10
Ethylbenzene	100–41–4	Benzene, ethyl-	8020	2

GROUND-WATER MONITORING LIST [1]—Continued

Common name [2]	CAS RN [3]	Chemical abstracts service index name [4]	Suggested methods [5]	PQL (μg/L) [6]
			8240	5
Ethyl methacrylate	97–63–2	2-Propenoic acid, 2-methyl-, ethyl ester	8015	10
			8240	5
			8270	10
Ethyl methanesulfonate	62–50–0	Methanesulfonic acid, ethyl ester	8270	10
Famphur	52–85–7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl]-O,O-dimethyl ester.	8270	10
Fluoranthene	206–44–0	Fluoranthene	8100	200
			8270	10
Fluorene	86–73–7	9H-Fluorene	8100	200
			8270	10
Heptachlor	76–44–8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-	8080	0.05
			8270	10
Heptachlor epoxide	1024–57–3	2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a,-hexahydro-, (1aα,1bβ,2α,5α,5aβ,6β,6aα)	8080	1
			8270	10
Hexachlorobenzene	118–74–1	Benzene, hexachloro-	8120	0.5
			8270	10
Hexachlorobutadiene	87–68–3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	8120	5
			8270	10
Hexachlorocyclopentadiene	77–47–4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-	8120	5
			8270	10
Hexachloroethane	67–72–1	Ethane, hexachloro-	8120	0.5
			8270	10
Hexachlorophene	70–30–4	Phenol, 2,2′-methylenebis[3,4,6-trichloro-	8270	10
Hexachloropropene	1888–71–7	1–Propene, 1,1,2,3,3,3-hexachloro-	8270	10
2-Hexanone	591–78–6	2-Hexanone	8240	50
Indeno(1,2,3-cd)pyrene	193–39–5	Indeno[1,2,3-cd]pyrene	8100	200
			8270	10
Isobutyl alcohol	78–83–1	1-Propanol, 2-methyl-	8015	50
Isodrin	465–73–6	1,4,5,8-Dimethanonaphthalene,1,2,3,4,10,10-hexachloro- 1,4,4a,5,8,8a hexahydro-(1α, 4α, 4aβ, 5β, 8β,8aβ)-.	8270	10
Isophorone	78–59–1	2-Cyclohexen-1-one, 3,5,5-trimethyl-	8090	60
			8270	10
Isosafrole	120–58–1	1,3-Benzodioxole, 5-(1-propenyl)-	8270	10
Kepone	143–50–0	1,3,4-Metheno-2H-cyclobuta- [cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6- decachlorooctahydro-	8270	10
Lead	(Total)	Lead	6010	40
			7420	1,000
			7421	10
Mercury	(Total)	Mercury	7470	2
Methacrylonitrile	126–98–7	2-Propenenitrile, 2-methyl-	8015	5
			8240	5
Methapyrilene	91–80–5	1,2,Ethanediamine, N,N-dimethyl-N′-2- pyridinyl- N′-(2-thienylmethyl)-.	8270	10
Methoxychlor	72–43–5	Benzene, 1,1′-(2,2,2,trichloroethylidene)bis[4-methoxy-.	8080	2
			8270	10
Methyl bromide; Bromomethane	74–83–9	Methane, bromo-	8010	20
			8240	10
Methyl chloride; Chloromethane	74–87–3	Methane, chloro-	8010	1
			8240	10
3-Methylcholanthrene	56–49–5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-	8270	10
Methylene bromide; Dibromomethane.	74–95–3	Methane, dibromo-	8010	15
			8240	5
Methylene chloride; Dichloromethane.	75–09–2	Methane, dichloro-	8010	5
			8240	5
Methyl ethyl ketone; MEK	78–93–3	2-Butanone	8015	10
			8240	100
Methyl iodide; Iodomethane	74–88–4	Methane, iodo-	8010	40
			8240	5
Methyl methacrylate	80–62–6	2-Propenoic acid, 2-methyl-, methyl ester	8015	2
			8240	5
Methyl methanesulfonate	66–27–3	Methanesulfonic acid, methyl ester	8270	10
2-Methylnaphthalene	91–57–6	Naphthalene, 2-methyl-	8270	10
Methyl parathion; Parathion methyl.	298–00–0	Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester.	8140	0.5
			8270	10
4-Methyl-2-pentanone; Methyl isobutyl ketone.	108–10–1	2-Pentanone, 4-methyl-	8015	5
			8240	50

GROUND-WATER MONITORING LIST [1]—Continued

Common name [2]	CAS RN [3]	Chemical abstracts service index name [4]	Suggested methods [5]	PQL (µg/L) [6]
Naphthalene	91–20–3	Naphthalene	8100	200
			8270	10
1,4-Naphthoquinone	130–15–4	1,4-Naphthalenedione	8270	10
1-Naphthylamine	134–32–7	1-Naphthalenamine	8270	10
2-Naphthylamine	91–59–8	2-Naphthalenamine	8270	10
Nickel	(Total)	Nickel	6010	50
			7520	400
o-Nitroaniline	88–74–4	Benzenamine, 2-nitro-	8270	50
m-Nitroaniline	99–09–2	Benzenamine, 3-nitro-	8270	50
p-Nitroaniline	100–01–6	Benzenamine, 4-nitro-	8270	50
Nitrobenzene	98–95–3	Benzene, nitro-	8090	40
			8270	10
o-Nitrophenol	88–75–5	Phenol, 2-nitro-	8040	5
			8270	10
p-Nitrophenol	100–02–7	Phenol, 4-nitro-	8040	10
			8270	50
4-Nitroquinoline 1-oxide	56–57–5	Quinoline, 4-nitro-, 1-oxide	8270	10
N-Nitrosodi-n-butylamine	924–16–3	1-Butanamine, N-butyl-N-nitroso-	8270	10
N-Nitrosodiethylamine	55–18–5	Ethanamine, N-ethyl-N-nitroso-	8270	10
N-Nitrosodimethylamine	62–75–9	Methanamine, N-methyl-N-nitroso-	8270	10
N-Nitrosodiphenylamine	86–30–6	Benzenamine, N-nitroso-N-phenyl-	8270	10
N-Nitrosodipropylamine; Di-n-propylnitrosamine.	621–64–7	1-Propanamine, N-nitroso-N-propyl-	8270	10
N-Nitrosomethylethylamine	10595–95–6	Ethanamine, N-methyl-N-nitroso-	8270	10
N-Nitrosomorpholine	59–89–2	Morpholine, 4-nitroso-	8270	10
N-Nitrosopiperidine	100–75–4	Piperidine, 1-nitroso-	8270	10
N-Nitrosopyrrolidine	930–55–2	Pyrrolidine, 1-nitroso-	8270	10
5-Nitro-o-toluidine	99–55–8	Benzenamine, 2-methyl-5-nitro-	8270	10
Parathion	56–38–2	Phosphorothioic acid, O,O-diethyl-O-(4-nitrophenyl) ester	8270	10
Polychlorinated biphenyls; PCBs.	See Note 7	1,1′-Biphenyl, chloro derivatives	8080	50
			8250	100
Polychlorinated dibenzo-p-dioxins; PCDDs.	See Note 8	Dibenzo[b,e][1,4]dioxin, chloro derivatives	8280	0.01
Polychlorinated dibenzofurans; PCDFs.	See Note 9	Dibenzofuran, chloro derivatives	8280	0.01
Pentachlorobenzene	608–93–5	Benzene, pentachloro-	8270	10
Pentachloroethane	76–01–7	Ethane, pentachloro-	8240	5
			8270	10
Pentachloronitrobenzene	82–68–8	Benzene, pentachloronitro-	8270	10
Pentachlorophenol	87–86–5	Phenol, pentachloro-	8040	5
			8270	50
Phenacetin	62–44–2	Acetamide, N-(4-ethoxyphenyl)	8270	10
Phenanthrene	85–01–8	Phenanthrene	8100	200
			8270	10
Phenol	108–95–2	Phenol	8040	1
			8270	10
p-Phenylenediamine	106–50–3	1,4-Benzenediamine	8270	10
Phorate	298–02–2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester	8140	2
			8270	10
2-Picoline	109–06–8	Pyridine, 2-methyl-	8240	5
			8270	10
Pronamide	23950–58–5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-	8270	10
Propionitrile; Ethyl cyanide	107–12–0	Propanenitrile	8015	60
			8240	5
Pyrene	129–00–0	Pyrene	8100	200
			8270	10
Pyridine	110–86–1	Pyridine	8240	5
			8270	10
Safrole	94–59–7	1,3-Benzodioxole, 5-(2-propenyl)-	8270	10
Selenium	(Total)	Selenium	6010	750
			7740	20
			7741	20
Silver	(Total)	Silver	6010	70
			7760	100
Silvex; 2,4,5-TP	93–72–1	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-	8150	2
Styrene	100–42–5	Benzene, ethenyl-	8020	1
			8240	5
Sulfide	18496–25–8	Sulfide	9030	10,000

GROUND-WATER MONITORING LIST [1]—Continued

Common name [2]	CAS RN [3]	Chemical abstracts service index name [4]	Suggested methods [5]	PQL (µg/L) [6]
2,4,5-T; 2,4,5-Trichlorophenoxyacetic acid.	93–76–5	Acetic acid, (2,4,5- trichlorophenoxy)-	8150	2
2,3,7,8-TCDD; 2,3,7,8-Tetrachlorodibenzo-p- dioxin	1746–01–6	Dibenzo[b,e][1,4]dioxin, 2,3,7,8-tetrachloro-	8280	0.005
1,2,4,5-Tetrachlorobenzene	95–94–3	Benzene, 1,2,4,5-tetrachloro-	8270	10
1,1,1,2-Tetrachloroethane	630–20–6	Ethane, 1,1,1,2-tetrachloro-	8010	5
			8240	5
1,1,2,2-Tetrachloroethane	79–34–5	Ethane, 1,1,2,2-tetrachloro-	8010	0.5
			8240	5 ...
Tetrachloroethylene; Perchloroethylene; Tetrachloroethene.	127–18–4	Ethene, tetrachloro-	8010	0.5
			8240	5 ...
2,3,4,6-Tetrachlorophenol	58–90–2	Phenol, 2,3,4,6-tetrachloro-	8270	10
Tetraethyl dithiopyrophosphate; Sulfotepp.	3689–24–5	Thiodiphosphoric acid ($[(HO)_2P(S)]_2O$), tetraethyl ester	8270	10
Thallium	(Total)	Thallium	6010	400
			7840	1,000
			7841	10
Tin	(Total)	Tin	7870	8,000
Toluene	108–88–3	Benzene, methyl-	8020	2
			8240	5
o-Toluidine	95–53–4	Benzenamine, 2-methyl-	8270	10
Toxaphene	8001–35–2	Toxaphene	8080	2
			8250	10
1,2,4-Trichlorobenzene	120–82–1	Benzene, 1,2,4-trichloro-	8270	10
1,1,1-Trichloroethane; Methylchloroform.	71–55–6	Ethane, 1,1,1-trichloro-	8240	5
1,1,2-Trichloroethane	79–00–5	Ethane, 1,1,2-trichloro-	8010	0.2
			8240	5
Trichloroethylene; Trichloroethene.	79–01–6	Ethene, trichloro-	8010	1
			8240	5
Trichlorofluoromethane	75–69–4	Methane, trichlorofluoro-	8010	10
			8240	5
2,4,5-Trichlorophenol	95–95–4	Phenol, 2,4,5-trichloro-	8270	10
2,4,6-Trichlorophenol	88–06–2	Phenol, 2,4,6-trichloro-	8040	5
			8270	10
1,2,3-Trichloropropane	96–18–4	Propane, 1,2,3-trichloro-	8010	10
			8240	5
O,O,O-Triethyl phosphorothioate.	126–68–1	Phosphorothioic acid, O,O,O-triethyl ester	8270	10
sym-Trinitrobenzene	99–35–4	Benzene, 1,3,5-trinitro-	8270	10
Vanadium	(Total)	Vanadium	6010	80
			7910	2,000
			7911	40
Vinyl acetate	108–05–4	Acetic acid, ethenyl ester	8240	5
Vinyl chloride	75–01–4	Ethene, chloro-	8010	2
			8240	10
Xylene (total)	1330–20–7	Benzene, dimethyl-	8020	5
			8240	5
Zinc	(Total)	Zinc	6010	20
			7950	50

[1] The regulatory requirements pertain only to the list of substances; the right hand columns (Methods and PQL) are given for informational purposes only. See also footnotes 5 and 6.

[2] Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

[3] Chemical Abstracts Service registry number. Where ''Total'' is entered, all species in the ground water that contain this element are included.

[4] CAS index names are those used in the 9th Cumulative Index.

[5] Suggested methods refer to analytical procedure numbers used in the EPA publication, SW–846, ''Test Methods for Evaluating Solid Waste'', Third Edition. Analytical details can be found in SW–846 and in documentation on file at the Agency. The packed column gas chromatography methods 8010, 8020, 8030, 8040, 8060, 8080, 8090, 8110, 8120, 8140, 8150, 8240, and 8250 were promulgated methods through Update IIB of SW–846 and, as of Update III, the Agency has replaced these methods with ''capillary column GC methods'', as the suggested methods.

[6] Practical Quantitation Limits (PQLs) are the lowest concentrations of analytes in ground waters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions. The PQLs listed are generally stated to one significant figure. CAUTION: The PQL values in many cases are based only on a general estimate for the method and not on a determination for individual compounds; PQLs are not a part of the regulation.

[7] Polychlorinated biphenyls (CAS RN 1336–36–3); this category contains congener chemicals, including constituents of Aroclor-1016 (CAS RN 12674–11–2), Aroclor-1221 (CAS RN 11104–28–2), Aroclor-1232 (CAS RN 11141–16–5), Aroclor-1242 (CAS RN 53469–21–9), Aroclor-1248 (CAS RN 12672–29–6), Aroclor-1254 (CAS RN 11097–69–1), and Aroclor-1260 (CAS RN 11096–82–5). The PQL shown is an average value for PCB congeners.

[8] This category contains congener chemicals, including tetrachlorodibenzo-p-dioxins (see also 2,3,7,8-TCDD), pentachlorodibenzo-p-dioxins, and hexachlorodibenzo-p-dioxins. The PQL shown is an average value for PCDD congeners.

[9] This category contains congener chemicals, including tetrachlorodibenzofurans, pentachlorodibenzofurans, and hexachlorodibenzofurans. The PQL shown is an average value for PCDF congeners.

[52 FR 25947, July 9, 1987, as amended at 62 FR 32462, June 13, 1997]

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

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APPENDICES TO PART 265

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APPENDIX II—[RESERVED]
APPENDIX III—EPA INTERIM PRIMARY DRINKING WATER STANDARDS
APPENDIX IV—TESTS FOR SIGNIFICANCE
APPENDIX V—EXAMPLES OF POTENTIALLY INCOMPATIBLE WASTE
APPENDIX VI—COMPOUNDS WITH HENRY'S LAW CONSTANT LESS THAN 0.1 Y/X

AUTHORITY: 42 U.S.C. 6905, 6906, 6912, 6922, 6923, 6924, 6925, 6935, 6936, and 6937, unless otherwise noted.

SOURCE: 45 FR 33232, May 19, 1980, unless otherwise noted.

Subpart A—General

§ 265.1 Purpose, scope, and applicability.

(a) The purpose of this part is to establish minimum national standards that define the acceptable management of hazardous waste during the period of interim status and until certification of final closure or, if the facility is subject to post-closure requirements, until post-closure responsibilities are fulfilled.

(b) Except as provided in § 265.1080(b), the standards of this part, and of 40 CFR 264.552 and 40 CFR 264.553, apply to owners and operators of facilities that treat, store or dispose of hazardous waste who have fully complied with the requirements for interim status under section 3005(e) of RCRA and § 270.10 of this chapter until either a permit is issued under section 3005 of RCRA or until applicable part 265 closure and post-closure responsibilities are fulfilled, and to those owners and operators of facilities in existence on November 19, 1980 who have failed to provide timely notification as required by section 3010(a) of RCRA and/or failed to file Part A of the permit application as required by 40 CFR 270.10 (e) and (g). These standards apply to all treatment, storage and disposal of hazardous waste at these facilities after the effective date of these regulations, except as specifically provided otherwise in this part or part 261 of this chapter.

[*Comment:* As stated in section 3005(a) of RCRA, after the effective date of regulations under that section (i.e., parts 270 and 124 of this chapter), the treatment, storage and disposal of hazardous waste is prohibited except in accordance with a permit. Section 3005(e) of RCRA provides for the continued operation of an existing facility that meets certain conditions, until final administrative disposition of the owner's and operator's permit application is made.]

(c) The requirements of this part do not apply to:

(1) A person disposing of hazardous waste by means of ocean disposal subject to a permit issued under the Marine Protection, Research, and Sanctuaries Act;

[*Comment:* These part 265 regulations do apply to the treatment or storage of hazardous waste before it is loaded onto an ocean vessel for incineration or disposal at sea, as provided in paragraph (b) of this section.]

(2) [Reserved]

(3) The owner or operator of a POTW which treats, stores, or disposes of hazardous waste;

[*Comment:* The owner or operator of a facility under paragraphs (c)(1) through (3) of this section is subject to the requirements of part 264 of this chapter to the extent they are included in a permit by rule granted to such a person under part 122 of this chapter, or are required by § 144.14 of this chapter.]

(4) A person who treats, stores, or disposes of hazardous waste in a State with a RCRA hazardous waste program authorized under subpart A or B of part 271 of this chapter, except that the requirements of this part will continue to apply:

(i) As stated in paragraph (c)(2) of this section, if the authorized State RCRA program does not cover disposal of hazardous waste by means of underground injection; or

(ii) To a person who treats, stores, or disposes of hazardous waste in a State authorized under subpart A or B of part 271 of this chapter if the State has not been authorized to carry out the requirements and prohibitions applicable to the treatment, storage, or disposal of hazardous waste at his facility which are imposed pursuant to the Hazardous and Solid Waste Act Amendments of 1984. The requirements and prohibitions that are applicable until a

State receives authorization to carry them out include all Federal program requirements identified in §271.1(j);

(5) The owner or operator of a facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the only hazardous waste the facility treats, stores, or disposes of is excluded from regulation under this part by §261.5 of this chapter;

(6) The owner or operator of a facility managing recyclable materials described in §261.6 (a)(2), (3), and (4) of this chapter (except to the extent they are referred to in part 279 or subparts C, D, F, or G of part 266 of this chapter).

(7) A generator accumulating waste on-site in compliance with §262.34 of this chapter, except to the extent the requirements are included in §262.34 of this chapter;

(8) A farmer disposing of waste pesticides from his own use in compliance with §262.70 of this chapter; or

(9) The owner or operator of a totally enclosed treatment facility, as defined in §260.10.

(10) The owner or operator of an elementary neutralization unit or a wastewater treatment unit as defined in §260.10 of this chapter, provided that if the owner or operator is diluting hazardous ignitable (D001) wastes (other than the D001 High TOC Subcategory defined in §268.40 of this chapter, Table Treatment Standards for Hazardous Wastes), or reactive (D003) waste, to remove the characteristic before land disposal, the owner/operator must comply with the requirements set out in §265.17(b).

(11)(i) Except as provided in paragraph (c)(11)(ii) of this section, a person engaged in treatment or containment activities during immediate response to any of the following situations:

(A) A discharge of a hazardous waste;

(B) An imminent and substantial threat of a discharge of a hazardous waste;

(C) A discharge of a material which, when discharged, becomes a hazardous waste.

(D) An immediate threat to human health, public safety, property, or the environment, from the known or suspected presence of military munitions, other explosive material, or an explosive device, as determined by an explosive or munitions emergency response specialist as defined in 40 CFR 260.10.

(ii) An owner or operator of a facility otherwise regulated by this part must comply with all applicable requirements of subparts C and D.

(iii) Any person who is covered by paragraph (c)(11)(i) of this section and who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of this part and parts 122 through 124 of this chapter for those activities.

(iv) In the case of an explosives or munitions emergency response, if a Federal, State, Tribal or local official acting within the scope of his or her official responsibilities, or an explosives or munitions emergency response specialist, determines that immediate removal of the material or waste is necessary to protect human health or the environment, that official or specialist may authorize the removal of the material or waste by transporters who do not have EPA identification numbers and without the preparation of a manifest. In the case of emergencies involving military munitions, the responding military emergency response specialist's organizational unit must retain records for three years identifying the dates of the response, the responsible persons responding, the type and description of material addressed, and its disposition.

(12) A transporter storing manifested shipments of hazardous waste in containers meeting the requirements of 40 CFR 262.30 at a transfer facility for a period of ten days or less.

(13) The addition of absorbent material to waste in a container (as defined in §260.10 of this chapter) or the addition of waste to the absorbent material in a container provided that these actions occur at the time waste is first placed in the containers; and §§265.17(b), 265.171, and 265.172 are complied with.

(14) Universal waste handlers and universal waste transporters (as defined in 40 CFR 260.10) handling the wastes listed below. These handlers are

subject to regulation under 40 CFR part 273, when handling the below listed universal wastes.

(i) Batteries as described in 40 CFR 273.2;

(ii) Pesticides as described in 40 CFR 273.3; and

(iii) Thermostats as described in 40 CFR 273.4.

(d) The following hazardous wastes must not be managed at facilities subject to regulation under this part.

(1) EPA Hazardous Waste Nos. FO20, FO21, FO22, FO23, FO26, or FO27 unless:

(i) The wastewater treatment sludge is generated in a surface impoundment as part of the plant's wastewater treatment system;

(ii) The waste is stored in tanks or containers;

(iii) The waste is stored or treated in waste piles that meet the requirements of § 264.250(c) as well as all other applicable requirements of subpart L of this part;

(iv) The waste is burned in incinerators that are certified pursuant to the standards and procedures in § 265.352; or

(v) The waste is burned in facilities that thermally treat the waste in a device other than an incinerator and that are certified pursuant to the standards and procedures in § 265.383.

(e) The requirements of this part apply to owners or operators of all facilities which treat, store or dispose of hazardous waste referred to in 40 CFR part 268, and the 40 CFR part 268 standards are considered material conditions or requirements of the part 265 interim status standards.

(f) Section 266.205 of this chapter identifies when the requirements of this part apply to the storage of military munitions classified as solid waste under § 266.202 of this chapter. The treatment and disposal of hazardous waste military munitions are subject to the applicable permitting, procedural, and technical standards in 40 CFR parts 260 through 270.

[45 FR 33232, May 19, 1980]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 265.1, see the List of CFR Sections Affected in the Finding Aids section of this volume.

EFFECTIVE DATE NOTE: At 62 FR 6653, Feb. 12, 1997, paragraphs (c)(11)(i)(D), (c)(11)(iv), and (f) of § 265.1 were added, effective Aug. 12, 1997.

§§ 265.2—265.3 [Reserved]

§ 265.4 Imminent hazard action.

Notwithstanding any other provisions of these regulations, enforcement actions may be brought pursuant to section 7003 of RCRA.

Subpart B—General Facility Standards

§ 265.10 Applicability

The regulations in this subpart apply to owners and operators of all hazardous waste facilities, except as § 265.1 provides otherwise.

§ 265.11 Identification number.

Every facility owner or operator must apply to EPA for an EPA identification number in accordance with the EPA notification procedures (45 FR 12746).

§ 265.12 Required notices.

(a)(1) The owner or operator of a facility that has arranged to receive hazardous waste from a foreign source must notify the Regional Administrator in writing at least four weeks in advance of the date of the waste is expected to arrive at the facility. Notice of subsequent shipments of the same waste from the same foreign source is not required.

(2) The owner or operator of a recovery facility that has arranged to receive hazardous waste subject to 40 CFR part 262, subpart H must provide a copy of the tracking document bearing all required signatures to the notifier, to the Office of Enforcement and Compliance Assurance, Office of Compliance, Enforcement Planning, Targeting and Data Division (2222A), Environmental Protection Agency, 401 M St., SW., Washington, DC 20460 and to the competent authorities of all other concerned countries within three working days of receipt of the shipment. The original of the signed tracking document must be maintained at the facility for at least three years.

(b) Before transferring ownership or operation of a facility during its operating life, or of a disposal facility during the post-closure care period, the owner or operator must notify the new

owner or operator in writing of the requirements of this part and part 270 of this chapter. (Also see §270.72 of this chapter.)

[*Comment:* An owner's or operator's failure to notify the new owner or operator of the requirements of this part in no way relieves the new owner or operator of his obligation to comply with all applicable requirements.]

[45 FR 33232, May 19, 1980, as amended at 48 FR 14295, Apr. 1, 1983; 50 FR 4514, Jan. 31, 1985; 61 FR 16315, Apr. 12, 1996]

§265.13 General waste analysis.

(a)(1) Before an owner or operator treats, stores, or disposes of any hazardous wastes, or nonhazardous wastes if applicable under §265.113(d), he must obtain a detailed chemical and physical analysis of a representative sample of the wastes. At a minimum, the analysis must contain all the information which must be known to treat, store, or dispose of the waste in accordance with this part and part 268 of this chapter.

(2) The analysis may include data developed under part 261 of this chapter, and existing published or documented data on the hazardous waste or on waste generated from similar processes.

Comment: For example, the facility's records of analyses performed on the waste before the effective date of these regulations, or studies conducted on hazardous waste generated from processes similar to that which generated the waste to be managed at the facility, may be included in the data base required to comply with paragraph (a)(1) of this section. The owner or operator of an off-site facility may arrange for the generator of the hazardous waste to supply part of the information required by paragraph (a)(1) of this section, except as otherwise specified in 40 CFR 268.7 (b) and (c). If the generator does not supply the information, and the owner or operator chooses to accept a hazardous waste, the owner or operator is responsible for obtaining the information required to comply with this section.]

(3) The analysis must be repeated as necessary to ensure that it is accurate and up to date. At a minimum, the analysis must be repeated:

(i) When the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous wastes or non-hazardous wastes, if applicable, under §265.113(d) has changed; and

(ii) For off-site facilities, when the results of the inspection required in paragraph (a)(4) of this section indicate that the hazardous waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

(4) The owner or operator of an off-site facility must inspect and, if necessary, analyze each hazardous waste movement received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.

(b) The owner or operator must develop and follow a written waste analysis plan which describes the procedures which he will carry out to comply with paragraph (a) of this section. He must keep this plan at the facility. At a minimum, the plan must specify:

(1) The parameters for which each hazardous waste, or non-hazardous waste if applicable under §265.113(d), will be analyzed and the rationale for the selection of these parameters (i.e., how analysis for these parameters will provide sufficient information on the waste's properties to comply with paragraph (a) of this section);

(2) The test methods which will be used to test for these parameters;

(3) The sampling method which will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using either:

(i) One of the sampling methods described in appendix I of part 261 of this chapter; or

(ii) An equivalent sampling method.

[*Comment:* See §260.20(c) of this chapter for related discussion.]

(4) The frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date;

(5) For off-site facilities, the waste analyses that hazardous waste generators have agreed to supply; and

(6) Where applicable, the methods that will be used to meet the additional waste analysis requirements for specific waste management methods as specified in §§265.200, 265.225, 265.252, 265.273, 265.314, 265.341, 265.375, 265.402, 265.1034(d), 265.1063(d), 265.1084, and 268.7 of this chapter.

(7) For surface impoundments exempted from land disposal restrictions under § 268.4(a) of this chapter, the procedures and schedule for:

(i) The sampling of impoundment contents;

(ii) The analysis of test data; and,

(iii) The annual removal of residues which are not delisted under § 260.22 of this chapter or which exhibit a characteristic of hazardous waste and either:

(A) Do not meet applicable treatment standards of part 268, subpart D; or

(B) Where no treatment standards have been established;

(*1*) Such residues are prohibited from land disposal under § 268.32 or RCRA section 3004(d); or

(*2*) Such residues are prohibited from land disposal under § 268.33(f).

(8) For owners and operators seeking an exemption to the air emission standards of Subpart CC of this part in accordance with § 265.1083—

(i) If direct measurement is used for the waste determination, the procedures and schedules for waste sampling and analysis, and the results of the analysis of test data to verify the exemption.

(ii) If knowledge of the waste is used for the waste determination, any information prepared by the facility owner or operator or by the generator of the hazardous waste, if the waste is received from off-site, that is used as the basis for knowledge of the waste.

(c) For off-site facilities, the waste analysis plan required in paragraph (b) of this section must also specify the procedures which will be used to inspect and, if necessary, analyze each movement of hazardous waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper. At a minimum, the plan must describe:

(1) The procedures which will be used to determine the identity of each movement of waste managed at the facility; and

(2) The sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling.

(3) The procedures that the owner or operator of an off-site landfill receiving containerized hazardous waste will use to determine whether a hazardous waste generator or treater has added a biodegradable sorbent to the waste in the container.

[45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985; 50 FR 18374, Apr. 30, 1985; 51 FR 40638, Nov. 7, 1986; 52 FR 25788, July 8, 1987; 54 FR 33396, Aug. 14, 1989; 55 FR 22685, June 1, 1990; 55 FR 25506, June 21, 1990; 56 FR 19290, Apr. 26, 1991; 57 FR 8088, Mar. 6, 1992; 57 FR 54461, Nov. 18, 1992; 59 FR 62935, Dec. 6, 1994; 61 FR 4913, Feb. 9, 1996]

§ 265.14 Security.

(a) The owner or operator must prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of his facility, *unless:*

(1) Physical contact with the waste, structures, or equipment with the active portion of the facility will not injure unknowing or unauthorized persons or livestock which may enter the active portion of a facility, and

(2) Disturbance of the waste or equipment, by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility, will not cause a violation of the requirements of this part.

(b) Unless exempt under paragraphs (a)(1) and (2) of this section, a facility must have:

(1) A 24-hour surveillance system (e.g., television monitoring or surveillance by guards of facility personnel) which continuously monitors and controls entry onto the active portion of the facility; or

(2)(i) An artificial or natural barrier (e.g., a fence in good repair or a fence combined with a cliff), which completely surrounds the active portion of the facility; and

(ii) A means to control entry, at all times, through the gates or other entrances to the active portion of the facility (e.g., an attendant, television

monitors, locked entrance, or controlled roadway access to the facility).

[*Comment:* The requirements of paragraph (b) of this section are satisfied if the facility or plant within which the active portion is located itself has a surveillance system, or a barrier and a means to control entry, which complies with the requirements of paragraph (b)(1) or (2) of this section.]

(c) Unless exempt under paragraphs (a)(1) and (a)(2) of this section, a sign with the legend, ''Danger—Unauthorized Personnel Keep Out,'' must be posted at each entrance to the active portion of a facility, and at other locations, in sufficient numbers to be seen from any approach to this active portion. The legend must be written in English and in any other language predominant in the area surrounding the facility (e.g., facilities in counties bordering the Canadian province of Quebec must post signs in French; facilities in counties bordering Mexico must post signs in Spanish), and must be legible from a distance of at least 25 feet. Existing signs with a legend other than ''Danger—Unauthorized Personnel Keep Out'' may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous.

[*Comment:* See § 265.117(b) for discussion of security requirements at disposal facilities during the post-closure care period.]

§ 265.15 General inspection requirements.

(a) The owner or operator must inspect his facility for malfunctions and deterioration, operator errors, and discharges which may be causing—or may lead to: (1) Release of hazardous waste constituents to the environment or (2) a threat to human health. The owner or operator must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

(b)(1) The owner or operator must develop and follow a written schedule for inspecting all monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards.

(2) He must keep this schedule at the facility.

(3) The schedule must identify the types of problems (e.g., malfunctions or deterioration) which are to be looked for during the inspection (e.g., inoperative sump pump, leaking fitting, eroding dike, etc.).

(4) The frequency of inspection may vary for the items on the schedule. However, it should be based on the rate of deterioration of the equipment and the probability of an environmental or human health incident if the deterioration, malfunction, or any operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, must be inspected daily when in use. At a minimum, the inspection schedule must include the items and frequencies called for in §§ 265.174, 265.193, 265.195, 265.226, 265.260, 265.278, 265.304, 265.347, 265.377, 265.403, 265.1033, 265.1052, 265.1053, 265.1058, 265.1089, and 265.1091b where applicable.

(c) The owner or operator must remedy any deterioration or malfunction of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action must be taken immediately.

(d) The owner or operator must record inspections in an inspection log or summary. He must keep these records for at least three years from the date of inspection. At a minimum, these records must include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions.

[45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985; 57 FR 3491, Jan. 29, 1992; 59 FR 62935, Dec. 6, 1994]

§ 265.16 Personnel training.

(a)(1) Facility personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of

this part. The owner or operator must ensure that this program includes all the elements described in the document required under paragraph (d)(3) of this section.

(2) This program must be directed by a person trained in hazardous waste management procedures, and must include instruction which teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.

(3) At a minimum, the training program must be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including where applicable:

(i) Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;

(ii) Key parameters for automatic waste feed cut-off systems;

(iii) Communications or alarm systems;

(iv) Response to fires or explosions;

(v) Response to ground-water contamination incidents; and

(vi) Shutdown of operations.

(b) Facility personnel must successfuly complete the program required in paragraph (a) of this section within six months after the effective date of these regulations or six months after the date of their employment or assignment to a facility, or to a new position at a facility, whichever is later. Employees hired after the effective date of these regulations must not work in unsupervised positions until they have completed the training requirements of paragraph (a) of this section.

(c) Facility personnel must take part in an annual review of the initial training required in paragraph (a) of this section.

(d) The owner or operator must maintain the following documents and records at the facility:

(1) The job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job;

(2) A written job description for each position listed under paragraph (d)(1) of this Section. This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but must include the requisite skill, education, or other qualifications, and duties of facility personnel assigned to each position;

(3) A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under paragraph (d)(1) of this section;

(4) Records that document that the training or job experience required under paragraphs (a), (b), and (c) of this section has been given to, and completed by, facility personnel.

(e) Training records on current personnel must be kept until closure of the facility. Training records on former employees must be kept for at least three years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

[45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985]

§ 265.17 General requirements for ignitable, reactive, or incompatible wastes.

(a) The owner or operator must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including but not limited to: Open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat. While ignitable or reactive waste is being handled, the owner or operator must confine smoking and open flame to specially designated locations. ''No Smoking'' signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

(b) Where specifically required by other sections of this part, the treatment, storage, or disposal of ignitable or reactive waste, and the mixture or commingling of incompatible wastes, or incompatible wastes and materials, must be conducted so that it does not:

(1) Generate extreme heat or pressure, fire or explosion, or violent reaction;

(2) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health;

(3) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;

(4) Damage the structural integrity of the device or facility containing the waste; or

(5) Through other like means threaten human health or the environment.

§ 265.18 Location standards.

The placement of any hazardous waste in a salt dome, salt bed formation, underground mine or cave is prohibited, except for the Department of Energy Waste Isolation Pilot Project in New Mexico.

[50 FR 28749, July 15, 1985]

§ 265.19 Construction quality assurance program.

(a) *CQA program.* (1) A construction quality assurance (CQA) program is required for all surface impoundment, waste pile, and landfill units that are required to comply with §§ 265.221(a), 265.254, and 265.301(a). The program must ensure that the constructed unit meets or exceeds all design criteria and specifications in the permit. The program must be developed and implemented under the direction of a CQA officer who is a registered professional engineer.

(2) The CQA program must address the following physical components, where applicable:

(i) Foundations;

(ii) Dikes;

(iii) Low-permeability soil liners;

(iv) Geomembranes (flexible membrane liners);

(v) Leachate collection and removal systems and leak detection systems; and

(vi) Final cover systems.

(b) *Written CQA plan.* Before construction begins on a unit subject to the CQA program under paragraph (a) of this section, the owner or operator must develop a written CQA plan. The plan must identify steps that will be used to monitor and document the quality of materials and the condition and manner of their installation. The CQA plan must include:

(1) Identification of applicable units, and a description of how they will be constructed.

(2) Identification of key personnel in the development and implementation of the CQA plan, and CQA officer qualifications.

(3) A description of inspection and sampling activities for all unit components identified in paragraph (a)(2) of this section, including observations and tests that will be used before, during, and after construction to ensure that the construction materials and the installed unit components meet the design specifications. The description must cover: Sampling size and locations; frequency of testing; data evaluation procedures; acceptance and rejection criteria for construction materials; plans for implementing corrective measures; and data or other information to be recorded and retained in the operating record under § 265.73.

(c) *Contents of program.* (1) The CQA program must include observations, inspections, tests, and measurements sufficient to ensure:

(i) Structural stability and integrity of all components of the unit identified in paragraph (a)(2) of this section;

(ii) Proper construction of all components of the liners, leachate collection and removal system, leak detection system, and final cover system, according to permit specifications and good engineering practices, and proper installation of all components (e.g., pipes) according to design specifications;

(iii) Conformity of all materials used with design and other material specifications under §§ 264.221, 264.251, and 264.301 of this chapter.

(2) The CQA program shall include test fills for compacted soil liners, using the same compaction methods as in the full-scale unit, to ensure that the liners are constructed to meet the hydraulic conductivity requirements of §§ 264.221(c)(1), 264.251(c)(1), and 264.301(c)(1) of this chapter in the field.

Compliance with the hydraulic conductivity requirements must be verified by using in-situ testing on the constructed test fill. The test fill requirement is waived where data are sufficient to show that a constructed soil liner meets the hydraulic conductivity requirements of §§ 264.221(c)(1), 264.254(c)(1), and 264.301(c)(1) of this chapter in the field.

(d) *Certification.* The owner or operator of units subject to § 265.19 must submit to the Regional Administrator by certified mail or hand delivery, at least 30 days prior to receiving waste, a certification signed by the CQA officer that the CQA plan has been successfully carried out and that the unit meets the requirements of §§ 265.221(a), 265.254, or 265.301(a). The owner or operator may receive waste in the unit after 30 days from the Regional Administrator's receipt of the CQA certification unless the Regional Administrator determines in writing that the construction is not acceptable, or extends the review period for a maximum of 30 more days, or seeks additional information from the owner or operator during this period. Documentation supporting the CQA officer's certification must be furnished to the Regional Administrator upon request.

[57 FR 3491, Jan. 29, 1992]

Subpart C—Preparedness and Prevention

§ 265.30 Applicability.

The regulations in this subpart apply to owners and operators of all hazardous waste facilities, except as § 265.1 provides otherwise.

§ 265.31 Maintenance and operation of facility.

Facilities must be maintained and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

§ 265.32 Required equipment.

All facilities must be equipped with the following, *unless* none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below:

(a) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;

(b) A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams;

(c) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and

(d) Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.

§ 265.33 Testing and maintenance of equipment.

All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.

§ 265.34 Access to communications or alarm system.

(a) Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, *unless* such a device is not required under § 265.32.

(b) If there is ever just one employee on the premises while the facility is operating, he must have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance, *unless* such a device is not required under § 265.32.

§265.35 Required aisle space.

The owner or operator must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, *unless* aisle space is not needed for any of these purposes.

§265.36 [Reserved]

§265.37 Arrangements with local authorities.

(a) The owner or operator must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations:

(1) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes;

(2) Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;

(3) Agreements with State emergency response teams, emergency response contractors, and equipment suppliers; and

(4) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

(b) Where State or local authorities decline to enter into such arrangements, the owner or operator must document the refusal in the operating record.

Subpart D—Contingency Plan and Emergency Procedures

§265.50 Applicability.

The regulations in this subpart apply to owners and operators of all hazardous waste facilities, except as §265.1 provides otherwise.

§265.51 Purpose and implementation of contingency plan.

(a) Each owner or operator must have a contingency plan for his facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.

(b) The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

[45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985]

§265.52 Content of contingency plan.

(a) The contingency plan must describe the actions facility personnel must take to comply with §§265.51 and 265.56 in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility.

(b) If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with part 112 of this chapter, or part 1510 of chapter V, or some other emergency or contingency plan, he need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this part.

(c) The plan must describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and State and local emergency response teams to coordinate

emergency services, pursuant to § 265.37.

(d) The plan must list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see § 265.55), and this list must be kept up to date. Where more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates.

(e) The plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(f) The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires).

[45 FR 33232, May 19, 1980, as amended at 46 FR 27480, May 20, 1981; 50 FR 4514, Jan. 31, 1985]

§ 265.53 Copies of contingency plan.

A copy of the contingency plan and all revisions to the plan must be:

(a) Maintained at the facility; and

(b) Submitted to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide emergency services.

[45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985]

§ 265.54 Amendment of contingency plan.

The contingency plan must be reviewed, and immediately amended, if necessary, whenever:

(a) Applicable regulations are revised;

(b) The plan fails in an emergency;

(c) The facility changes—in its design, construction, operation, maintenance, or other circumstances—in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;

(d) The list of emergency coordinators changes; or

(e) The list of emergency equipment changes.

[45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985]

§ 265.55 Emergency coordinator.

At all times, there must be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.

[*Comment:* The emergency coordinator's responsibilities are more fully spelled out in § 265.56. Applicable responsibilities for the emergency coordinator vary, depending on factors such as type and variety of waste(s) handled by the facility, and type and complexity of the facility.]

§ 265.56 Emergency procedures.

(a) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately:

(1) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

(2) Notify appropriate State or local agencies with designated response roles if their help is needed.

(b) Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and a

real extent of any released materials. He may do this by observation or review of facility records or manifests and, if necessary, by chemical analysis.

(c) Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-offs from water or chemical agents used to control fire and heat-induced explosions).

(d) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he must report his findings as follows:

(1) If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and

(2) He must immediately notify either the government official designated as the on-scene coordinator for that geographical area (in the applicable regional contingency plan under part 1510 of this title), or the National Response Center (using their 24-hour toll free number 800/424–8802). The report must include:

(i) Name and telephone number of reporter;

(ii) Name and address of facility;

(iii) Time and type of incident (e.g., release, fire);

(iv) Name and quantity of material(s) involved, to the extent known;

(v) The extent of injuries, if any; and

(vi) The possible hazards to human health, or the environment, outside the facility.

(e) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers.

(f) If the facility stops operations in response to a fire, explosion or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

(g) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

[*Comment:* Unless the owner or operator can demonstrate, in accordance with § 261.3(c) or (d) of this chapter, that the recovered material is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of parts 262, 263, and 265 of this chapter.]

(h) The emergency coordinator must ensure that, in the affected area(s) of the facility:

(1) No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and

(2) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

(i) The owner or operator must notify the Regional Administrator, and appropriate State and local authorities, that the facility is in compliance with paragraph (h) of this section before operations are resumed in the affected area(s) of the facility.

(j) The owner or operator must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, he must submit a written report on the incident to the Regional Administrator. The report must include:

(1) Name, address, and telephone number of the owner or operator;

(2) Name, address, and telephone number of the facility;

(3) Date, time, and type of incident (e.g., fire, explosion);

(4) Name and quantity of material(s) involved;

(5) The extent of injuries, if any;

(6) An assessment of actual or potential hazards to human health or the environment, where this is applicable; and

(7) Estimated quantity and disposition of recovered material that resulted from the incident.

[45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985]

Subpart E—Manifest System, Recordkeeping, and Reporting

§ 265.70 Applicability.

The regulations in this subpart apply to owners and operators of both on-site and off-site facilities, except as § 265.1 provides otherwise. Sections 265.71, 265.72, and 265.76 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources, and to owners and operators of off-site facilities with respect to waste military munitions exempted from manifest requirements under § 266.203(a) of this chapter.

[62 FR 6653, Feb. 12, 1997]

EFFECTIVE DATE NOTE: At 62 FR 6653, Feb. 12, 1997, § 265.70 was revised, effective Aug. 12, 1997. For the convenience of the user, the superseded text is set forth as follows:

§ 265.70 Applicability.

The regulations in this subpart apply to owners and operators of both on-site and off-site facilities, except as § 265.1 provides otherwise. Sections 265.71, 265.72, and 265.76 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources.

§ 265.71 Use of manifest system.

(a) If a facility receives hazardous waste accompanied by a manifest, the owner or operator, or his agent, must:

(1) Sign and date each copy of the manifest to certify that the hazardous waste covered by the manifest was received;

(2) Note any significant discrepancies in the manifest (as defined in § 265.72(a)) on each copy of the manifest;

[*Comment*: The Agency does not intend that the owner or operator of a facility whose procedures under § 265.13(c) include waste analysis must perform that analysis before signing the manifest and giving it to the transporter. Section 265.72(b), however, requires reporting an unreconciled discrepancy discovered during later analysis.]

(3) Immediately give the transporter at least one copy of the signed manifest;

(4) Within 30 days after the delivery, send a copy of the manifest to the generator; and

(5) Retain at the facility a copy of each manifest for at least three years from the date of delivery.

(b) If a facility receives, from a rail or water (bulk shipment) transporter, hazardous waste which is accompanied by a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator's certification, and signatures), the owner or operator, or his agent, must:

(1) Sign and date each copy of the manifest or shipping paper (if the manifest has not been received) to certify that the hazardous waste covered by the manifest or shipping paper was received;

(2) Note any significant discrepancies (as defined in § 265.72(a)) in the manifest or shipping paper (if the manifest has not been received) on each copy of the manifest or shipping paper;

[*Comment:* The Agency does not intend that the owner or operator of a facility whose procedures under § 265.13(c) include waste analysis must perform that analysis before signing the shipping paper and giving it to the transporter. Section 265.72(b), however, requires reporting an unreconciled discrepancy discovered during later analysis.]

(3) Immediately give the rail or water (bulk shipment) transporter at least one copy of the manifest or shipping paper (if the manifest has not been received);

(4) Within 30 days after the delivery, send a copy of the signed and dated manifest to the generator; however, if the manifest has not been received within 30 days after delivery, the owner or operator, or his agent, must send a

copy of the shipping paper signed and dated to the generator; and

[*Comment:* Section 262.23(c) of this chapter requires the generator to send three copies of the manifest to the facility when hazardous waste is sent by rail or water (bulk shipment).]

(5) Retain at the facility a copy of the manifest and shipping paper (if signed in lieu of the manifest at the time of delivery) for at least three years from the date of delivery.

(c) Whenever a shipment of hazardous waste is initiated from a facility, the owner or operator of that facility must comply with the requirements of part 262 of this chapter.

[*Comment:* The provisions of §262.34 are applicable to the on-site accumulation of hazardous wastes by generators. Therefore, the provisions of §262.34 only apply to owners or operators who are shipping hazardous waste which they generated at that facility.]

(d) Within three working days of the receipt of a shipment subject to 40 CFR part 262, subpart H, the owner or operator of facility must provide a copy of the tracking document bearing all required signatures to the notifier, to the Office of Enforcement and Compliance Assurance, Office of Compliance, Enforcement Planning, Targeting and Data Division (2222A), Environmental Protection Agency, 401 M St., SW., Washington, DC 20460, and to competent authorities of all other concerned countries. The original copy of the tracking document must be maintained at the facility for at least three years from the date of signature.

[45 FR 33232, May 19, 1980, as amended at 45 FR 86970, 86974, Dec. 31, 1980; 50 FR 4514, Jan. 31, 1985; 61 FR 16315, Apr. 12, 1996]

§265.72 Manifest discrepancies.

(a) Manifest discrepancies are differences between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity or type of hazardous waste a facility actually receives. Significant discrepancies in quantity are: (1) For bulk waste, variations greater than 10 percent in weight, and (2) for batch waste, any variation in piece count, such as a discrepancy of one drum in a truckload. Significant discrepancies in type are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper.

(b) Upon discovering a significant discrepancy, the owner or operator must attempt to reconcile the discrepancy with the waste generator or transporter (e.g., with telephone conversations). If the discrepancy is not resolved within 15 days after receiving the waste, the owner or operator must immediately submit to the Regional Administrator a letter describing the discrepancy and attempts to reconcile it, and a copy of the manifest or shipping paper at issue.

[45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985]

§265.73 Operating record.

(a) The owner or operator must keep a written operating record at his facility.

(b) The following information must be recorded, as it becomes available, and maintained in the operating record until closure of the facility:

(1) A description and the quantity of each hazardous waste received, and the method(s) and date(s) of its treatment, storage, or disposal at the facility as required by appendix I;

(2) The location of each hazardous waste within the facility and the quantity at each location. For disposal facilities, the location and quantity of each hazardous waste must be recorded on a map or diagram of each cell or disposal area. For all facilities, this information must include cross-references to specific manifest document numbers, if the waste was accompanied by a manifest;

[*Comment:* See §§265.119, 265.279, and 265.309 for related requirements.]

(3) Records and results of waste analysis, waste determinations, and trial tests performed as specified in §§265.13, 265.200, 265.225, 265.252, 265.273, 265.314, 265.341, 265.375, 265.402, 265.1034, 265.1063, 265.1084, 268.4(a), and 268.7 of this chapter.

(4) Summary reports and details of all incidents that require implementing the contingency plan as specified in §265.56(j);

(5) Records and results of inspections as required by § 265.15(d) (except these data need be kept only three years);

(6) Monitoring, testing or analytical data when required by §§ 265.19, 265.90, 265.94, 265.191, 265.193, 265.195, 265.222, 265.223, 265.226, 265.255, 265.259, 265.260, 265.276, 265.278, 265.280(d)(1), 265.302 through 265.304, 265.347, 265.377, 265.1034(c) through 265.1034(f), 265.1035, 265.1063(d) through 265.1063(i), 265.1064, 265.1089, 265.1090, and 265.1091.

[*Comment:* As required by § 265.94, monitoring data at disposal facilities must be kept throughout the post-closure period.]

(7) All closure cost estimates under § 265.142 and, for disposal facilities, all post-closure cost estimates under § 265.144.

(8) Records of the quantities (and date of placement) for each shipment of hazardous waste placed in land disposal units under an extension to the effective date of any land disposal restriction granted pursuant to § 268.5, monitoring data required pursuant to a petition under § 268.6, or a certification under § 268.8, and the applicable notice required by a generator under § 268.7(a).

(9) For an off-site treatment facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator under § 268.7 or § 268.8;

(10) For an on-site treatment facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or the owner or operator under § 268.7 or § 268.8;

(11) For an off-site land disposal facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator of a treatment facility under § 268.7 or § 268.8;

(12) For an on-site land disposal facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or the owner or operator of a treatment facility under § 268.7 or § 268.8.

(13) For an off-site storage facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator under § 268.7 or § 268.8; and

(14) For an on-site storage facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or the owner or operator of a treatment facility under § 268.7 or § 268.8.

[45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985; 50 FR 18374, Apr. 30, 1985; 51 FR 40638, Nov. 7, 1986; 53 FR 31211, Aug. 17, 1988; 54 FR 26648, June 23, 1989; 55 FR 25507, June 21, 1990; 56 FR 19290, Apr. 26, 1991; 57 FR 3492, Jan. 29, 1992; 59 FR 62935, Dec. 6, 1994]

§ 265.74 Availability, retention, and disposition of records.

(a) All records, including plans, required under this part must be furnished upon request, and made available at all reasonable times for inspection, by any officer, employee, or representative of EPA who is duly designated by the Administrator.

(b) The retention period for all records required under this part is extended automatically during the course of any unresolved enforcement action regarding the facility or as requested by the Administrator.

(c) A copy of records of waste disposal locations and quantities under § 265.73(b)(2) must be submitted to the Regional Administrator and local land authority upon closure of the facility (see § 265.119).

[45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985]

§ 265.75 Biennial report.

The owner or operator must prepare and submit a single copy of a biennial report to the Regional Administrator by March 1 of each even numbered year. The biennial report must be submitted on EPA Form 8700–13B. The report must cover facility activities during the previous calendar year and must include the following information:

(a) The EPA identification number, name, and address of the facility;

(b) The calendar year covered by the report;

(c) For off-site facilities, the EPA identification number of each hazardous waste generator from which the facility received a hazardous waste during the year; for imported shipments, the report must give the name and address of the foreign generator;

(d) A description and the quantity of each hazardous waste the facility received during the year. For off-site facilities, this information must be listed by EPA identification number of each generator;

(e) The method of treatment, storage, or disposal for each hazardous waste;

(f) Monitoring data under §265.94(a)(2)(ii) and (iii), and (b)(2), where required;

(g) The most recent closure cost estimate under §265.142, and, for disposal facilities, the most recent post-closure cost estimate under §265.144; and

(h) For generators who treat, store, or dispose of hazardous waste on-site, a description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated.

(i) For generators who treat, store, or dispose of hazardous waste on-site, a description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent such information is available for the years prior to 1984.

(j) The certification signed by the owner or operator of the facility or his authorized representative.

[45 FR 33232, May 19, 1980, as amended at 48 FR 3982, Jan. 28, 1983; 50 FR 4514, Jan. 31, 1985; 51 FR 28556, Aug. 8, 1986]

§265.76 Unmanifested waste report.

If a facility accepts for treatment, storage, or disposal any hazardous waste from an off-site source without an accompanying manifest, or without an accompanying shipping paper as described in §263.20(e)(2) of this chapter, and if the waste is not excluded from the manifest requirement by §261.5 of this chapter, then the owner or operator must prepare and submit a single copy of a report to the Regional Administrator within fifteen days after receiving the waste. The unmanifested waste report must be submitted on EPA form 8700–13B. Such report must be designated 'Unmanifested Waste Report' and include the following information:

(a) The EPA identification number, name, and address of the facility;

(b) The date the facility received the waste;

(c) The EPA identification number, name, and address of the generator and the transporter, if available;

(d) A description and the quantity of each unmanifested hazardous waste the facility received;

(e) The method of treatment, storage, or disposal for each hazardous waste;

(f) The certification signed by the owner or operator of the facility or his authorized representative; and

(g) A brief explanation of why the waste was unmanifested, if known.

[*Comment:* Small quantities of hazardous waste are excluded from regulation under this part and do not require a manifest. Where a facility receives unmanifested hazardous wastes, the Agency suggests that the owner or operator obtain from each generator a certification that the waste qualifies for exclusion. Otherwise, the Agency suggests that the owner or operator file an unmanifested waste report for the hazardous waste movement.]

[45 FR 33232, May 19, 1980, as amended at 48 FR 3982, Jan. 28, 1983; 50 FR 4514, Jan. 31, 1985]

§265.77 Additional reports.

In addition to submitting the biennial report and unmanifested waste reports described in §§265.75 and 265.76, the owner or operator must also report to the Regional Administrator:

(a) Releases, fires, and explosions as specified in §265.56(j);

(b) Ground-water contamination and monitoring data as specified in §§265.93 and 265.94; and

(c) Facility closure as specified in §265.115.

(d) As otherwise required by Subparts AA, BB, and CC of this part.

[45 FR 33232, May 19, 1980, as amended at 48 FR 3982, Jan. 28, 1983; 55 FR 25507, June 21, 1990; 59 FR 62935, Dec. 6, 1994]

Subpart F—Ground-Water Monitoring

§265.90 Applicability.

(a) Within one year after the effective date of these regulations, the

owner or operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste must implement a ground-water monitoring program capable of determining the facility's impact on the quality of ground water in the uppermost aquifer underlying the facility, except as § 265.1 and paragraph (c) of this section provide otherwise.

(b) Except as paragraphs (c) and (d) of this section provide otherwise, the owner or operator must install, operate, and maintain a ground-water monitoring system which meets the requirements of § 265.91, and must comply with §§ 265.92 through 265.94. This ground-water monitoring program must be carried out during the active life of the facility, and for disposal facilities, during the post-closure care period as well.

(c) All or part of the ground-water monitoring requirements of this subpart may be waived if the owner or operator can demonstrate that there is a low potential for migration of hazardous waste or hazardous waste constituents from the facility via the uppermost aquifer to water supply wells (domestic, industrial, or agricultural) or to surface water. This demonstration must be in writing, and must be kept at the facility. This demonstration must be certified by a qualified geologist or geotechnical engineer and must establish the following:

(1) The potential for migration of hazardous waste or hazardous waste constituents from the facility to the uppermost aquifer, by an evaluation of:

(i) A water balance of precipitation, evapotranspiration, runoff, and infiltration; and

(ii) Unsaturated zone characteristics (i.e., geologic materials, physical properties, and depth to ground water); and

(2) The potential for hazardous waste or hazardous waste constituents which enter the uppermost aquifer to migrate to a water supply well or surface water, by an evaluation of:

(i) Saturated zone characteristics (i.e., geologic materials, physical properties, and rate of ground-water flow); and

(ii) The proximity of the facility to water supply wells or surface water.

(d) If an owner or operator assumes (or knows) that ground-water monitoring of indicator parameters in accordance with §§ 265.91 and 265.92 would show statistically significant increases (or decreases in the case of pH) when evaluated under § 265.93(b), he may, install, operate, and maintain an alternate ground-water monitoring system (other than the one described in §§ 265.91 and 265.92). If the owner or operator decides to use an alternate ground-water monitoring system he must:

(1) Within one year after the effective date of these regulations, submit to the Regional Administrator a specific plan, certified by a qualified geologist or geotechnical engineer, which satisfies the requirements of § 265.93(d)(3), for an alternate ground-water monitoring system;

(2) Not later than one year after the effective date of these regulations, initiate the determinations specified in § 265.93(d)(4);

(3) Prepare and submit a written report in accordance with § 265.93(d)(5);

(4) Continue to make the determinations specified in § 265.93(d)(4) on a quarterly basis until final closure of the facility; and

(5) Comply with the recordkeeping and reporting requirements in § 265.94(b).

(e) The ground-water monitoring requirements of this subpart may be waived with respect to any surface impoundment that (1) Is used to neutralize wastes which are hazardous solely because they exhibit the corrosivity characteristic under § 261.22 of this chapter or are listed as hazardous wastes in subpart D of part 261 of this chapter only for this reason, and (2) contains no other hazardous wastes, if the owner or operator can demonstrate that there is no potential for migration of hazardous wastes from the impoundment. The demonstration must establish, based upon consideration of the characteristics of the wastes and the impoundment, that the corrosive wastes will be neutralized to the extent that they no longer meet the corrosivity characteristic before they can migrate out of the impoundment. The demonstration must be in writing

and must be certified by a qualified professional.

[45 FR 33232, May 19, 1980, as amended at 47 FR 1255, Jan. 11, 1982; 50 FR 4514, Jan. 31, 1985]

§ 265.91 Ground-water monitoring system.

(a) A ground-water monitoring system must be capable of yielding ground-water samples for analysis and must consist of:

(1) Monitoring wells (at least one) installed hydraulically upgradient (i.e., in the direction of increasing static head) from the limit of the waste management area. Their number, locations, and depths must be sufficient to yield ground-water samples that are:

(i) Representative of background ground-water quality in the uppermost aquifer near the facility; and

(ii) Not affected by the facility; and

(2) Monitoring wells (at least three) installed hydraulically downgradient (i.e., in the direction of decreasing static head) at the limit of the waste management area. Their number, locations, and depths must ensure that they immediately detect any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer.

(3) The facility owner or operator may demonstrate that an alternate hydraulically downgradient monitoring well location will meet the criteria outlined below. The demonstration must be in writing and kept at the facility. The demonstration must be certified by a qualified ground-water scientist and establish that:

(i) An existing physical obstacle prevents monitoring well installation at the hydraulically downgradient limit of the waste management area; and

(ii) The selected alternate downgradient location is as close to the limit of the waste management area as practical; and

(iii) The location ensures detection that, given the alternate location, is as early as possible of any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer.

(iv) Lateral expansion, new, or replacement units are not eligible for an alternate downgradient location under this paragraph.

(b) Separate monitoring systems for each waste management component of a facility are not required provided that provisions for sampling upgradient and downgradient water quality will detect any discharge from the waste management area.

(1) In the case of a facility consisting of only one surface impoundment, landfill, or land treatment area, the waste management area is described by the waste boundary (perimeter).

(2) In the case of a facility consisting of more than one surface impoundment, landfill, or land treatment area, the waste management area is described by an imaginary boundary line which circumscribes the several waste management components.

(c) All monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole. This casing must be screened or perforated, and packed with gravel or sand where necessary, to enable sample collection at depths where appropriate aquifer flow zones exist. The annular space (i.e., the space between the bore hole and well casing) above the sampling depth must be sealed with a suitable material (e.g., cement grout or bentonite slurry) to prevent contamination of samples and the ground water.

[45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985; 56 FR 66369, Dec. 23, 1991]

§ 265.92 Sampling and analysis.

(a) The owner or operator must obtain and analyze samples from the installed ground-water monitoring system. The owner or operator must develop and follow a ground-water sampling and analysis plan. He must keep this plan at the facility. The plan must include procedures and techniques for:

(1) Sample collection;

(2) Sample preservation and shipment;

(3) Analytical procedures; and

(4) Chain of custody control.

[*Comment:* See ''Procedures Manual For Ground-water Monitoring At Solid Waste Disposal Facilities,'' EPA–530/SW–611, August 1977 and ''Methods for Chemical Analysis of Water and Wastes,'' EPA–600/4–79–020, March 1979 for discussions of sampling and analysis procedures.]

(b) The owner or operator must determine the concentration or value of the following parameters in ground-water samples in accordance with paragraphs (c) and (d) of this section:

(1) Parameters characterizing the suitability of the ground water as a drinking water supply, as specified in appendix III.

(2) Parameters establishing ground-water quality:

(i) Chloride
(ii) Iron
(iii) Manganese
(iv) Phenols
(v) Sodium
(vi) Sulfate

[*Comment:* These parameters are to be used as a basis for comparison in the event a ground-water quality assessment is required under § 265.93(d).]

(3) Parameters used as indicators of ground-water contamination:

(i) pH
(ii) Specific Conductance
(iii) Total Organic Carbon
(iv) Total Organic Halogen

(c)(1) For all monitoring wells, the owner or operator must establish initial background concentrations or values of all parameters specified in paragraph (b) of this section. He must do this quarterly for one year.

(2) For each of the indicator parameters specified in paragraph (b)(3) of this section, at least four replicate measurements must be obtained for each sample and the initial background arithmetic mean and variance must be determined by pooling the replicate measurements for the respective parameter concentrations or values in samples obtained from upgradient wells during the first year.

(d) After the first year, all monitoring wells must be sampled and the samples analyzed with the following frequencies:

(1) Samples collected to establish ground-water quality must be obtained and analyzed for the parameters specified in paragraph (b)(2) of this section at least annually.

(2) Samples collected to indicate ground-water contamination must be obtained and analyzed for the parameters specified in paragraph (b)(3) of this section at least semi-annually.

(e) Elevation of the ground-water surface at each monitoring well must be determined each time a sample is obtained.

[45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985]

§ 265.93 Preparation, evaluation, and response.

(a) Within one year after the effective date of these regulations, the owner or operator must prepare an *outline* of a ground-water quality assessment program. The outline must describe a more comprehensive ground-water monitoring program (than that described in §§ 265.91 and 265.92) capable of determining:

(1) Whether hazardous waste or hazardous waste constituents have entered the ground water;

(2) The rate and extent of migration of hazardous waste or hazardous waste constituents in the ground water; and

(3) The concentrations of hazardous waste or hazardous waste constituents in the ground water.

(b) For each indicator parameter specified in § 265.92(b)(3), the owner or operator must calculate the arithmetic mean and variance, based on at least four replicate measurements on each sample, for each well monitored in accordance with § 265.92(d)(2), and compare these results with its initial background arithmetic mean. The comparison must consider individually each of the wells in the monitoring system, and must use the Student's t-test at the 0.01 level of significance (see appendix IV) to determine statistically significant increases (and decreases, in the case of pH) over initial background.

(c)(1) If the comparisons for the *upgradient* wells made under paragraph (b) of this section show a significant increase (or pH decrease), the owner or operator must submit this information in accordance with § 265.94(a)(2)(ii).

(2) If the comparisons for *downgradient* wells made under paragraph (b) of this section show a significant increase (or pH decrease), the owner or operator must then immediately obtain additional ground-water samples from those downgradient wells where a significant difference was detected, split the samples in two, and obtain analyses of all additional samples to determine whether the significant difference was a result of laboratory error.

(d)(1) If the analyses performed under paragraph (c)(2) of this section confirm the significant increase (or pH decrease), the owner or operator must provide written notice to the Regional Administrator—within seven days of the date of such confirmation—that the facility may be affecting ground-water quality.

(2) Within 15 days after the notification under paragraph (d)(1) of this section, the owner or operator must develop and submit to the Regional Administrator a specific plan, based on the outline required under paragraph (a) of this section and certified by a qualified geologist or geotechnical engineer, for a ground-water quality assessment program at the facility.

(3) The plan to be submitted under § 265.90(d)(1) or paragraph (d)(2) of this section must specify:

(i) The number, location, and depth of wells;

(ii) Sampling and analytical methods for those hazardous wastes or hazardous waste constituents in the facility;

(iii) Evaluation procedures, including any use of previously-gathered ground-water quality information; and

(iv) A schedule of implementation.

(4) The owner or operator must implement the ground-water quality assessment plan which satisfies the requirements of paragraph (d)(3) of this section, and, at a minimum, determine:

(i) The rate and extent of migration of the hazardous waste or hazardous waste constituents in the ground water; and

(ii) The concentrations of the hazardous waste or hazardous waste constituents in the ground water.

(5) The owner or operator must make his first determination under paragraph (d)(4) of this section as soon as technically feasible, and, within 15 days after that determination, submit to the Regional Administrator a written report containing an assessment of the ground-water quality.

(6) If the owner or operator determines, based on the results of the first determination under paragraph (d)(4) of this section, that no hazardous waste or hazardous waste constituents from the facility have entered the ground water, then he may reinstate the indicator evaluation program described in § 265.92 and paragraph (b) of this section. If the owner or operator reinstates the indicator evaluation program, he must so notify the Regional Administrator in the report submitted under paragraph (d)(5) of this section.

(7) If the owner or operator determines, based on the first determination under paragraph (d)(4) of this section, that hazardous waste or hazardous waste constituents from the facility have entered the ground water, then he:

(i) Must continue to make the determinations required under paragraph (d)(4) of this section on a quarterly basis until final closure of the facility, if the ground-water quality assessment plan was implemented prior to final closure of the facility; or

(ii) May cease to make the determinations required under paragraph (d)(4) of this section, if the ground-water quality assessment plan was implemented during the post-closure care period.

(e) Notwithstanding any other provision of this subpart, any ground-water quality assessment to satisfy the requirements of § 265.93(d)(4) which is initiated prior to final closure of the facility must be completed and reported in accordance with § 265.93(d)(5).

(f) Unless the ground water is monitored to satisfy the requirements of § 265.93(d)(4), at least annually the owner or operator must evaluate the data on ground-water surface elevations obtained under § 265.92(e) to determine whether the requirements under § 265.91(a) for locating the monitoring wells continues to be satisfied. If the evaluation shows that § 265.91(a) is no longer satisfied, the owner or operator must immediately modify the

number, location, or depth of the monitoring wells to bring the ground-water monitoring system into compliance with this requirement.

[45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985]

§ 265.94 Recordkeeping and reporting.

(a) Unless the ground water is monitored to satisfy the requirements of § 265.93(d)(4), the owner or operator must:

(1) Keep records of the analyses required in § 265.92(c) and (d), the associated ground-water surface elevations required in § 265.92(e), and the evaluations required in § 265.93(b) throughout the active life of the facility, and, for disposal facilities, throughout the post-closure care period as well; and

(2) Report the following ground-water monitoring information to the Regional Administrator:

(i) During the first year when initial background concentrations are being established for the facility: concentrations or values of the parameters listed in § 265.92(b)(1) for each ground-water monitoring well within 15 days after completing each quarterly analysis. The owner or operator must separately identify for each monitoring well any parameters whose concentration or value has been found to exceed the maximum contaminant levels listed in appendix III.

(ii) Annually: Concentrations or values of the parameters listed in § 265.92(b)(3) for each ground-water monitoring well, along with the required evaluations for these parameters under § 265.93(b). The owner or operator must separately identify any significant differences from initial background found in the upgradient wells, in accordance with § 265.93(c)(1). During the active life of the facility, this information must be submitted no later than March 1 following each calendar year.

(iii) No later than March 1 following each calendar year: Results of the evaluations of ground-water surface elevations under § 265.93(f), and a description of the response to that evaluation, where applicable.

(b) If the ground water is monitored to satisfy the requirements of § 265.93(d)(4), the owner or operator must:

(1) Keep records of the analyses and evaluations specified in the plan, which satisfies the requirements of § 265.93(d)(3), throughout the active life of the facility, and, for disposal facilities, throughout the post-closure care period as well; and

(2) Annually, until final closure of the facility, submit to the Regional Administrator a report containing the results of his or her ground-water quality assessment program which includes, but is not limited to, the calculated (or measured) rate of migration of hazardous waste or hazardous waste constituents in the ground water during the reporting period. This information must be submitted no later than March 1 following each calendar year.

[45 FR 33232, May 19, 1980, as amended at 48 FR 3982, Jan. 28, 1983; 50 FR 4514, Jan. 31, 1985]

Subpart G—Closure and Post-Closure

SOURCE: 51 FR 16451, May 2, 1986, unless otherwise noted.

§ 265.110 Applicability.

Except as § 265.1 provides otherwise:

(a) Sections 265.111 through 265.115 (which concern closure) apply to the owners and operators of all hazardous waste management facilities; and

(b) Sections 265.116 through 265.120 (which concern post-closure care) apply to the owners and operators of:

(1) All hazardous waste disposal facilities;

(2) Waste piles and surface impoundments for which the owner or operator intends to remove the wastes at closure to the extent that these sections are made applicable to such facilities in § 265.228 or § 265.258;

(3) Tank systems that are required under § 265.197 to meet requirements for landfills; and

(4) Containment building that are required under § 265.1102 to meet the requirement for landfills.

[51 FR 16451, May 2, 1986, as amended at 51 FR 25479, July 14, 1986; 53 FR 34086, Sept. 2, 1988; 57 FR 37267, Aug. 18, 1992]

§ 265.111 Closure performance standard.

The owner or operator must close the facility in a manner that:

(a) Minimizes the need for further maintenance, and

(b) Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere, and

(c) Complies with the closure requirements of this subpart, including, but not limited to, the requirements of §§ 265.197, 265.228, 265.258, 265.280, 265.310, 265.351, 265.381, 265.404, and 264.1102.

[51 FR 16451, May 2, 1986, as amended at 57 FR 37267, Aug. 18, 1992]

§ 265.112 Closure plan; amendment of plan.

(a) *Written plan*. By May 19, 1981, or by six months after the effective date of the rule that first subjects a facility to provisions of this section, the owner or operator of a hazardous waste management facility must have a written closure plan. Until final closure is completed and certified in accordance with § 265.115, a copy of the most current plan must be furnished to the Regional Administrator upon request, including request by mail. In addition, for facilities without approved plans, it must also be provided during site inspections, on the day of inspection, to any officer, employee, or representative of the Agency who is duly designated by the Administrator.

(b) *Content of plan*. The plan must identify steps necessary to perform partial and/or final closure of the facility at any point during its active life. The closure plan must include, at least:

(1) A description of how each hazardous waste management unit at the facility will be closed in accordance with § 265.111; and

(2) A description of how final closure of the facility will be conducted in accordance with § 265.111. The description must identify the maximum extent of the operation which will be unclosed during the active life of the facility; and

(3) An estimate of the maximum inventory of hazardous wastes ever onsite over the active life of the facility and a detailed description of the methods to be used during partial and final closure, including, but not limited to methods for removing, transporting, treating, storing or disposing of all hazardous waste, identification of and the type(s) of off-site hazardous waste management unit(s) to be used, if applicable; and

(4) A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial and final closure including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination necessary to satisfy the closure performance standard; and

(5) A detailed description of other activities necessary during the partial and final closure period to ensure that all partial closures and final closure satisfy the closure performance standards, including, but not limited to, ground-water monitoring, leachate collection, and run-on and run-off control; and

(6) A schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule must include, at a minimum, the total time required to close each hazardous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure. (For example, in the case of a landfill unit, estimates of the time required to treat or dispose of all hazardous waste inventory and of the time required to place a final cover must be included.); and

(7) An estimate of the expected year of final closure for facilities that use trust funds to demonstrate financial assurance under § 265.143 or § 265.145 and whose remaining operating life is less than twenty years, and for facilities without approved closure plans.

(c) *Amendment of plan*. The owner or operator may amend the closure plan at any time prior to the notification of

partial or final closure of the facility. An owner or operator with an approved closure plan must submit a written request to the Regional Administrator to authorize a change to the approved closure plan. The written request must include a copy of the amended closure plan for approval by the Regional Administrator.

(1) The owner or operator must amend the closure plan whenever:

(i) Changes in operating plans or facility design affect the closure plan, or

(ii) There is a change in the expected year of closure, if applicable, or

(iii) In conducting partial or final closure activities, unexpected events require a modification of the closure plan.

(2) The owner or operator must amend the closure plan at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the closure plan. If an unexpected event occurs during the partial or final closure period, the owner or operator must amend the closure plan no later than 30 days after the unexpected event. These provisions also apply to owners or operators of surface impoundments and waste piles who intended to remove all hazardous wastes at closure, but are required to close as landfills in accordance with § 265.310.

(3) An owner or operator with an approved closure plan must submit the modified plan to the Regional Administrator at least 60 days prior to the proposed change in facility design or operation, or no more than 60 days after an unexpected event has occurred which has affected the closure plan. If an unexpected event has occurred during the partial or final closure period, the owner or operator must submit the modified plan no more than 30 days after the unexpected event. These provisions also apply to owners or operators of surface impoundments and waste piles who intended to remove all hazardous wastes at closure but are required to close as landfills in accordance with § 265.310. If the amendment to the plan is a Class 2 or 3 modification according to the criteria in § 270.42, the modification to the plan will be approved according to the procedures in § 265.112(d)(4).

(4) The Regional Administrator may request modifications to the plan under the conditions described in paragraph (c)(1) of this section. An owner or operator with an approved closure plan must submit the modified plan within 60 days of the request from the Regional Administrator, or within 30 days if the unexpected event occurs during partial or final closure. If the amendment is considered a Class 2 or 3 modification according to the criteria in § 270.42, the modification to the plan will be approved in accordance with the procedures in § 265.112(d)(4).

(d) *Notification of partial closure and final closure.* (1) The owner or operator must submit the closure plan to the Regional Administrator at least 180 days prior to the date on which he expects to begin closure of the first surface impoundment, waste pile, land treatment, or landfill unit, or final closure if it involves such a unit, whichever is earlier. The owner or operator must submit the closure plan to the Regional Administrator at least 45 days prior to the date on which he expects to begin partial or final closure of a boiler or industrial furnace. The owner or operator must submit the closure plan to the Regional Administrator at least 45 days prior to the date on which he expects to begin final closure of a facility with only tanks, container storage, or incinerator units. Owners or operators with approved closure plans must notify the Regional Administrator in writing at least 60 days prior to the date on which he expects to begin closure of a surface impoundment, waste pile, landfill, or land treatment unit, or final closure of a facility involving such a unit. Owners or operators with approved closure plans must notify the Regional Administrator in writing at least 45 days prior to the date on which he expects to begin partial or final closure of a boiler or industrial furnace. Owners or operators with approved closure plans must notify the Regional Administrator in writing at least 45 days prior to the date on which he expects to begin final closure of a facility with only tanks, container storage, or incinerator units.

(2) The date when he ''expects to begin closure'' must be either:

(i) Within 30 days after the date on which any hazardous waste management unit receives the known final volume of hazardous wastes, or, if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, no later than one year after the date on which the unit received the most recent volume of hazardous waste. If the owner or operator of a hazardous waste management unit can demonstrate to the Regional Administrator that the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes and he has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all interim status requirements, the Regional Administrator may approve an extension to this one-year limit; or

(ii) For units meeting the requirements of §265.113(d), no later than 30 days after the date on which the hazardous waste management unit receives the known final volume of nonhazardous wastes, or if there is a reasonable possibility that the hazardous waste management unit will receive additional nonhazardous wastes, no later than one year after the date on which the unit received the most recent volume of nonhazardous wastes. If the owner or operator can demonstrate to the Regional Administrator that the hazardous waste management unit has the capacity to receive additional nonhazardous wastes and he has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all applicable interim status requirements, the Regional Administrator may approve an extension to this one-year limit.

(3) The owner or operator must submit his closure plan to the Regional Administrator no later than 15 days after:

(i) Termination of interim status except when a permit is issued simultaneously with termination of interim status; or

(ii) Issuance of a judicial decree or final order under section 3008 of RCRA to cease receiving hazardous wastes or close.

(4) The Regional Administrator will provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the plan and request modifications to the plan no later than 30 days from the date of the notice. He will also, in response to a request or at his own discretion, hold a public hearing whenever such a hearing might clarify one or more issues concerning a closure plan. The Regional Administrator will give public notice of the hearing at least 30 days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for the public to submit written comments, and the two notices may be combined.) The Regional Administrator will approve, modify, or disapprove the plan within 90 days of its receipt. If the Regional Administrator does not approve the plan he shall provide the owner or operator with a detailed written statement of reasons for the refusal and the owner or operator must modify the plan or submit a new plan for approval within 30 days after receiving such written statement. The Regional Administrator will approve or modify this plan in writing within 60 days. If the Regional Administrator modifies the plan, this modified plan becomes the approved closure plan. The Regional Administrator must assure that the approved plan is consistent with §§ with 265.111 through 265.115 and the applicable requirements of subpart F of this part, §§265.197, 265.228, 265.258, 265.280, 265.310, 265.351, 265.381, 265.404, and 264.1102. A copy of the modified plan with a detailed statement of reasons for the modifications must be mailed to the owner or operator.

(e) *Removal of wastes and decontamination or dismantling of equipment.* Nothing in this section shall preclude the owner or operator from removing hazardous wastes and decontaminating or dismantling equipment in accordance

with the approved partial or final closure plan at any time before or after notification of partial or final closure.

[51 FR 16451, May 2, 1986, as amended at 54 FR 37935, Sept. 28, 1988; 56 FR 7207, Feb. 21, 1991; 56 FR 42512, Aug. 27, 1991; 57 FR 37267, Aug. 18, 1992]

§ 265.113 Closure; time allowed for closure.

(a) Within 90 days after receiving the final volume of hazardous wastes, or the final volume of nonhazardous wastes if the owner or operator complies with all applicable requirements in paragraphs (d) and (e) of this section, at a hazardous waste management unit or facility, or within 90 days after approval of the closure plan, whichever is later, the owner or operator must treat, remove from the unit or facility, or dispose of on-site, all hazardous wastes in accordance with the approved closure plan. The Regional Administrator may approve a longer period if the owner or operator demonstrates that:

(1)(i) The activities required to comply with this paragraph will, of necessity, take longer than 90 days to complete; or

(ii)(A) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive non-hazardous wastes if the facility owner or operator complies with paragraphs (d) and (e) of this section; and

(B) There is a reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and

(C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(2) He has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with all applicable interim status requirements.

(b) The owner or operator must complete partial and final closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of hazardous wastes, or the final volume of nonhazardous wastes if the owner or operator complies with all applicable requirements in paragraphs (d) and (e) of this section, at the hazardous waste management unit or facility, or 180 days after approval of the closure plan, if that is later. The Regional Administrator may approve an extenstion to the closure period if the owner or operator demonstrates that:

(1)(i) The partial or final closure activities will, of necessity, take longer than 180 days to complete; or

(ii)(A) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive non-hazardous wastes if the facility owner or operator complies with paragraphs (d) and (e) of this section; and

(B) There is reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and

(C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(2) He has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed but not operating hazardous waste management unit or facility, including compliance with all applicable interim status requirements.

(c) The demonstrations referred to in paragraphs (a)(1) and (b)(1) of this section must be made as follows:

(1) The demonstrations in paragraph (a)(1) of this section must be made at least 30 days prior to the expiration of the 90-day period in paragraph (a) of this section; and

(2) The demonstration in paragraph (b)(1) of this section must be made at least 30 days prior to the expiration of the 180-day period in paragraph (b) of this section, unless the owner or operator is otherwise subject to the deadlines in paragraph (d) of this section.

(d) The Regional Administrator may allow an owner or operator to receive non-hazardous wastes in a landfill, land treatment, or surface impoundment unit after the final receipt of hazardous wastes at that unit if:

(1) The owner or operator submits an amended part B application, or a part

B application, if not previously required, and demonstrates that:

(i) The unit has the existing design capacity as indicated on the part A application to receive non-hazardous wastes; and

(ii) There is a reasonable likelihood that the owner or operator or another person will receive non-hazardous wastes in the unit within one year after the final receipt of hazardous wastes; and

(iii) The non-hazardous wastes will not be incompatible with any remaining wastes in the unit or with the facility design and operating requirements of the unit or facility under this part; and

(iv) Closure of the hazardous waste management unit would be incompatible with continued operation of the unit or facility; and

(v) The owner or operator is operating and will continue to operate in compliance with all applicable interim status requirements; and

(2) The part B application includes an amended waste analysis plan, groundwater monitoring and response program, human exposure assessment required under RCRA section 3019, and closure and post-closure plans, and updated cost estimates and demonstrations of financial assurance for closure and post-closure care as necessary and appropriate to reflect any changes due to the presence of hazardous constituents in the non-hazardous wastes, and changes in closure activities, including the expected year of closure if applicable under § 265.112(b)(7), as a result of the receipt of non-hazardous wastes following the final receipt of hazardous wastes; and

(3) The part B application is amended, as necessary and appropriate, to account for the receipt of non-hazardous wastes following receipt of the final volume of hazardous wastes; and

(4) The part B application and the demonstrations referred to in paragraphs (d)(1) and (d)(2) of this section are submitted to the Regional Administrator no later than 180 days prior to the date on which the owner or operator of the facility receives the known final volume of hazardous wastes, or no later than 90 days after the effective date of this rule in the state in which the unit is located, whichever is later.

(e) In addition to the requirements in paragraph (d) of this section, an owner or operator of a hazardous waste surface impoundment that is not in compliance with the liner and leachate collection system requirements in 42 U.S.C. 3004(o)(1) and 3005(j)(1) or 42 U.S.C. 3004(o)(2) or (3) or 3005(j) (2), (3), (4) or (13) must:

(1) Submit with the part B application:

(i) A contingent corrective measures plan; and

(ii) A plan for removing hazardous wastes in compliance with paragraph (e)(2) of this section; and

(2) Remove all hazardous wastes from the unit by removing all hazardous liquids and removing all hazardous sludges to the extent practicable without impairing the integrity of the liner(s), if any.

(3) Removal of hazardous wastes must be completed no later than 90 days after the final receipt of hazardous wastes. The Regional Administrator may approve an extension to this deadline if the owner or operator demonstrates that the removal of hazardous wastes will, of necessity, take longer than the allotted period to complete and that an extension will not pose a threat to human health and the environment.

(4) If a release that is a statistically significant increase (or decrease in the case of pH) in hazardous oonstituents over background levels is detected in accordance with the requirements in subpart F of this part, the owner or operator of the unit:

(i) Must implement corrective measures in accordance with the approved contingent corrective measures plan required by paragraph (e)(1) of this section no later than one year after detection of the release, or approval of the contingent corrective measures plan, whichever is later;

(ii) May receive wastes at the unit following detection of the release only if the approved corrective measures plan includes a demonstration that continued receipt of wastes will not impede corrective action; and

(iii) May be required by the Regional Administrator to implement corrective

measures in less than one year or to cease receipt of wastes until corrective measures have been implemented if necessary to protect human health and the environment.

(5) During the period of corrective action, the owner or operator shall provide semi-annual reports to the Regional Administrator that describe the progress of the corrective action program, compile all ground-water monitoring data, and evaluate the effect of the continued receipt of non-hazardous wastes on the effectiveness of the corrective action.

(6) The Regional Administrator may require the owner or operator to commence closure of the unit if the owner or operator fails to implement corrective action measures in accordance with the approved contingent corrective measures plan within one year as required in paragraph (e)(4) of this section, or fails to make substantial progress in implementing corrective action and achieving the facility's background levels.

(7) If the owner or operator fails to implement corrective measures as required in paragraph (e)(4) of this section, or if the Regional Administrator determines that substantial progress has not been made pursuant to paragraph (e)(6) of this section he shall:

(i) Notify the owner or operator in writing that the owner or operator must begin closure in accordance with the deadline in paragraphs (a) and (b) of this section and provide a detailed statement of reasons for this determination, and

(ii) Provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the decision no later than 20 days after the date of the notice.

(iii) If the Regional Administrator receives no written comments, the decision will become final five days after the close of the comment period. The Regional Administrator will notify the owner or operator that the decision is final, and that a revised closure plan, if necessary, must be submitted within 15 days of the final notice and that closure must begin in accordance with the deadlines in paragraphs (a) and (b) of this section.

(iv) If the Regional Administrator receives written comments on the decision, he shall make a final decision within 30 days after the end of the comment period, and provide the owner or operator in writing and the public through a newspaper notice, a detailed statement of reasons for the final decision. If the Regional Administrator determines that substantial progress has not been made, closure must be initiated in accordance with the deadlines in paragraphs (a) and (b) of this section.

(v) The final determinations made by the Regional Administrator under paragraphs (e)(7) (iii) and (iv) of this section are not subject to administrative appeal.

[51 FR 16451, May 2, 1986, as amended at 54 FR 33396, Aug. 14, 1989; 56 FR 42512, Aug. 27, 1991]

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

During the partial and final closure periods, all contaminated equipment, structures and soil must be properly disposed of, or decontaminated unless specified otherwise in §§ 265.197, 265.228, 265.258, 265.280, or 265.310. By removing all hazardous wastes or hazardous constituents during partial and final closure, the owner or operator may become a generator of hazardous waste and must handle that hazardous waste in accordance with all applicable requirements of part 262 of this chapter.

[51 FR 16451, May 2, 1986, as amended at 53 FR 34086, Sept. 2, 1988]

§ 265.115 Certification of closure.

Within 60 days of completion of closure of each hazardous waste surface impoundment, waste pile, land treatment, and landfill unit, and within 60 days of completion of final closure, the owner or operator must submit to the Regional Administrator, by registered mail, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan. The certification must be signed by the owner or operator and by an independent registered professional engineer. Documentation supporting the independent registered

professional engineer's certification must be furnished to the Regional Administrator upon request until he releases the owner or operator from the financial assurance requirements for closure under § 265.143(h).

§ 265.116 Survey plat.

No later than the submission of the certification of closure of each hazardous waste disposal unit, an owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Regional Administrator, a survey plat indicating the location and dimensions of landfill cells or other hazardous waste disposal units with respect to permanently surveyed benchmarks. This plat must be prepared and certified by a professional land surveyor. The plat filed with the local zoning authority, or the authority with jurisdiction over local land use must contain a note, prominently displayed, which states the owner's or operator's obligation to restrict disturbance of the hazardous waste disposal unit in accordance with the applicable subpart G regulations.

§ 265.117 Post-closure care and use of property.

(a)(1) Post-closure care for each hazardous waste management unit subject to the requirements of §§ 265.117 through 265.120 must begin after completion of closure of the unit and continue for 30 years after that date. It must consist of at least the following:

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

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

(2) Any time preceding closure of a hazardous waste management unit subject to post-closure care requirements or final closure, or any time during the post-closure period for a particular hazardous waste disposal unit, the Regional Administrator may:

(i) Shorten the post-closure care period applicable to the hazardous waste management unit, or facility, if all disposal units have been closed, if he finds that the reduced period is sufficient to protect human health and the environment (e.g., leachate or ground-water monitoring results, characteristics of the hazardous waste, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the hazardous waste management unit or facility is secure); or

(ii) Extend the post-closure care period applicable to the hazardous waste management unit or facility, if he finds that the extended period is necessary to protect human health and the environment (e.g., leachate or groundwater monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment).

(b) The Regional Administator may require, at partial and final closure, continuation of any of the security requirements of § 265.14 during part or all of the post-closure period when:

(1) Hazardous wastes may remain exposed after completion of partial or final closure; or

(2) Access by the public or domestic livestock may pose a hazard to human health.

(c) Post-closure use of property on or in which hazardous wastes remain after partial or final closure must never be allowed to disturb the integrity of the final cover, liner(s), or any other components of the containment system, or the function of the facility's monitoring systems, unless the Regional Administrator finds that the disturbance:

(1) Is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or

(2) Is necessary to reduce a threat to human health or the environment.

(d) All post-closure care activities must be in accordance with the provisions of the approved post-closure plan as specified in § 265.118.

§ 265.118 Post-closure plan; amendment of plan.

(a) *Written plan.* By May 19, 1981, the owner or operator of a hazardous waste disposal unit must have a written post-closure plan. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous

wastes at closure must prepare a post-closure plan and submit it to the Regional Administrator within 90 days of the date that the owner or operator or Regional Administrator determines that the hazardous waste management unit or facility must be closed as a landfill, subject to the requirements of §§ 265.117 through 265.120.

(b) Until final closure of the facility, a copy of the most current post-closure plan must be furnished to the Regional Administrator upon request, including request by mail. In addition, for facilities without approved post-closure plans, it must also be provided during site inspections, on the day of inspection, to any officer, employee or representative of the Agency who is duly designated by the Administrator. After final closure has been certified, the person or office specified in § 265.118(c)(3) must keep the approved post-closure plan during the post-closure period.

(c) For each hazardous waste management unit subject to the requirements of this section, the post-closure plan must identify the activities that will be carried on after closure of each disposal unit and the frequency of these activities, and include at least:

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

(2) A description of the planned maintenance activities, and frequencies at which they will be performed, to ensure:

(i) The integrity of the cap and final cover or other containment systems in accordance with the requirements of subparts K, L, M, and N of this part; and

(ii) The function of the monitoring equipment in accordance with the requirements of subparts F, K, L, M, and N of this part; and

(3) The name, address, and phone number of the person or office to contact about the hazardous waste disposal unit or facility during the post-closure care period.

(d) *Amendment of plan.* The owner or operator may amend the post-closure plan any time during the active life of the facility or during the post-closure care period. An owner or operator with an approved post-closure plan must submit a written request to the Regional Administrator to authorize a change to the approved plan. The written request must include a copy of the amended post-closure plan for approval by the Regional Administrator.

(1) The owner or operator must amend the post-closure plan whenever:

(i) Changes in operating plans or facility design affect the post-closure plan, or

(ii) Events which occur during the active life of the facility, including partial and final closures, affect the post-closure plan.

(2) The owner or operator must amend the post-closure plan at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the post-closure plan.

(3) An owner or operator with an approved post-closure plan must submit the modified plan to the Regional Administrator at least 60 days prior to the proposed change in facility design or operation, or no more than 60 days after an unexpected event has occurred which has affected the post-closure plan. If an owner or operator of a surface impoundment or a waste pile who intended to remove all hazardous wastes at closure in accordance with § 265.228(b) or § 265.258(a) is required to close as a landfill in accordance with § 265.310, the owner or operator must submit a post-closure plan within 90 days of the determination by the owner or operator or Regional Administrator that the unit must be closed as a landfill. If the amendment to the post-closure plan is a Class 2 or 3 modification according to the criteria in § 270.42, the modification to the plan will be approved according to the procedures in § 265.118(f).

(4) The Regional Administrator may request modifications to the plan under the conditions described in paragraph (d)(1) of this section. An owner or operator with an approved post-closure plan must submit the modified plan no later than 60 days of the request from the Regional Administrator. If the amendment to the plan is considered a

Class 2 or 3 modification according to the criteria in § 270.42, the modifications to the post-closure plan will be approved in accordance with the procedures in § 265.118(f). If the Regional Administrator determines that an owner or operator of a surface impoundment or waste pile who intended to remove all hazardous wastes at closure must close the facility as a landfill, the owner or operator must submit a post-closure plan for approval to the Regional Administrator within 90 days of the determination.

(e) The owner or operator of a facility with hazardous waste management units subject to these requirements must submit his post-closure plan to the Regional Administrator at least 180 days before the date he expects to begin partial or final closure of the first hazardous waste disposal unit. The date he ''expects to begin closure'' of the first hazardous waste disposal unit must be either within 30 days after the date on which the hazardous waste management unit receives the known final volume of hazardous waste or, if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, no later than one year after the date on which the unit received the most recent volume of hazardous wastes. The owner or operator must submit the post-closure plan to the Regional Administrator no later than 15 days after:

(1) Termination of interim status (except when a permit is issued to the facility simultaneously with termination of interim status); or

(2) Issuance of a judicial decree or final orders under section 3008 of RCRA to cease receiving wastes or close.

(f) The Regional Administrator will provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the post-closure plan and request modifications to the plan no later than 30 days from the date of the notice. He will also, in response to a request or at his own discretion, hold a public hearing whenever such a hearing might clarify one or more issues concerning a post-closure plan. The Regional Administrator will give public notice of the hearing at least 30 days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for the public to submit written comments, and the two notices may be combined.) The Regional Administrator will approve, modify, or disapprove the plan within 90 days of its receipt. If the Regional Administrator does not approve the plan he shall provide the owner or operator with a detailed written statement of reasons for the refusal and the owner or operator must modify the plan or submit a new plan for approval within 30 days after receiving such written statement. The Regional Administrator will approve or modify this plan in writing within 60 days. If the Regional Administrator modifies the plan, this modified plan becomes the approved post-closure plan. The Regional Administrator must ensure that the approved post-closure plan is consistent with §§ 265.117 through 265.120. A copy of the modified plan with a detailed statement of reasons for the modifications must be mailed to the owner or operator.

(g) The post-closure plan and length of the post-closure care period may be modified any time prior to the end of the post-closure care period in either of the following two ways:

(1) The owner or operator or any member of the public may petition the Regional Administrator to extend or reduce the post-closure care period applicable to a hazardous waste management unit or facility based on cause, or alter the requirements of the post-closure care period based on cause.

(i) The petition must include evidence demonstrating that:

(A) The secure nature of the hazardous waste management unit or facility makes the post-closure care requirement(s) unnecessary or supports reduction of the post-closure care period specified in the current post-closure plan (e.g., leachate or ground-water monitoring results, characteristics of the wastes, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the facility is secure), or

(B) The requested extension in the post-closure care period or alteration of post-closure care requirements is necessary to prevent threats to human

health and the environment (e.g., leachate or ground-water monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment).

(ii) These petitions will be considered by the Regional Administrator only when they present new and relevant information not previously considered by the Regional Administrator. Whenever the Regional Administrator is considering a petition, he will provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments within 30 days of the date of the notice. He will also, in response to a request or at his own discretion, hold a public hearing whenever a hearing might clarify one or more issues concerning the post-closure plan. The Regional Administrator will give the public notice of the hearing at least 30 days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for written public comments, and the two notices may be combined.) After considering the comments, he will issue a final determination, based upon the criteria set forth in paragraph (g)(1) of this section.

(iii) If the Regional Administrator denies the petition, he will send the petitioner a brief written response giving a reason for the denial.

(2) The Regional Administrator may tentatively decide to modify the post-closure plan if he deems it necessary to prevent threats to human health and the environment. He may propose to extend or reduce the post-closure care period applicable to a hazardous waste management unit or facility based on cause or alter the requirements of the post-closure care period based on cause.

(i) The Regional Administrator will provide the owner or operator and the affected public, through a newspaper notice, the opportunity to submit written comments within 30 days of the date of the notice and the opportunity for a public hearing as in paragraph (g)(1)(ii) of this section. After considering the comments, he will issue a final determination.

(ii) The Regional Administrator will base his final determination upon the same criteria as required for petitions under paragraph (g)(1)(i) of this section. A modification of the post-closure plan may include, where appropriate, the temporary suspension rather than permanent deletion of one or more post-closure care requirements. At the end of the specified period of suspension, the Regional Administrator would then determine whether the requirement(s) should be permanently discontinued or reinstated to prevent threats to human health and the environment.

[51 FR 16451, May 2, 1986, as amended at 53 FR 37935, Sept. 28, 1988]

§ 265.119 Post-closure notices.

(a) No later than 60 days after certification of closure of each hazardous waste disposal unit, the owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Regional Administrator, a record of the type, location, and quantity of hazardous wastes disposed of within each cell or other disposal unit of the facility. For hazardous wastes disposed of before January 12, 1981, the owner or operator must identify the type, location and quantity of the hazardous wastes to the best of his knowledge and in accordance with any records he has kept.

(b) Within 60 days of certification of closure of the first hazardous waste disposal unit and within 60 days of certification of closure of the last hazardous waste disposal unit, the owner or operator must:

(1) Record, in accordance with State law, a notation on the deed to the facility property—or on some other instrument which is normally examined during title search—that will in perpetuity notify any potential purchaser of the property that:

(i) The land has been used to manage hazardous wastes; and

(ii) Its use is restricted under 40 CFR subpart G regulations; and

(iii) The survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell or other hazardous waste disposal unit of the facility required by §§ 265.116 and 265.119(a) have been filed with the local zoning authority or the authority with

jurisdiction over local land use and with the Regional Administrator; and

(2) Submit a certification signed by the owner or operator that he has recorded the notation specified in paragraph (b)(1) of this section and a copy of the document in which the notation has been placed, to the Regional Administrator.

(c) If the owner or operator or any subsequent owner of the land upon which a hazardous waste disposal unit was located wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, and all contaminated structures, equipment, and soils, he must request a modification to the approved post-closure plan in accordance with the requirements of § 265.118(g). The owner or operator must demonstrate that the removal of hazardous wastes will satisfy the criteria of § 265.117(c). By removing hazardous waste, the owner or operator may become a generator of hazardous waste and must manage it in accordance with all applicable requirements of this chapter. If the owner or operator is granted approval to conduct the removal activities, the owner or operator may request that the Regional Administrator approve either:

(1) The removal of the notation on the deed to the facility property or other instrument normally examined during title search, or

(2) The addition of a notation to the deed or instrument indicating the removal of the hazardous waste.

§ 265.120 Certification of completion of post-closure care.

No later than 60 days after the completion of the established post-closure care period for each hazardous waste disposal unit, the owner or operator must submit to the Regional Administrator, by registered mail, a certification that the post-closure care period for the hazardous waste disposal unit was performed in accordance with the specifications in the approved post-closure plan. The certification must be signed by the owner or operator and an independent registered professional engineer. Documentation supporting the independent registered professional engineer's certification must be furnished to the Regional Administrator upon request until he releases the owner or operator from the financial assurance requirements for post-closure care under § 265.145(h).

Subpart H—Financial Requirements

SOURCE: 47 FR 15064, Apr. 7, 1982, unless otherwise noted.

§ 265.140 Applicability.

(a) The requirements of §§ 265.142, 265.143 and 265.147 through 265.150 apply to owners or operators of all hazardous waste facilities, except as provided otherwise in this section or in § 265.1.

(b) The requirements of §§ 265.144 and 265.146 apply only to owners and operators of:

(1) Disposal facilities;

(2) Tank systems that are required under § 264.197 of this chapter to meet the requirements for landfills; and

(3) Containment buildings that are required under § 265.1102 to meet the requirements for landfills.

(c) States and the Federal government are exempt from the requirements of this subpart.

[47 FR 15064, Apr. 7, 1982, as amended at 51 FR 16455, May 2, 1986; 51 FR 25479, July 14, 1986; 57 FR 37267, Aug. 18, 1992]

§ 265.141 Definitions of terms as used in this subpart.

(a) *Closure plan* means the plan for closure prepared in accordance with the requirements of § 265.112.

(b) *Current closure cost estimate* means the most recent of the estimates prepared in accordance with § 265.142 (a), (b), and (c).

(c) *Current post-closure cost estimate* means the most recent of the estimates prepared in accordance with § 265.144 (a), (b), and (c).

(d) *Parent corporation* means a corporation which directly owns at least 50 percent of the voting stock of the corporation which is the facility owner or operator; the latter corporation is deemed a ''subsidiary'' of the parent corporation.

(e) *Post-closure plan* means the plan for post-closure care prepared in accordance with the requirements of §§ 265.117 through 265.120.

(f) The following terms are used in the specifications for the financial tests for closure, post-closure care, and liability coverage. The definitions are intended to assist in the understanding of these regulations and are not intended to limit the meanings of terms in a way that conflicts with generally accepted accounting practices.

Assets means all existing and all probable future economic benefits obtained or controlled by a particular entity.

Current assets means cash or other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.

Current liabilities means obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities.

Current plugging and abandonment cost estimate means the most recent of the estimates prepared in accordance with § 144.62(a), (b), and (c) of this title.

Independently audited refers to an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.

Liabilities means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.

Net working capital means current assets minus current liabilities.

Net worth means total assets minus total liabilities and is equivalent to owner's equity.

Tangible net worth means the tangible assets that remain after deducting liabilities; such assets would not include intangibles such as goodwill and rights to patents or royalties.

(g) In the liability insurance requirements the terms *bodily injury* and *property damage* shall have the meanings given these terms by applicable State law. However, these terms do not include those liabilities which, consistent with standard industry practice, are excluded from coverage in liability policies for bodily injury and property damage. The Agency intends the meanings of other terms used in the liability insurance requirements to be consistent with their common meanings within the insurance industry. The definitions given below of several of the terms are intended to assist in the understanding of these regulations and are not intended to limit their meanings in a way that conflicts with general insurance industry usage.

Accidental occurrence means an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage neither expected nor intended from the standpoint of the insured.

Legal defense costs means any expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

Nonsudden accidental occurrence means an occurrence which takes place over time and involves continuous or repeated exposure.

Sudden accidental occurrence means an occurrence which is not continuous or repeated in nature.

(h) *Substantial business relationship* means the extent of a business relationship necessary under applicable State law to make a guarantee contract issued incident to that relationship valid and enforceable. A ''substantial business relationship'' must arise from a pattern of recent or ongoing business transactions, in addition to the guarantee itself, such that a currently existing business relationship between the guarantor and the owner or operator is demonstrated to the satisfaction of the applicable EPA Regional Administrator.

[47 FR 16558, Apr. 16, 1982, as amended at 51 FR 16456, May 2, 1986; 53 FR 33959, Sept. 1, 1988]

§ 265.142 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 §§ 265.111 through 265.115 and applicable closure requirements in §§ 265.178, 265.197, 265.228, 265.258, 265.280, 265.310, 265.351, 265.381, 265.404, and 265.1102.

(1) The estimate must equal the cost of final closure at the point in the facility's active life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan (see § 265.112(b)); and

(2) The closure cost estimate must be based on the costs to the owner or operator of hiring a third party to close the facility. A third party is a party who is neither a parent nor a subsidiary of the owner or operator. (See definition of parent corporation in § 265.141(d).) The owner or operator may use costs for on-site disposal if he can demonstrate that on-site disposal capacity will exist at all times over the life of the facility.

(3) The closure cost estimate may not incorporate any salvage value that may be realized with the sale of hazardous wastes, or non-hazardous wastes if applicable under § 265.113(d), facility structures or equipment, land, or other assets associated with the facility at the time of partial or final closure.

(4) The owner or operator may not incorporate a zero cost for hazardous wastes, or non-hazardous wastes if applicable under § 265.113(d), that might have economic value.

(b) During the active life of the facility, the owner or operator must adjust the closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with § 265.143. For owners and operators using the financial test or corporate guarantee, the closure cost estimate must be updated for inflation within 30 days after the close of the firm's fiscal year and before submission of updated information to the Regional Administrator as specified in § 265.143(e)(3). The adjustment may be made by recalculating the closure cost estimate in current dollars, or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its *Survey of Current Business*, as specified in paragraphs (b)(1) and (2) of this section. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(1) The first adjustment is made by multiplying the closure cost estimate by the inflation factor. The result is the adjusted closure cost estimate.

(2) Subsequent adjustments are made by multiplying the latest adjusted closure cost estimate by the latest inflation factor.

(c) During the active life of the facility, the owner or operator must revise the closure cost estimate no later than 30 days after a revision has been made to the closure plan which increases the cost of closure. If the owner or operator has an approved closure plan, the closure cost estimate must be revised no later than 30 days after the Regional Administrator has approved the request to modify the closure plan, if the change in the closure plan increases the cost of closure. The revised closure cost estimate must be adjusted for inflation as specified in § 265.142(b).

(d) The owner or operator must keep the following at the facility during the operating life of the facility: The latest closure cost estimate prepared in accordance with §§ 265.142 (a) and (c) and, when this estimate has been adjusted in accordance with § 265.142(b), the latest adjusted closure cost estimate.

[47 FR 15064, Apr. 7, 1982, as amended at 50 FR 4514, Jan. 31, 1985; 51 FR 16456, May 2, 1986; 54 FR 33397, Aug. 14, 1989; 57 FR 37267, Aug. 18, 1992]

§ 265.143 Financial assurance for closure.

By the effective date of these regulations, an owner or operator of each facility must establish financial assurance for closure of the facility. He must choose from the options as specified in paragraphs (a) through (e) of this section.

(a) *Closure trust fund.* (1) An owner or operator may satisfy the requirements of this section by establishing a closure trust fund which conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Regional Administrator. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(2) The wording of the trust agreement must be identical to the wording

specified in § 264.151(a)(1), and the trust agreement must be accompanied by a formal certification of acknowledgment (for example, see § 264.151(a)(2)). Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current closure cost estimate covered by the agreement.

(3) Payments into the trust fund must be made annually by the owner or operator over the 20 years beginning with the effective date of these regulations or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the ''pay-in period.'' The payments into the closure trust fund must be made as follows:

(i) The first payment must be made by the effective date of these regulations, except as provided in paragraph (a)(5) of this section. The first payment must be at least equal to the current closure cost estimate, except as provided in § 265.143(f), divided by the number of years in the pay-in period.

(ii) Subsequent payments must be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment must be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the current closure cost estimate at the time the fund is established. However, he must maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in paragraph (a)(3) of this section.

(5) If the owner or operator establishes a closure trust fund after having used one or more alternate mechanisms specified in this section, his first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made as specified in paragraph (a)(3) of this section.

(6) After the pay-in period is completed, whenever the current closure cost estimate changes, the owner or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(7) If the value of the trust fund is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the Regional Administrator for release of the amount in excess of the current closure cost estimate.

(8) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, he may submit a written request to the Regional Administrator for release of the amount in excess of the current closure cost estimate covered by the trust fund.

(9) Within 60 days after receiving a request from the owner or operator for release of funds as specified in paragraph (a) (7) or (8) of this section, the Regional Administrator will instruct the trustee to release to the owner or operator such funds as the Regional Administrator specifies in writing.

(10) After beginning partial or final closure, an owner or operator or another person authorized to conduct partial or final closure may request reimbursements for partial or final closure expenditures by submitting itemized bills to the Regional Administrator. The owner or operator may request reimbursements for partial closure only if sufficient funds are remaining in the trust fund to cover the maximum costs of closing the facility over its remaining operating life. No later than 60 days after receiving bills for partial or final closure activities,

the Regional Administrator will instruct the trustee to make reimbursements in those amounts as the Regional Administrator specifies in writing, if the Regional Administrator determines that the partial or final closure expenditures are in accordance with the approved closure plan, or otherwise justified. If the Regional Administrator has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the value of the trust fund, he may withhold reimbursements of such amounts as he deems prudent until he determines, in accordance with § 265.143(h) that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the Regional Administrator does not instruct the trustee to make such reimbursements, he will provide to the owner or operator a detailed written statement of reasons.

(11) The Regional Administrator will agree to termination of the trust when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 265.143(h).

(b) *Surety bond guaranteeing payment into a closure trust fund.* (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Regional Administrator. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in § 264.151(b).

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust fund must meet the requirements specified in § 265.143(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Regional Administrator with the surety bond; and

(ii) Until the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 265.143(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(ii) Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin final closure issued by the Regional Administrator becomes final, or within 15 days after an order to begin final closure is issued by a U.S. district court or other court of competent jurisdiction; or

(iii) Provide alternate financial assurance as specified in this section, and obtain the Regional Administrator's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond must be in an amount at least equal to the current closure cost estimate, except as provided in § 265.143(f).

(7) Whenever the current closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current closure cost

estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the Regional Administrator.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the Regional Administrator has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this section.

(c) *Closure letter of credit.* (1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph and submitting the letter to the Regional Administrator. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(2) The wording of the letter of credit must be identical to the wording specified in § 264.151(d).

(3) An owner or operator who uses a letter of credit to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Regional Administrator will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust fund must meet the requirements of the trust fund specified in § 265.143(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Regional Administrator with the letter of credit; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 265.143(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: The EPA Identification Number, name, and address of the facility, and the amount of funds assured for closure of the facility by the letter of credit.

(5) The letter of credit must be irrevocable and issued for a period of at least 1 year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least 1 year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the Regional Administrator by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the Regional Administrator have received the notice, as evidenced by the return receipts.

(6) The letter of credit must be issued in an amount at least equal to the current closure cost estimate, except as provided in § 265.143(f).

(7) Whenever the current closure cost estimate increases to an amount greater than the amount of the credit, the owner or operator, within 60 days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases,

the amount of the credit may be reduced to the amount of the current closure cost estimate following written approval by the Regional Administrator.

(8) Following a final administrative determination pursuant to section 3008 of RCRA that the owner or operator has failed to perform final closure in accordance with the approved closure plan when required to do so, the Regional Administrator may draw on the letter of credit.

(9) If the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of such alternate assurance from the Regional Administrator within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Regional Administrator will draw on the letter of credit. The Regional Administrator may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any such extension the Regional Administrator will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of such assurance from the Regional Administrator.

(10) The Regional Administrator will return the letter of credit to the issuing institution for termination when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 265.143(h).

(d) *Closure insurance.* (1) An owner or operator may satisfy the requirements of this section by obtaining closure insurance which conforms to the requirements of this paragraph and submitting a certificate of such insurance to the Regional Administrator. By the effective date of these regulations the owner or operator must submit to the Regional Administrator a letter from an insurer stating that the insurer is considering issuance of closure insurance conforming to the requirements of this paragraph to the owner or operator. Within 90 days after the effective date of these regulations, the owner or operator must submit the certificate of insurance to the Regional Administrator or establish other financial assurance as specified in this section. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) The wording of the certificate of insurance must be identical to the wording specified in § 264.151(e).

(3) The closure insurance policy must be issued for a face amount at least equal to the current closure cost estimate, except as provided in § 265.143(f). The term ''face amount'' means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) The closure insurance policy must guarantee that funds will be available to close the facility whenever final closure occurs. The policy must also guarantee that once final closure begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Regional Administrator, to such party or parties as the Regional Administrator specifies.

(5) After beginning partial or final closure, an owner or operator or any other person authorized to conduct closure may request reimbursements for closure expenditures by submitting itemized bills to the Regional Administrator. The owner or operator may request reimbursements for partial closure only if the remaining value of the policy is sufficient to cover the maximum costs of closing the facility over its remaining operating life. Within 60 days after receiving bills for closure activities, the Regional Administrator will instruct the insurer to make reimbursements in such amounts as the Regional Administrator specifies in writing if the Regional Administrator determines that the partial or final closure expenditures are in accordance

with the approved closure plan or otherwise justified. If the Regional Administrator has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the face amount of the policy, he may withhold reimbursement of such amounts as he deems prudent until he determines, in accordance with § 265.143(h), that the owner or operator is no longer required to maintain financial assurance for final closure of the particular facility. If the Regional Administrator does not instruct the insurer to make such reimbursements, he will provide to the owner or operator a detailed written statement of reasons.

(6) The owner or operator must maintain the policy in full force and effect until the Regional Administrator consents to termination of the policy by the owner or operator as specified in paragraph (d)(10) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in this section, will constitute a significant violation of these regulations, warranting such remedy as the Regional Administrator deems necessary. Such violation will be deemed to begin upon receipt by the Regional Administrator of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(8) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Regional Administrator. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the Regional Administrator and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

(i) The Regional Administrator deems the facility abandoned; or

(ii) Interim status is terminated or revoked; or

(iii) Closure is ordered by the Regional Administrator or a U.S. district court or other court of competent jurisdiction; or

(iv) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

(v) The premium due is paid.

(9) Whenever the current closure cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the face amount may be reduced to the amount of the current closure cost estimate following written approval by the Regional Administrator.

(10) The Regional Administrator will give written consent to the owner or operator that he may terminate the insurance policy when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 265.143(h).

(e) *Financial test and corporate guarantee for closure.* (1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria of either paragraph (e)(1)(i) or (ii) of this section:

(i) The owner or operator must have:

(A) Two of the following three ratios: A ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(B) Net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) Tangible net worth at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(2) The phrase ''current closure and post-closure cost estimates'' as used in paragraph (e)(1) of this section refers to the cost estimates required to be shown in paragraphs 1–4 of the letter from the owner's or operator's chief financial officer (§ 264.151(f)). The phrase ''current plugging and abandonment cost estimates'' as used in paragraph (e)(1) of this section refers to the cost estimates required to be shown in paragraphs 1–4 of the letter from the owner's or operator's chief financial officer (§ 144.70(f) of this title).

(3) To demonstrate that he meets this test, the owner or operator must submit the following items to the Regional Administrator:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in § 264.151(f); and

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) The owner or operator may obtain an extension of the time allowed for submission of the documents specified in paragraph (e)(3) of this section if the fiscal year of the owner or operator ends during the 90 days prior to the effective date of these regulations and if the year-end financial statements for that fiscal year will be audited by an independent certified public accountant. The extension will end no later than 90 days after the end of the owner's or operator's fiscal year. To obtain the extension, the owner's or operator's chief financial officer must send, by the effective date of these regulations, a letter to the Regional Administrator of each Region in which the owner's or operator's facilities to be covered by the financial test are located. This letter from the chief financial officer must:

(i) Request the extension;

(ii) Certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

(iii) Specify for each facility to be covered by the test the EPA Identification Number, name, address, and current closure and post-closure cost estimates to be covered by the test;

(iv) Specify the date ending the owner's or operator's last complete fiscal year before the effective date of these regulations;

(v) Specify the date, no later than 90 days after the end of such fiscal year, when he will submit the documents specified in paragraph (e)(3) of this section; and

(vi) Certify that the year-end financial statements of the owner or operator for such fiscal year will be audited by an independent certified public accountant.

(5) After the initial submission of items specified in paragraph (e)(3) of this section, the owner or operator must send updated information to the Regional Administrator within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (e)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (e)(1) of this section, he must send notice to the Regional Administrator of intent to establish alternate financial assurance as specified in this section. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within 120 days after the end of such fiscal year.

(7) The Regional Administrator may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (e)(1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in paragraph (e)(3) of this section. If the Regional Administrator finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (e)(1) of this section, the owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of such a finding.

(8) The Regional Administrator may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (e)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Regional Administrator will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of the disallowance.

(9) The owner or operator is no longer required to submit the items specified in paragraph (e)(3) of this section when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 265.143(h).

(10) An owner or operator may meet the requirements of this section by obtaining a written guarantee. The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a ''substantial business relationship'' with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (e)(1) through (8) of this section and must comply with the terms of the guarantee. The wording of the guarantee must be identical to the wording specified in § 264.151(h). A certified copy of the guarantee must accompany the items sent to the Regional Administrator as specified in paragraph (e)(3) of this section. One of these items must be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, the letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a ''substantial business relationship'' with the owner or operator, this letter must describe this ''substantial business relationship'' and the value received in consideration of the guarantee. The terms of the guarantee must provide that:

(i) If the owner or operator fails to perform final closure of a facility covered by the corporate guarantee in accordance with the closure plan and other interim status requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in § 265.143(a) in the name of the owner or operator.

(ii) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidenced by the return receipts.

(iii) If the owner or operator fails to provide alternate financial assurance as specified in this section and obtain the written approval of such alternate assurance from the Regional Administrator within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternate financial assurance in the name of the owner or operator.

(f) *Use of multiple financial mechanisms.* An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds, letters of credit, and insurance. The mechanisms must be as specified in paragraphs (a) through (d), respectively, of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The Regional Administrator may use any or all of the mechanisms to provide for closure of the facility.

(g) *Use of a financial mechanism for multiple facilities.* An owner or operator may use a financial assurance mechanism specified in this section to meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the Regional Administrator must include a list showing, for each facility, the EPA Identification Number, name, address, and the amount of funds for closure assured by the mechanism. If the facilities covered by the mechanism are in more than one Region, identical evidence of financial assurance must be submitted to and maintained with the Regional Administrators of all such Regions. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for closure of any of the facilities covered by the mechanism, the Regional Administrator may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(h) *Release of the owner or operator from the requirements of this section.* Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that final closure has been completed in accordance with the approved closure plan, the Regional Administrator will notify the owner or operator in writing that he is no longer required by this section to maintain financial assurance for final closure of the facility, unless the Regional Administrator has reason to believe that final closure has not been in accordance with the approved closure plan. The Regional Administrator shall provide the owner or operator a detailed written statement of any such reason to believe that closure has not been in accordance with the approved closure plan.

[47 FR 15064, Apr. 7, 1982, as amended at 51 FR 16456, May 2, 1986; 57 FR 42843, Sept. 16, 1992]

§ 265.144 Cost estimate for post-closure care.

(a) The owner or operator of a hazardous waste disposal unit 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 §§ 265.117 through 265.120, 265.228, 265.258, 265.280, and 265.310.

(1) The post-closure cost estimate must be based on the costs to the owner or operator of hiring a third party to conduct post-closure care activities. A third party is a party who is neither a parent nor subsidiary of the owner or operator. (See definition of parent corporation in § 265.141(d).)

(2) The post-closure cost estimate is calculated by multiplying the annual post-closure cost estimate by the number of years of post-closure care required under § 265.117.

(b) During the active life of the facility, the owner or operator must adjust the post-closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with § 265.145. For owners or operators using the financial test or corporate guarantee, the post-closure care cost estimate must be updated for inflation no later than 30 days after the close of the firm's fiscal year and before submission of updated information to the Regional Administrator as specified in § 265.145(d)(5). The adjustment may be made by recalculating the post-closure cost estimate in current dollars or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its *Survey of Current Business* as specified in § 265.145 (b)(1) and (2). The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(1) The first adjustment is made by multiplying the post-closure cost estimate by the inflation factor. The result is the adjusted post-closure cost estimate.

(2) Subsequent adjustments are made by multiplying the latest adjusted post-closure cost estimate by the latest inflation factor.

(c) During the active life of the facility, the owner or operator must revise the post-closure cost estimate no later than 30 days after a revision to the post-closure plan which increases the cost of post-closure care. If the owner or operator has an approved post-closure plan, the post-closure cost estimate must be revised no later than 30 days after the Regional Administrator has approved the request to modify the plan, if the change in the post-closure plan increases the cost of post-closure care. The revised post-closure cost estimate must be adjusted for inflation as specified in § 265.144(b).

(d) The owner or operator must keep the following at the facility during the operating life of the facility: the latest post-closure cost estimate prepared in accordance with § 265.144 (a) and (c) and, when this estimate has been adjusted in accordance with § 265.144(b), the latest adjusted post-closure cost estimate.

[47 FR 15064, Apr. 7, 1982, as amended at 50 FR 4514, Jan. 31, 1985; 51 FR 16457, May 2, 1986]

§ 265.145 Financial assurance for post-closure care.

By the effective date of these regulations, an owner or operator of a facility with a hazardous waste disposal unit must establish financial assurance for post-closure care of the disposal unit(s).

(a) *Post-closure trust fund.* (1) An owner or operator may satisfy the requirements of this section by establishing a post-closure trust fund which conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Regional Administrator. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(2) The wording of the trust agreement must be identical to the wording specified in § 264.151(a)(1), and the trust agreement must be accompanied by a formal certification of acknowledgment (for example, see § 264.151(a)(2)). Schedule A of the trust agreement

must be updated within 60 days after a change in the amount of the current post-closure cost estimate covered by the agreement.

(3) Payments into the trust fund must be made annually by the owner or operator over the 20 years beginning with the effective date of these regulations or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the ''pay-in period.'' The payments into the post-closure trust fund must be made as follows:

(i) The first payment must be made by the effective date of these regulations, except as provided in paragraph (a)(5) of this section. The first payment must be at least equal to the current post-closure cost estimate, except as provided in § 265.145(f), divided by the number of years in the pay-in period.

(ii) Subsequent payments must be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment must be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current post-closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the current post-closure cost estimate at the time the fund is established. However, he must maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in paragraph (a)(3) of this section.

(5) If the owner or operator establishes a post-closure trust fund after having used one or more alternate mechanisms specified in this section, his first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made as specified in paragraph (a)(3) of this section.

(6) After the pay-in period is completed, whenever the current post-closure cost estimate changes during the operating life of the facility, the owner or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current post-closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(7) During the operating life of the facility, if the value of the trust fund is greater than the total amount of the current post-closure cost estimate, the owner or operator may submit a written request to the Regional Administrator for release of the amount in excess of the current post-closure cost estimate.

(8) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, he may submit a written request to the Regional Administrator for release of the amount in excess of the current post-closure cost estimate covered by the trust fund.

(9) Within 60 days after receiving a request from the owner or operator for release of funds as specified in paragraph (a) (7) or (8) of this section, the Regional Administrator will instruct the trustee to release to the owner or operator such funds as the Regional Administrator specifies in writing.

(10) During the period of post-closure care, the Regional Administrator may approve a release of funds if the owner or operator demonstrates to the Regional Administrator that the value of the trust fund exceeds the remaining cost of post-closure care.

(11) An owner or operator or any other person authorized to conduct post-closure care may request reimbursements for post-closure expenditures by submitting itemized bills to the Regional Administrator. Within 60 days after receiving bills for post-closure care activities, the Regional Administrator will instruct the trustee to make reimbursements in those

amounts as the Regional Administrator specifies in writing, if the Regional Administrator determines that the post-closure expenditures are in accordance with the approved post-closure plan or otherwise justified. If the Regional Administrator does not instruct the trustee to make such reimbursements, he will provide the owner or operator with a detailed written statement of reasons.

(12) The Regional Administrator will agree to termination of the trust when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 265.145(h).

(b) *Surety bond guaranteeing payment into a post-closure trust fund.* (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Regional Administrator. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in § 264.151(b).

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust fund must meet the requirements specified in § 265.145(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Regional Administrator with the surety bond; and

(ii) Until the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 265.145(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current post-closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(ii) Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin final closure issued by the Regional Administrator becomes final, or within 15 days after an order to begin final closure is issued by a U.S. district court or other court of competent jurisdiction; or

(iii) Provide alternate financial assurance as specified in this section, and obtain the Regional Administrator's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond must be in an amount at least equal to the current post-closure cost estimate, except as provided in § 265.145(f).

(7) Whenever the current post-closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate decreases, the penal sum may be reduced to the amount of the current post-closure cost estimate following written approval by the Regional Administrator.

(8) Under the terms of the bond, the surety may cancel the bond by sending

notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the Regional Administrator has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this section.

(c) *Post-closure letter of credit.* (1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph and submitting the letter to the Regional Administrator. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(2) The wording of the letter of credit must be identical to the wording specified in § 264.151(d).

(3) An owner or operator who uses a letter of credit to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Regional Administrator will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust fund must meet the requirements of the trust fund specified in § 265.145(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Regional Administrator with the letter of credit; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 265.145(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current post-closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: The EPA Identification Number, name, and address of the facility, and the amount of funds assured for post-closure care of the facility by the letter of credit.

(5) The letter of credit must be irrevocable and issued for a period of at least 1 year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least 1 year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the Regional Administrator by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the Regional Administrator have received the notice, as evidenced by the return receipts.

(6) The letter of credit must be issued in an amount at least equal to the current post-closure cost estimate, except as provided in § 265.145(f).

(7) Whenever the current post-closure cost estimate increases to an amount greater than the amount of the credit during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current post-closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the amount of the credit may be reduced to the amount of the current post-closure cost estimate following written approval by the Regional Administrator.

(8) During the period of post-closure care, the Regional Administrator may approve a decrease in the amount of

the letter of credit if the owner or operator demonstrates to the Regional Administrator that the amount exceeds the remaining cost of post-closure care.

(9) Following a final administrative determination pursuant to section 3008 of RCRA that the owner or operator has failed to perform post-closure care in accordance with the approved post-closure plan and other permit requirements, the Regional Administrator may draw on the letter of credit.

(10) If the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of such alternate assurance from the Regional Administrator within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Regional Administrator will draw on the letter of credit. The Regional Administrator may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any such extension the Regional Administrator will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of such assurance from the Regional Administrator.

(11) The Regional Administrator will return the letter of credit to the issuing institution for termination when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 265.145(h).

(d) *Post-closure insurance.* (1) An owner or operator may satisfy the requirements of this section by obtaining post-closure insurance which conforms to the requirements of this paragraph and submitting a certificate of such insurance to the Regional Administrator. By the effective date of these regulations the owner or operator must submit to the Regional Administrator a letter from an insurer stating that the insurer is considering issuance of post-closure insurance conforming to the requirements of this paragraph to the owner or operator. Within 90 days after the effective date of these regulations, the owner or operator must submit the certificate of insurance to the Regional Administrator or establish other financial assurance as specified in this section. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) The wording of the certificate of insurance must be identical to the wording specified in § 264.151(e).

(3) The post-closure insurance policy must be issued for a face amount at least equal to the current post-closure cost estimate, except as provided in § 265.145(f). The term ''face amount'' means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) The post-closure insurance policy must guarantee that funds will be available to provide post-closure care of the facility whenever the post-closure period begins. The policy must also guarantee that once post-closure care begins the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Regional Administrator, to such party or parties as the Regional Administrator specifies.

(5) An owner or operator or any other person authorized to perform post-closure care may request reimbursement for post-closure care expenditures by submitting itemized bills to the Regional Administrator. Within 60 days after receiving bills for post-closure care activities, the Regional Administrator will instruct the insurer to make reimbursements in those amounts as the Regional Administrator specifies in writing, if the Regional Administrator determines that the post-closure expenditures are in accordance with the approved post-closure plan or otherwise justified. If the

Regional Administrator does not instruct the insurer to make such reimbursements, he will provide a detailed written statement of reasons.

(6) The owner or operator must maintain the policy in full force and effect until the Regional Administrator consents to termination of the policy by the owner or operator as specified in paragraph (d)(11) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in the section, will constitute a significant violation of these regulations, warranting such remedy as the Regional Administrator deems necessary. Such violation will be deemed to begin upon receipt by the Regional Administrator of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy most contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(8) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Regional Administrator. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the Regional Administrator and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

(i) The Regional Administrator deems the facility abandoned; or

(ii) Interim status is terminated or revoked; or

(iii) Closure is ordered by the Regional Administrator or a U.S. district court or other court of competent jurisdiction; or

(iv) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

(v) The premium due is paid.

(9) Whenever the current post-closure cost estimate increases to an amount greater than the face amount of the policy during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the face amount may be reduced to the amount of the current post-closure cost estimate following written approval by the Regional Administrator.

(10) Commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. Such increase must be equivalent to the face amounts of the policy, less any payments made, multiplied by an amount equivalent to 85 percent of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. Treasury for 26-week Treasury securities.

(11) The Regional Administrator will give written consent to the owner or operator that he may terminate the insurance policy when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 265.145(h).

(e) *Financial test and corporate guarantee for post-closure care.* (1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the

criteria either of paragraph (e)(1)(i) or (ii) of this section:

(i) The owner or operator must have:

(A) Two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(B) Net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) Tangible net worth at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets located in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(2) The phrase ''current closure and post-closure cost estimates'' as used in paragraph (e)(1) of this section refers to the cost estimates required to be shown in paragraphs 1–4 of the letter from the owner's or operator's chief financial officer (§ 264.151(f)). The phrase ''current plugging and abandonment cost estimates'' as used in paragraph (e)(1) of this section refers to the cost estimates required to be shown in paragraphs 1–4 of the letter from the owner's or operator's chief financial officer (§ 144.70(f) of this title).

(3) To demonstrate that he meets this test, the owner or operator must submit the following items to the Regional Administrator:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in § 264.151(f); and

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) The owner or operator may obtain an extension of the time allowed for submission of the documents specified in paragraph (e)(3) of this section if the fiscal year of the owner or operator ends during the 90 days prior to the effective date of these regulations and if the year-end financial statements for that fiscal year will be audited by an independent certified public accountant. The extension will end no later than 90 days after the end of the owner's or operator's fiscal year. To obtain the extension, the owner's or operator's chief financial officer must send, by the effective date of these regulations, a letter to the Regional Administrator of each Region in which the owner's or operator's facilities to be covered by the financial test are located. This letter from the chief financial officer must:

(i) Request the extension;

(ii) Certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

(iii) Specify for each facility to be covered by the test the EPA Identification Number, name, address, and the

current closure and post-closure cost estimates to be covered by the test;

(iv) Specify the date ending the owner's or operator's latest complete fiscal year before the effective date of these regulations;

(v) Specify the date, no later than 90 days after the end of such fiscal year, when he will submit the documents specified in paragraph (e)(3) of this section; and

(vi) Certify that the year-end financial statements of the owner or operator for such fiscal year will be audited by an independent certified public accountant.

(5) After the initial submission of items specified in paragraph (e)(3) of this section, the owner or operator must send updated information to the Regional Administrator within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (e)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (e)(1) of this section, he must send notice to the Regional Administrator of intent to establish alternate financial assurance as specified in this section. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within 120 days after the end of such fiscal year.

(7) The Regional Administrator may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (e)(1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in paragraph (e)(3) of this section. If the Regional Administrator finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (e)(1) of this section, the owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of such a finding.

(8) The Regional Administrator may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (e)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Regional Administrator will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of the disallowance.

(9) During the period of post-closure care, the Regional Administrator may approve a decrease in the current post-closure cost estimate for which this test demonstrates financial assurance if the owner or operator demonstrates to the Regional Administrator that the amount of the cost estimate exceeds the remaining cost of post-closure care.

(10) The owner or operator is no longer required to submit the items specified in paragraph (e)(3) of this section when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 265.145(h).

(11) An owner or operator may meet the requirements for this section by obtaining a written guarantee. The guarantor must be the direct of higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a ''substantial business relationship'' with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (f)(1) through (9) of this section and must comply with the terms of the guarantee. The wording of the guarantee must be identical to the wording specified in § 264.151(h). A certified copy of the guarantee must accompany the items sent to the Regional Administrator as specified in paragraph (f)(3) of this section. One of these items must be the letter from the guarantor's chief financial officer. If the guarantor's parent

corporation is also the parent corporation of the owner or operator, the letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a ''substantial business relationship'' with the owner or operator, this letter must describe this ''substantial business relationship'' and the value received in consideration of the guarantee. The terms of the guarantee must provide that:

(i) If the owner or operator fails to perform post-closure care of a facility covered by the corporate guarantee in accordance with the post-closure plan and other interim status requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in § 265.145(a) in the name of the owner or operator.

(ii) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidenced by the return receipts.

(iii) If the owner or operator fails to provide alternate financial assurance as specified in this section and obtain the written approval of such alternate assurance from the Regional Administrator within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternate financial assurance in the name of the owner or operator.

(f) *Use of multiple financial mechanisms.* An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds, letters of credit, and insurance. The mechanisms must be as specified in paragraphs (a) through (d), respectively, of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current post-closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The Regional Administrator may use any or all of the mechanisms to provide for post-closure care of the facility.

(g) *Use of a financial mechanism for multiple facilities.* An owner or operator may use a financial assurance mechanism specified in this section to meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the Regional Administrator must include a list showing, for each facility, the EPA Identification Number, name, address, and the amount of funds for post-closure care assured by the mechanism. If the facilities covered by the mechanism are in more than one Region, identical evidence of financial assurance must be submitted to and maintained with the Regional Administrators of all such Regions. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for post-closure care of any of the facilities covered by the mechanism, the Regional Administrator may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(h) *Release of the owner or operator from the requirements of this section.* Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that the post-closure care period has been completed in accordance with the approved post-closure plan, the Regional Administrator will notify the owner or operator in writing that he is no longer required by this section to maintain financial assurance for post-closure care of that unit, unless the Regional Administrator has reason to believe that post-closure care has not been in accordance with the approved post-closure plan. The Regional Administrator will provide the owner

or operator a detailed written statement of any such reason to believe that post-closure care has not been in accordance with the approved post-closure plan.

[47 FR 15064, Apr. 7, 1982, as amended at 51 FR 16457, May 2, 1986; 57 FR 42843, Sept. 16, 1992]

§ 265.146 Use of a mechanism for financial assurance of both closure and post-closure care.

An owner or operator may satisfy the requirements for financial assurance for both closure and post-closure care for one or more facilities by using a trust fund, surety bond, letter of credit, insurance, financial test, or corporate guarantee that meets the specifications for the mechanism in both §§ 265.143 and 265.145. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for financial assurance of closure and of post-closure care.

§ 265.147 Liability requirements.

(a) *Coverage for sudden accidental occurrences.* An owner or operator of a hazardous waste treatment, storage, or disposal facility, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for sudden accidental occurrences in the amount of at least $1 million per occurrence with an annual aggregate of at least $2 million, exclusive of legal defense costs. This liability coverage may be demonstrated as specified in paragraphs (a) (1), (2), (3), (4), (5), or (6) of this section:

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this paragraph.

(i) Each insurance policy must be amended by attachment of the Hazardous Waste Facility Liability Endorsement, or evidenced by a Certificate of Liability Insurance. The wording of the endorsement must be identical to the wording specified in § 264.151(i). The wording of the certificate of insurance must be identical to the wording specified in § 264.151(j). The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Regional Administrator, or Regional Administrator if facilities are located in more than one Region. If requested by a Regional Administrator, the owner or operator must provide a signed duplicate original of the insurance policy.

(ii) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) An owner or operator may meet the requirements of this section by passing a financial test or using the guarantee for liability coverage as specified in paragraphs (f) and (g) of this section.

(3) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in paragraph (h) of this section.

(4) An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in paragraph (i) of this section.

(5) An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in paragraph (j) of this section.

(6) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated must total at least the minimum amounts required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this paragraph, the owner

or operator shall specify at least one such assurance as ''primary'' coverage and shall specify other assurance as ''excess'' coverage.

(7) An owner or operator shall notify the Regional Administrator in writing within 30 days whenever:

(i) A claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in paragraphs (a)(1) through (a)(6) of this section; or

(ii) A Certification of Valid Claim for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under paragraphs (a)(1) through (a)(6) of this section; or

(iii) A final court order establishing a judgment for bodily injury or property damage caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under paragraphs (a)(1) through (a)(6) of this section.

(b) *Coverage for nonsudden accidental occurrences.* An owner or operator of a surface impoundment, landfill, or land treatment facility 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. The owner or operator must have and maintain liability coverage for nonsudden accidental occurrences in the amount of at least $3 million per occurrence with an annual aggregate of at least $6 million, exclusive of legal defense costs. An owner or operator who must meet the requirements of this section may combine the required per-occurrence coverage levels for sudden and nonsudden accidental occurrences into a single per-occurrence level, and combine the required annual aggregate coverage levels for sudden and nonsudden accidental occurrences into a single annual aggregate level. Owners or operators who combine coverage levels for sudden and nonsudden accidental occurrences must maintain liability coverage in the amount of at least $4 million per occurrence and $8 million annual aggregate. This liability coverage may be demonstrated as specified in paragraph (b) (1), (2), (3), (4), (5), or (6) of this section:

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this paragraph.

(2) An owner or operator may meet the requirements of this section by passing a financial test or using the guarantee for liability coverage as specified in paragraphs (f) and (g) of this section.

(3) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in paragraph (h) of this section.

(4) An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in paragraph (i) of this section.

(5) An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in paragraph (j) of this section.

(6) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated must total at least the minimum amounts required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this paragraph, the owner or operator shall specify at least one such assurance as ''primary'' coverage and shall specify other assurance as ''excess'' coverage.

(7) An owner or operator shall notify the Regional Administrator in writing within 30 days whenever:

(i) A claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in paragraphs (b)(1) through (b)(6) of this section; or

(ii) A Certification of Valid Claim for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under paragraphs (b)(1) through (b)(6) of this section; or

(iii) A final court order establishing a judgment for bodily injury or property damage caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under paragraphs (b)(1) through (b)(6) of this section.

(c) *Request for variance.* If an owner or operator can demonstrate to the satisfaction of the Regional Administrator that the levels of financial responsibility required by paragraph (a) or (b) of this section are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the owner or operator may obtain a variance from the Regional Administrator. The request for a variance must be submitted in writing to the Regional Administrator. If granted, the variance will take the form of an adjusted level of required liability coverage, such level to be based on the Regional Administrator's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. The Regional Administrator may require an owner or operator who requests a variance to provide such technical and engineering information as is deemed necessary by the Regional Administrator to determine a level of financial responsibility other than that required by paragraph (a) or (b) of this section. The Regional Administrator will process a variance request as if it were a permit modification request under § 270.41(a)(5) of this chapter and subject to the procedures of § 124.5 of this chapter. Notwithstanding any other provision, the Regional Administrator may hold a public hearing at his discretion or whenever he finds, on the basis of requests for a public hearing, a significant degree of pubic interest in a tentative decision to grant a variance.

(d) *Adjustments by the Regional Administrator.* If the Regional Administrator determines that the levels of financial responsibility required by paragraph (a) or (b) of this section are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the Regional Administrator may adjust the level of financial responsibility required under paragraph (a) or (b) of this section as may be necessary to protect human health and the environment. This adjusted level will be based on the Regional Administrator's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. In addition, if the Regional Administrator determines that there is a significant risk to human health and the environment from nonsudden accidental occurrences resulting from the operations of a facility that is not a surface impoundment, landfill, or land treatment facility, he may require that an owner or operator of the facility comply with paragraph (b) of this section. An owner or operator must furnish to the Regional Administrator, within a reasonable time, any information which the Regional Administrator requests to determine whether cause exists for such adjustments of level or type of coverage. The Regional Administrator will process an adjustment of the level of required coverage as if it were a permit modification under § 270.41(a)(5) of this chapter and subject to the procedures of § 124.5 of this chapter. Notwithstanding any other provision, the Regional Administrator may hold a public hearing at his discretion or whenever he finds, on the basis of requests for a public hearing, a significant degree of public interest in a tentative decision

to adjust the level or type of required coverage.

(e) *Period of coverage.* Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that final closure has been completed in accordance with the approved closure plan, the Regional Administrator will notify the owner or operator in writing that he is no longer required by this section to maintain liability coverage for that facility, unless the Regional Administrator has reason to believe that closure has not been in accordance with the approved closure plan.

(f) *Financial test for liability coverage.* (1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria of paragraph (f)(1) (i) or (ii) of this section:

(i) The owner or operator must have:

(A) Net working capital and tangible net worth each at least six times the amount of liability coverage to be demonstrated by this test; and

(B) Tangible net worth of at least $10 million; and

(C) Assets in the United States amounting to either: (*1*) At least 90 percent of his total assets; or (*2*) at least six times the amount of liability coverage to be demonstrated by this test.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's, or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) Tangible net worth of at least $10 million; and

(C) Tangible net worth at least six times the amount of liability coverage to be demonstrated by this test; and

(D) Assets in the United States amounting to either: (*1*) At least 90 percent of his total assets; or (*2*) at least six times the amount of liability coverage to be demonstrated by this test.

(2) The phrase ''amount of liability coverage'' as used in paragraph (f)(1) of this section refers to the annual aggregate amounts for which coverage is required under paragraphs (a) and (b) of this section.

(3) To demonstrate that he meets this test, the owner or operator must submit the following three items to the Regional Administrator:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in § 264.151(g). If an owner or operator is using the financial test to demonstrate both assurance for closure or post-closure care, as specified by §§ 264.143(f), 264.145(f), 265.143(e), and 265.145(e), *and* liability coverage, he must submit the letter specified in § 264.151(g) to cover both forms of financial responsibility; a separate letter as specified in § 264.151(f) is not required.

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year.

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) The owner or operator may obtain a one-time extension of the time allowed for submission of the documents specified in paragraph (f)(3) of this section if the fiscal year of the owner or operator ends during the 90 days prior to the effective date of these regulations and if the year-end financial statements for that fiscal year will be audited by an independent certified public accountant. The extension will end no later than 90 days after the end of the owner's or operator's fiscal year. To obtain the extension, the owner's or operator's chief financial officer must send, by the effective date of these regulations, a letter to the Regional Administrator of each Region in which the owner's or operator's facilities to be covered by the financial test are located. This letter from the chief financial officer must:

(i) Request the extension;

(ii) Certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

(iii) Specify for each facility to be covered by the test the EPA Identification Number, name, address, the amount of liability coverage and, when applicable, current closure and post-closure cost estimates to be covered by the test;

(iv) Specify the date ending the owner's or operator's last complete fiscal year before the effective date of these regulations;

(v) Specify the date, no later than 90 days after the end of such fiscal year, when he will submit the documents specified in paragraph (f)(3) of this section; and

(vi) Certify that the year-end financial statements of the owner or operator for such fiscal year will be audited by an independent certified public accountant.

(5) After the initial submission of items specified in paragraph (f)(3) of this section, the owner or operator must send updated information to the Regional Administrator within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (f)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, he must obtain insurance, a letter of credit, a surety bond, a trust fund, or a guarantee for the entire amount of required liability coverage as specified in this section. Evidence of liability coverage must be submitted to the Regional Administrator within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the test requirements.

(7) The Regional Administrator may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (f)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Regional Administrator will evaluate other qualifications on an individual basis. The owner or operator must provide evidence of insurance for the entire amount of required liability coverage as specified in this section within 30 days after notification of disallowance.

(g) *Guarantee for liability coverage.* (1) Subject to paragraph (g)(2) of this section, an owner or operator may meet the requirements of this section by obtaining a written guarantee, hereinafter referred to as ''guarantee.'' The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a ''substantial business relationship'' with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (f)(1) through (f)(6) of this section. The wording of the guarantee must be identical to the wording specified in § 264.151(h)(2) of this chapter. A certified copy of the guarantee must accompany the items sent to the Regional Administrator as specified in paragraph (f)(3) of this section. One of these items must be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, this letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a ''substantial business relationship'' with the owner or operator, this letter must describe this ''substantial business relationship'' and the value received in consideration of the guarantee.

(i) If the owner or operator fails to satisfy a judgment based on a determination of liability for bodily injury or property damage to third parties caused by sudden or nonsudden accidental occurrences (or both as the case may be), arising from the operation of facilities covered by this corporate guarantee, or fails to pay an amount agreed to in settlement of claims arising from or alleged to arise from such injury or damage, the guarantor will do so up to the limits of coverage.

(ii) [Reserved]

(2)(i) In the case of corporations incorporated in the United States, a guarantee may be used to satisfy the requirements of this section only if the

Attorneys General or Insurance Commissioners of (A) the State in which the guarantor is incorporated, and (B) each State in which a facility covered by the guarantee is located have submitted a written statement to EPA that a guarantee executed as described in this section and § 264.151(h)(2) is a legally valid and enforceable obligation in that State.

(ii) In the case of corporations incorporated outside the United States, a guarantee may be used to satisfy the requirements of this section only if (A) the non-U.S. corporation has identified a registered agent for service of process in each State in which a facility covered by the guarantee is located and in the State in which it has its principal place of business, and if (B) the Attorney General or Insurance Commissioner of each State in which a facility covered by the guarantee is located and the State in which the guarantor corporation has its principal place of business, has submitted a written statement to EPA that a guarantee executed as described in this section and § 264.151(h)(2) is a legally valid and enforceable obligation in that State.

(h) *Letter of credit for liability coverage.* (1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit that conforms to the requirements of this paragraph and submitting a copy of the letter of credit to the Regional Administrator.

(2) The financial institution issuing the letter of credit must be an entity that has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a Federal or State agency.

(3) The wording of the letter of credit must be identical to the wording specified in § 264.151(k) of this chapter.

(4) An owner or operator who uses a letter of credit to satisfy the requirements of this section may also establish a standby trust fund. Under the terms of such a letter of credit, all amounts paid pursuant to a draft by the trustee of the standby trust will be deposited by the issuing institution into the standby trust in accordance with instructions from the trustee. The trustee of the standby trust fund must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(5) The wording of the standby trust fund must be identical to the wording specified in § 264.151(n).

(i) *Surety bond for liability coverage.* (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond that conforms to the requirements of this paragraph and submitting a copy of the bond to the Regional Administrator.

(2) The surety company issuing the bond must be among those listed as acceptable sureties on Federal bonds in the most recent Circular 570 of the U.S. Department of the Treasury.

(3) The wording of the surety bond must be identical to the wording specified in § 264.151(l) of this chapter.

(4) A surety bond may be used to satisfy the requirements of this section only if the Attorneys General or Insurance Commissioners of (i) the State in which the surety is incorporated, and (ii) each State in which a facility covered by the surety bond is located have submitted a written statement to EPA that a surety bond executed as described in this section and § 264.151(l) of this chapter is a legally valid and enforceable obligation in that State.

(j) *Trust fund for liability coverage.* (1) An owner or operator may satisfy the requirements of this section by establishing a trust fund that conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Regional Administrator.

(2) The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(3) The trust fund for liability coverage must be funded for the full amount of the liability coverage to be provided by the trust fund before it may be relied upon to satisfy the requirements of this section. If at any time after the trust fund is created the amount of funds in the trust fund is reduced below the full amount of the liability coverage to be provided, the owner or operator, by the anniversary date of the establishment of the Fund, must either add sufficient funds to the

trust fund to cause its value to equal the full amount of liability coverage to be provided, or obtain other financial assurance as specified in this section to cover the difference. For purposes of this paragraph, ''the full amount of the liability coverage to be provided'' means the amount of coverage for sudden and/or nonsudden occurrences required to be provided by the owner or operator by this section, less the amount of financial assurance for liability coverage that is being provided by other financial assurance mechanisms being used to demonstrate financial assurance by the owner or operator.

(4) The wording of the trust fund must be identical to the wording specified in § 264.151(m) of this part.

(k) Notwithstanding any other provision of this part, an owner or operator using liability insurance to satisfy the requirements of this section may use, until October 16, 1982, a Hazardous Waste Facility Liability Endorsement or Certificate of Liability Insurance that does not certify that the insurer is licensed to transact the business of insurance, or eligible as an excess or surplus lines insurer, in one or more States.

[47 FR 16558, Apr. 16, 1982, as amended at 47 FR 28627, July 1, 1982; 47 FR 30447, July 13, 1982; 48 FR 30115, June 30, 1983; 51 FR 16458, May 2, 1986; 51 FR 25355, July 11, 1986; 52 FR 44321, Nov. 18, 1987; 53 FR 33959, Sept. 1, 1988; 56 FR 30200, July 1, 1991; 56 FR 47912, Sept. 23, 1991; 57 FR 42843, Sept. 16, 1992]

§ 265.148 Incapacity of owners or operators, guarantors, or financial institutions.

(a) An owner or operator must notify the Regional Administrator by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor, within 10 days after commencement of the proceeding. A guarantor of a corporate guarantee as specified in §§ 265.143(e) and 265.145(e) must make such a notification if he is named as debtor, as required under the terms of the corporate guarantee (§ 264.151(h)).

(b) An owner or operator who fulfills the requirements of § 265.143, § 265.145, or § 265.147 by obtaining a trust fund, surety bond, letter of credit, or insurance policy will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee or of the institution issuing the surety bond, letter of credit, or insurance policy to issue such instruments. The owner or operator must establish other financial assurance or liability coverage within 60 days after such an event.

§ 265.149 Use of State-required mechanisms.

(a) For a facility located in a State where EPA is administering the requirements of this subpart but where the State has hazardous waste regulations that include requirements for financial assurance of closure or post-closure care or liability coverage, an owner or operator may use State-required financial mechanisms to meet the requirements of § 265.143, § 265.145, or § 265.147 if the Regional Administrator determines that the State mechanisms are at least equivalent to the financial mechanisms specified in this subpart. The Regional Administrator will evaluate the equivalency of the mechanisms principally in terms of (1) certainty of the availability of funds for the required closure or post-closure care activities or liability coverage and (2) the amount of funds that will be made available. The Regional Administrator may also consider other factors as he deems appropriate. The owner or operator must submit to the Regional Administrator evidence of the establishment of the mechanism together with a letter requesting that the State-required mechanism be considered acceptable for meeting the requirements of this subpart. The submission must include the following information: The facility's EPA Identification Number, name, and address, and the amount of funds for closure or post-closure care or liability coverage assured by the mechanism. The Regional Administrator will notify the owner or operator of his determination regarding the mechanism's acceptability in lieu of financial mechanisms specified in this subpart. The Regional Administrator

may require the owner or operator to submit additional information as is deemed necessary to make this determination. Pending this determination, the owner or operator will be deemed to be in compliance with the requirements of § 265.143, § 265.145, or § 265.147, as applicable.

(b) If a State-required mechanism is found acceptable as specified in paragraph (a) of this section except for the amount of funds available, the owner or operator may satisfy the requirements of this subpart by increasing the funds available through the State-required mechanism or using additional financial mechanisms as specified in this subpart. The amount of funds available through the State and Federal mechanisms must at least equal the amount required by this subpart.

§ 265.150 State assumption of responsibility.

(a) If a State either assumes legal responsibility for an owner's or operator's compliance with the closure, post-closure care, or liability requirements of this part or assures that funds will be available from State sources to cover those requirements, the owner or operator will be in compliance with the requirements of § 265.143, § 265.145, or § 265.147 if the Regional Administrator determines that the State's assumption of responsibility is at least equivalent to the financial mechanisms specified in this subpart. The Regional Administrator will evaluate the equivalency of State guarantees principally in terms of (1) certainty of the availability of funds for the required closure or post-closure care activities or liability coverage and (2) the amount of funds that will be made available. The Regional Administrator may also consider other factors as he deems appropriate. The owner or operator must submit to the Regional Administrator a letter from the State describing the nature of the State's assumption of responsibility together with a letter from the owner or operator requesting that the State's assumption of responsibility be considered acceptable for meeting the requirements of this subpart. The letter from the State must include, or have attached to it, the following information: The facility's EPA Identification Number, name, and address, and the amount of funds for closure or post-closure care or liability coverage that are guaranteed by the State. The Regional Administrator will notify the owner or operator of his determination regarding the acceptability of the State's guarantee in lieu of financial mechanisms specified in this subpart. The Regional Administrator may require the owner or operator to submit additional information as is deemed necessary to make this determination. Pending this determination, the owner or operator will be deemed to be in compliance with the requirements of §§ 265.143, § 265.145, or § 265.147, as applicable.

(b) If a State's assumption of responsibility is found acceptable as specified in paragraph (a) of this section except for the amount of funds available, the owner or operator may satisfy the requirements of this subpart by use of both the State's assurance *and* additional financial mechanisms as specified in this subpart. The amount of funds available through the State and Federal mechanisms must at least equal the amount required by this subpart.

Subpart I—Use and Management of Containers

§ 265.170 Applicability.

The regulations in this subpart apply to owners and operators of all hazardous waste facilities that store containers of hazardous waste, except as § 265.1 provides otherwise.

§ 265.171 Condition of containers.

If a container holding hazardous waste is not in good condition, or if it begins to leak, the owner or operator must transfer the hazardous waste from this container to a container that is in good condition, or manage the waste in some other way that complies with the requirements of this part.

§ 265.172 Compatibility of waste with container.

The owner or operator must use a container made of or lined with materials which will not react with, and are

otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

§ 265.173 Management of containers.

(a) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

(b) A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

[*Comment:* Re-use of containers in transportation is governed by U.S. Department of Transportation regulations, including those set forth in 49 CFR 173.28.]

[45 FR 33232, May 19, 1980, as amended at 45 FR 78529, Nov. 25, 1980]

§ 265.174 Inspections.

The owner or operator must inspect areas where containers are stored, at least weekly, looking for leaks and for deterioration caused by corrosion or other factors.

[*Comment:* See § 265.171 for remedial action required if deterioration or leaks are detected.]

§ 265.175 [Reserved]

§ 265.176 Special requirements for ignitable or reactive waste.

Containers holding ignitable or reactive waste must be located at least 15 meters (50 feet) from the facility's property line.

[*Comment:* See § 265.17(a) for additional requirements.]

§ 265.177 Special requirements for incompatible wastes.

(a) Incompatible wastes, or incompatible wastes and materials, (see appendix V for examples) must not be placed in the same container, unless § 265.17(b) is complied with.

(b) Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material (see appendix V for examples), unless § 265.17(b) is complied with.

(c) A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

[*Comment:* The purpose of this is to prevent fires, explosions, gaseous emissions, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the mixing of incompatible wastes or materials if containers break or leak.]

§ 265.178 Air emission standards.

The owner or operator shall manage all hazardous waste placed in a container in accordance with the applicable requirements of subparts AA, BB, and CC of this part.

[61 FR 59968, Nov. 25, 1996]

Subpart J—Tank Systems

SOURCE: 51 FR 25479, July 14, 1986, unless otherwise noted.

§ 265.190 Applicability.

The requirements of this subpart apply to owners and operators of facilities that use tank systems for storing or treating hazardous waste except as otherwise provided in paragraphs (a), (b), and (c) of this section or in § 265.1 of this part.

(a) Tank systems that are used to store or treat hazardous waste which contains no free liquids and that are situated inside a building with an impermeable floor are exempted from the requirements in § 265.193. To demonstrate the absence or presence of free liquids in the stored/treated waste, the following test must be used: Method 9095 (Paint Filter Liquids Test) as described in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' EPA Publication SW–846, as incorporated by reference in § 260.11 of this chapter.

(b) Tank systems, including sumps, as defined in § 260.10, that serve as part of a secondary containment system to collect or contain releases of hazardous wastes are exempted from the requirements in § 265.193(a).

(c) Tanks, sumps, and other collection devices used in conjunction with drip pads, as defined in § 260.10 of this chapter and regulated under 40 CFR

part 265 subpart W, must meet the requirements of this subpart.

[51 FR 25479, July 14, 1986, as amended at 53 FR 34087, Sept. 2, 1988; 55 FR 50486, Dec. 6, 1990; 58 FR 46050, Aug. 31, 1993]

§ 265.191 Assessment of existing tank system's integrity.

(a) For each existing tank system that does not have secondary containment meeting the requirements of § 265.193, the owner or operator must determine that the tank system is not leaking or is unfit for use. Except as provided in paragraph (c) of this section, the owner or operator must obtain and keep on file at the facility a written assessment reviewed and certified by an independent, qualified, registered professional engineer in accordance with § 270.11(d), that attests to the tank system's integrity by January 12, 1988.

(b) This assessment must determine that the tank system is adequately designed and has sufficient structural strength and compatibility with the waste(s) to be stored or treated to ensure that it will not collapse, rupture, or fail. At a minimum, this assessment must consider the following:

(1) Design standard(s), if available, according to which the tank and ancillary equipment were constructed;

(2) Hazardous characteristics of the waste(s) that have been or will be handled;

(3) Existing corrosion protection measures;

(4) Documented age of the tank system, if available, (otherwise, an estimate of the age); and

(5) Results of a leak test, internal inspection, or other tank integrity examination such that:

(i) For non-enterable underground tanks, this assessment must consist of a leak test that is capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets, and high water table effects,

(ii) For other than non-enterable underground tanks and for ancillary equipment, this assessment must be either a leak test, as described above, or an internal inspection and/or other tank integrity examination certified by an independent, qualified, registered professional engineer in accordance with § 270.11(d) that addresses cracks, leaks, corrosion, and erosion.

[NOTE: The practices described in the American Petroleum Institute (API) Publication, Guide for Inspection of Refinery Equipment, Chapter XIII, ''Atmospheric and Low-Pressure Storage Tanks,'' 4th edition, 1981, may be used, where applicable, as guidelines in conducting the integrity examination of an other than non-enterable underground tank system.]

(c) Tank systems that store or treat materials that become hazardous wastes subsequent to July 14, 1986 must conduct this assessment within 12 months after the date that the waste becomes a hazardous waste.

(d) If, as a result of the assessment conducted in accordance with paragraph (a) of this section, a tank system is found to be leaking or unfit for use, the owner or operator must comply with the requirements of § 265.196.

§ 265.192 Design and installation of new tank systems or components.

(a) Owners or operators of new tank systems or components must ensure that the foundation, structural support, seams, connections, and pressure controls (if applicable) are adequately designed and that the tank system has sufficient structural strength, compatibility with the waste(s) to be stored or treated, and corrosion protection so that it will not collapse, rupture, or fail. The owner or operator must obtain a written assessment reviewed and certified by an independent, qualified, registered professional engineer in accordance with § 270.11(d) attesting that the system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste. This assessment must include, at a minimum, the following information:

(1) Design standard(s) according to which the tank(s) and ancillary equipment is or will be constructed.

(2) Hazardous characteristics of the waste(s) to be handled.

(3) For new tank systems or components in which the external shell of a metal tank or any external metal component of the tank system is or will be in contact with the soil or with water, a determination by a corrosion expert of:

(i) Factors affecting the potential for corrosion, including but not limited to:

(A) Soil moisture content;

(B) Soil pH;

(C) Soil sulfides level;

(D) Soil resistivity;

(E) Structure to soil potential;

(F) Influence of nearby underground metal structures (e.g., piping);

(G) Stray electric current; and,

(H) Existing corrosion-protection measures (e.g., coating, cathodic protection), and

(ii) The type and degree of external corrosion protection that are needed to ensure the integrity of the tank system during the use of the tank system or component, consisting of one or more of the following:

(A) Corrosion-resistant materials of construction such as special alloys or fiberglass-reinforced plastic;

(B) Corrosion-resistant coating (such as epoxy or fiberglass) with cathodic protection (e.g., impressed current or sacrificial anodes); and

(C) Electrical isolation devices such as insulating joints and flanges.

NOTE: The practices described in the National Association of Corrosion Engineers (NACE) standard, ''Recommended Practice (RP–02–85)—Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems,'' and the American Petroleum Institute (API) Publication 1632, ''Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems,'' may be used, where applicable, as guidelines in providing corrosion protection for tank systems.

(4) For underground tank system components that are likely to be affected by vehicular traffic, a determination of design or operational measures that will protect the tank system against potential damage; and

(5) Design considerations to ensure that:

(i) Tank foundations will maintain the load of a full tank;

(ii) Tank systems will be anchored to prevent flotation or dislodgement where the tank system is placed in a saturated zone, or is located within a seismic fault zone; and

(iii) Tank systems will withstand the effects of frost heave.

(b) The owner or operator of a new tank system must ensure that proper handling procedures are adhered to in order to prevent damage to the system during installation. Prior to covering, enclosing, or placing a new tank system or component in use, an independent, qualified installation inspector or an independent, qualified, registered professional engineer, either of whom is trained and experienced in the proper installation of tank systems, must inspect the system or component for the presence of any of the following items:

(1) Weld breaks;

(2) Punctures;

(3) Scrapes of protective coatings;

(4) Cracks;

(5) Corrosion;

(6) Other structural damage or inadequate construction or installation.

All discrepancies must be remedied before the tank system is covered, enclosed, or placed in use.

(c) New tank systems or components and piping that are placed underground and that are backfilled must be provided with a backfill material that is a noncorrosive, porous, homogeneous substance and that is carefully installed so that the backfill is placed completely around the tank and compacted to ensure that the tank and piping are fully and uniformly supported.

(d) All new tanks and ancillary equipment must be tested for tightness prior to being covered, enclosed or placed in use. If a tank system is found not to be tight, all repairs necessary to remedy the leak(s) in the system must be performed prior to the tank system being covered, enclosed, or placed in use.

(e) Ancillary equipment must be supported and protected against physical damage and excessive stress due to settlement, vibration, expansion or contraction.

NOTE: The piping system installation procedures described in American Petroleum Institute (API) Publication 1615 (November 1979), ''Installation of Underground Petroleum Storage Systems,'' or ANSI Standard B31.3, ''Petroleum Refinery System,'' may be used, where applicable, as guidelines for proper installation of piping systems.

(f) The owner or operator must provide the type and degree of corrosion protection necessary, based on the information provided under paragraph

(a)(3) of this section, to ensure the integrity of the tank system during use of the tank system. The installation of a corrosion protection system that is field fabricated must be supervised by an independent corrosion expert to ensure proper installation.

(g) The owner or operator must obtain and keep on file at the facility written statements by those persons required to certify the design of the tank system and supervise the installation of the tank system in accordance with the requirements of paragraphs (b) through (f) of this section to attest that the tank system was properly designed and installed and that repairs, pursuant to paragraphs (b) and (d) of this section were performed. These written statements must also include the certification statement as required in § 270.11(d) of this chapter.

[51 FR 25479, July 14, 1986; 51 FR 29430, Aug. 15, 1986]

§ 265.193 Containment and detection of releases.

(a) In order to prevent the release of hazardous waste or hazardous constituents to the environment, secondary containment that meets the requirements of this section must be provided (except as provided in paragraphs (f) and (g) of this section):

(1) For all new tank systems or components, prior to their being put into service;

(2) For all existing tanks used to store or treat EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027, within two years after January 12, 1987;

(3) For those existing tank systems of known and documentable age, within two years after January 12, 1987, or when the tank systems have reached 15 years of age, whichever comes later;

(4) For those existing tank system for which the age cannot be documented, within eight years of January 12, 1987; but if the age of the facility is greater than seven years, secondary containment must be provided by the time the facility reaches 15 years of age, or within two years of January 12, 1987, whichever comes later; and

(5) For tank systems that store or treat materials that become hazardous wastes subsequent to January 12, 1987, within the time intervals required in paragraphs (a)(1) through (a)(4) of this section, except that the date that a material becomes a hazardous waste must be used in place of January 12, 1987.

(b) Secondary containment systems must be:

(1) Designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, ground water, or surface water at any time during the use of the tank system; and

(2) Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

(c) To meet the requirements of paragraph (b) of this section, secondary containment systems must be at a minimum:

(1) Constructed of or lined with materials that are compatible with the waste(s) to be placed in the tank system and must have sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrological forces), physical contact with the waste to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation (including stresses from nearby vehicular traffic);

(2) Placed on a foundation or base capable of providing support to the secondary containment system and resistance to pressure gradients above and below the system and capable of preventing failure due to settlement, compression, or uplift;

(3) Provided with a leak detection system that is designed and operated so that it will detect the failure of either the primary and secondary containment structure or any release of hazardous waste or accumulated liquid in the secondary containment system within 24 hours, or at the earliest practicable time if the existing detection technology or site conditions will not allow detection of a release within 24 hours;

(4) Sloped or otherwise designed or operated to drain and remove liquids

resulting from leaks, spills, or precipitation. Spilled or leaked waste and accumulated precipitation must be removed from the secondary containment system within 24 hours, or in as timely a manner as is possible to prevent harm to human health or the environment, if removal of the released waste or accumulated precipitation cannot be accomplished within 24 hours.

NOTE: If the collected material is a hazardous waste under part 261 of this chapter, it is subject to management as a hazardous waste in accordance with all applicable requirements of parts 262 through 265 of this chapter. If the collected material is discharged through a point source to waters of the United States, it is subject to the requirements of sections 301, 304, and 402 of the Clean Water Act, as amended. If discharged to Publicly Owned Treatment Works (POTWs), it is subject to the requirements of section 307 of the Clear Water Act, as amended. If the collected material is released to the environment, it may be subject to the reporting requirements of 40 CFR part 302.

(d) Secondary containment for tanks must include one or more of the following devices:

(1) A liner (external to the tank);

(2) A vault;

(3) A double-walled tank; or

(4) An equivalent device as approved by the Regional Administrator.

(e) In addition to the requirements of paragraphs (b), (c), and (d) of this section, secondary containment systems must satisfy the following requirements:

(1) External liner systems must be:

(i) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

(ii) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event;

(iii) Free of cracks or gaps; and

(iv) Designed and installed to completely surround the tank and to cover all surrounding earth likely to come into contact with the waste if released from the tank(s) (i.e., capable of preventing lateral as well as vertical migration of the waste).

(2) Vault systems must be:

(i) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

(ii) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event;

(iii) Constructed with chemical-resistant water stops in place at all joints (if any);

(iv) Provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of waste into the concrete;

(v) Provided with a means to protect against the formation of and ignition of vapors within the vault, if the waste being stored or treated:

(A) Meets the definition of ignitable waste under § 262.21 of this chapter, or

(B) Meets the definition of reactive waste under § 262.21 of this chapter and may form an ignitable or explosive vapor; and

(vi) Provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure.

(3) Double-walled tanks must be:

(i) Designed as an integral structure (i.e., an inner tank within an outer shell) so that any release from the inner tank is contained by the outer shell;

(ii) Protected, if constructed of metal, from both corrosion of the primary tank interior and the external surface of the outer shell; and

(iii) Provided with a built-in, continuous leak detection system capable of detecting a release within 24 hours or at the earliest practicable time, if the owner or operator can demonstrate to the Regional Administrator, and the Regional Administrator concurs, that the existing leak detection technology or site conditions will not allow detection of a release within 24 hours.

NOTE: The provisions outlined in the Steel Tank Institute's (STI) ''Standard for Dual Wall Underground Steel Storage Tank'' may be used as guidelines for aspects of the design of underground steel double-walled tanks.

(f) Ancillary equipment must be provided with full secondary containment (e.g., trench, jacketing, double-walled piping) that meets the requirements of paragraphs (b) and (c) of this section except for:

(1) Aboveground piping (exclusive of flanges, joints, valves, and connections) that are visually inspected for leaks on a daily basis;

(2) Welded flanges, welded joints, and welded connections that are visually inspected for leaks on a daily basis;

(3) Sealless or magnetic coupling pumps and sealless valves, that are visually inspected for leaks on a daily basis; and

(4) Pressurized aboveground piping systems with automatic shut-off devices (e.g., excess flow check valves, flow metering shutdown devices, loss of pressure actuated shut-off devices) that are visually inspected for leaks on a daily basis.

(g) The owner or operator may obtain a variance from the requirements of this Section if the Regional Administrator finds, as a result of a demonstration by the owner or operator, either: that alternative design and operating practices, together with location characteristics, will prevent the migration of hazardous waste or hazardous constituents into the ground water *or* surface water at least as effectively as secondary containment during the active life of the tank system *or* that in the event of a release that does migrate to ground water or surface water, no substantial present or potential hazard will be posed to human health or the environment. New underground tank systems may not, per a demonstration in accordance with paragraph (g)(2) of this section, be exempted from the secondary containment requirements of this section. Application for a variance as allowed in paragraph (g) of this section does not waive compliance with the requirements of this subpart for new tank systems.

(1) In deciding whether to grant a variance based on a demonstration of equivalent protection of ground water and surface water, the Regional Administrator will consider:

(i) The nature and quantity of the waste;

(ii) The proposed alternate design and operation;

(iii) The hydrogeologic setting of the facility, including the thickness of soils between the tank system and ground water; and

(iv) All other factors that would influence the quality and mobility of the hazardous constituents and the potential for them to migrate to ground water or surface water.

(2) In deciding whether to grant a variance, based on a demonstration of no substantial present or potential hazard, the Regional Administrator will consider:

(i) The potential adverse effects on ground water, surface water, and land quality taking into account:

(A) The physical and chemical characteristics of the waste in the tank system, including its potential for migration,

(B) The hydrogeological characteristics of the facility and surrounding land,

(C) The potential for health risks caused by human exposure to waste constituents,

(D) The potential for damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents, and

(E) The persistence and permanence of the potential adverse effects;

(ii) The potential adverse effects of a release on ground-water quality, taking into account:

(A) The quantity and quality of ground water and the direction of ground-water flow,

(B) The proximity and withdrawal rates of water in the area,

(C) The current and future uses of ground water in the area, and

(D) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground-water quality;

(iii) The potential adverse effects of a release on surface water quality, taking into account:

(A) The quantity and quality of ground water and the direction of ground-water flow,

(B) The patterns of rainfall in the region,

(C) The proximity of the tank system to surface waters,

(D) The current and future uses of surface waters in the area and any water quality standards established for those surface waters, and

(E) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface-water quality; and

(iv) The potential adverse effects of a release on the land surrounding the tank system, taking into account:

(A) The patterns of rainfall in the region, and

(B) The current and future uses of the surrounding land.

(3) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of paragraph (g)(1) of this section, at which a release of hazardous waste has occurred from the primary tank system but has not migrated beyond the zone of engineering control (as established in the variance), must:

(i) Comply with the requirements of § 265.196, except paragraph (d); and

(ii) Decontaminate or remove contaminated soil to the extent necessary to:

(A) Enable the tank system, for which the variance was granted, to resume operation with the capability for the detection of and response to releases at least equivalent to the capability it had prior to the release, and

(B) Prevent the migration of hazardous waste or hazardous constituents to ground water or surface water; and

(iii) If contaminated soil cannot be removed or decontaminated in accordance with paragraph (g)(3)(ii) of this section, comply with the requirements of § 265.197(b);

(4) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of paragraph (g)(1) of this section, at which a release of hazardous waste has occurred from the primary tank system and has migrated beyond the zone of engineering control (as established in the variance), must:

(i) Comply with the requirements of § 265.196(a), (b), (c), and (d); and

(ii) Prevent the migration of hazardous waste or hazardous constituents to ground water or surface water, if possible, and decontaminate or remove contaminated soil. If contaminated soil cannot be decontaminated or removed, or if ground water has been contaminated, the owner or operator must comply with the requirements of § 265.197(b);

(iii) If repairing, replacing, or reinstalling the tank system, provide secondary containment in accordance with the requirements of paragraphs (a) through (f) of this section or reapply for a variance from secondary containment and meet the requirements for new tank systems in § 265.192 if the tank system is replaced. The owner or operator must comply with these requirements even if contaminated soil can be decontaminated or removed, and ground water or surface water has not been contaminated.

(h) The following procedures must be followed in order to request a variance from secondary containment:

(1) The Regional Administrator must be notified in writing by the owner or operator that he intends to conduct and submit a demonstration for a variance from secondary containment as allowed in paragraph (g) of this section according to the following schedule:

(i) For existing tank systems, at least 24 months prior to the date that secondary containment must be provided in accordance with paragraph (a) of this section; and

(ii) For new tank systems, at least 30 days prior to entering into a contract for installation of the tank system.

(2) As part of the notification, the owner or operator must also submit to the Regional Administrator a description of the steps necessary to conduct the demonstration and a timetable for completing each of the steps. The demonstration must address each of the factors listed in paragraph (g)(1) or paragraph (g)(2) of this section.

(3) The demonstration for a variance must be completed and submitted to the Regional Administrator within 180

days after notifying the Regional Administrator of intent to conduct the demonstration.

(4) The Regional Administrator will inform the public, through a newspaper notice, of the availability of the demonstration for a variance. The notice shall be placed in a daily or weekly major local newspaper of general circulation and shall provide at least 30 days from the date of the notice for the public to review and comment on the demonstration for a variance. The Regional Administrator also will hold a public hearing, in response to a request or at his own discretion, whenever such a hearing might clarify one or more issues concerning the demonstration for a variance. Public notice of the hearing will be given at least 30 days prior to the date of the hearing and may be given at the same time as notice of the opportunity for the public to review and comment on the demonstration. These two notices may be combined.

(5) The Regional Administrator will approve or disapprove the request for a variance within 90 days of receipt of the demonstration from the owner or operator and will notify in writing the owner or operator and each person who submitted written comments or requested notice of the variance decision. If the demonstration for a variance is incomplete or does not include sufficient information, the 90-day time period will begin when the Regional Administrator receives a complete demonstration, including all information necessary to make a final determination. If the public comment period in paragraph (h)(4) of this section is extended, the 90-day time period will be similarly extended.

(i) All tank systems, until such time as secondary containment meeting the requirements of this section is provided, must comply with the following:

(1) For non-enterable underground tanks, a leak test that meets the requirements of § 265.191(b)(5) must be conducted at least annually;

(2) For other than non-enterable underground tanks and for all ancillary equipment, an annual leak test, as described in paragraph (i)(1) of this section, or an internal inspection or other tank integrity examination by an independent, qualified, registered professional engineer that addresses cracks, leaks, corrosion, and erosion must be conducted at least annually. The owner or operator must remove the stored waste from the tank, if necessary, to allow the condition of all internal tank surfaces to be assessed.

NOTE: The practices described in the American Petroleum Institute (API) Publication Guide for Inspection of Refining Equipment, Chapter XIII, ''Atmospheric and Low Pressure Storage Tanks,'' 4th edition, 1981, may be used, when applicable, as guidelines for assessing the overall condition of the tank system.

(3) The owner or operator must maintain on file at the facility a record of the results of the assessments conducted in accordance with paragraphs (i)(1) through (i)(3) of this section.

(4) If a tank system or component is found to be leaking or unfit-for-use as a result of the leak test or assessment in paragraphs (i)(1) through (i)(3) of this section, the owner or operator must comply with the requirements of § 265.196.

[51 FR 25479, July 14, 1986; 51 FR 29430, Aug. 15, 1986, as amended at 53 FR 34087, Sept. 2, 1988]

§ 265.194 General operating requirements.

(a) Hazardous wastes or treatment reagents must not be placed in a tank system if they could cause the tank, its ancillary equipment, or the secondary containment system to rupture, leak, corrode, or otherwise fail.

(b) The owner or operator must use appropriate controls and practices to prevent spills and overflows from tank or secondary containment systems. These include at a minimum:

(1) Spill prevention controls (e.g , check valves, dry discount couplings);

(2) Overfill prevention controls (e.g , level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank); and

(3) Maintenance of sufficient freeboard in uncovered tanks to prevent overtopping by wave or wind action or by precipitation.

(c) The owner or operator must comply with the requirements of § 265.196 if a leak or spill occurs in the tank system.

§ 265.195 Inspections.

(a) The owner or operator must inspect, where present, at least once each operating day:

(1) Overfill/spill control equipment (e.g., waste-feed cutoff systems, bypass systems, and drainage systems) to ensure that it is in good working order;

(2) The aboveground portions of the tank system, if any, to detect corrosion or releases of waste;

(3) Data gathered from monitoring equipment and leak-detection equipment, (e.g., pressure and temperature gauges, monitoring wells) to ensure that the tank system is being operated according to its design; and

(4) The construction materials and the area immediately surrounding the externally accessible portion of the tank system including secondary containment structures (e.g., dikes) to detect erosion or signs of releases of hazardous waste (e.g., wet spots, dead vegetation);

NOTE: Section 265.15(c) requires the owner or operator to remedy any deterioration or malfunction he finds. Section 265.196 requires the owner or operator to notify the Regional Administrator within 24 hours of confirming a release. Also, 40 CFR part 302 may require the owner or operator to notify the National Response Center of a release.

(b) The owner or operator must inspect cathodic protection systems, if present, according to, at a minimum, the following schedule to ensure that they are functioning properly:

(1) The proper operation of the cathodic protection system must be confirmed within six months after initial installation, and annually thereafter; and

(2) All sources of impressed current must be inspected and/or tested, as appropriate, at least bimonthly (i.e., every other month).

NOTE: The practices described in the National Association of Corrosion Engineers (NACE) standard, ''Recommended Practice (RP–02–85)—Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems,'' and the American Petroleum Institute (API) Publication 1632, ''Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems,'' may be used, where applicable, as guidelines in maintaining and inspecting cathodic protection systems.

(c) The owner or operator must document in the operating record of the facility an inspection of those items in paragraphs (a) and (b) of this section.

§ 265.196 Response to leaks or spills and disposition of leaking or unfit-for-use tank systems.

A tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use, must be removed from service immediately, and the owner or operator must satisfy the following requirements:

(a) *Cessation of use; prevent flow or addition of wastes.* The owner or operator must immediately stop the flow of hazardous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release.

(b) *Removal of waste from tank system or secondary containment system.* (1) If the release was from the tank system, the owner or operator must, within 24 hours after detection of the leak or, if the owner or operator demonstrates that that is not possible, at the earliest practicable time remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed.

(2) If the release was to a secondary containment system, all released materials must be removed within 24 hours or in as timely a manner as is possible to prevent harm to human health and the environment.

(c) *Containment of visible releases to the environment.* The owner or operator must immediately conduct a visual inspection of the release and, based upon that inspection:

(1) Prevent further migration of the leak or spill to soils or surface water; and

(2) Remove, and properly dispose of, any visible contamination of the soil or surface water.

(d) *Notifications, reports.* (1) Any release to the environment, except as provided in paragraph (d)(2) of this section, must be reported to the Regional Administrator within 24 hours of detection. If the release has been reported

pursuant to 40 CFR part 302, that report will satisfy this requirement.

(2) A leak or spill of hazardous waste that is:

(i) Less than or equal to a quantity of one (1) pound, and

(ii) Immediately contained and cleaned-up is exempted from the requirements of this paragraph.

(3) Within 30 days of detection of a release to the environment, a report containing the following information must be submitted to the Regional Administrator:

(i) Likely route of migration of the release;

(ii) Characteristics of the surrounding soil (soil composition, geology, hydrogeology, climate);

(iii) Results of any monitoring or sampling conducted in connection with the release, (if available). If sampling or monitoring data relating to the release are not available within 30 days, these data must be submitted to the Regional Administrator as soon as they become available;

(iv) Proximity to downgradient drinking water, surface water, and population areas; and

(v) Description of response actions taken or planned.

(e) *Provision of secondary containment, repair, or closure.* (1) Unless the owner or operator satisfies the requirements of paragraphs (e) (2) through (4) of this section, the tank system must be closed in accordance with § 265.197.

(2) If the cause of the release was a spill that has not damaged the integrity of the system, the owner/operator may return the system to service as soon as the released waste is removed and repairs, if necessary, are made.

(3) If the cause of the release was a leak from the primary tank system into the secondary containment system, the system must be repaired prior to returning the tank system to service.

(4) If the source of the release was a leak to the environment from a component of a tank system without secondary containment, the owner/operator must provide the component of the system from which the leak occurred with secondary containment that satisfies the requirements of § 265.193 before it can be returned to service, unless the source of the leak is an aboveground portion of a tank system. If the source is an aboveground component that can be inspected visually, the component must be repaired and may be returned to service without secondary containment as long as the requirements of paragraph (f) of this section are satisfied. If a component is replaced to comply with the requirements of this subparagraph, that component must satisfy the requirements for new tank systems or components in §§ 265.192 and 265.193. Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection (e.g., the bottom of an inground or onground tank), the entire component must be provided with secondary containment in accordance with § 265.193 prior to being returned to use.

(f) *Certification of major repairs.* If the owner or operator has repaired a tank system in accordance with paragraph (e) of this section, and the repair has been extensive (e.g., installation of an internal liner; repair of a ruptured primary containment or secondary containment vessel), the tank system must not be returned to service unless the owner/operator has obtained a certification by an independent, qualified, registered professional engineer in accordance with § 270.11(d) that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. This certification must be submitted to the Regional Administrator within seven days after returning the tank system to use.

NOTE: The Regional Administrator may, on the basis of any information received that there is or has been a release of hazardous waste or hazardous constituents into the environment, issue an order under RCRA section 3004(v), 3008(h), or 7003(a) requiring corrective action or such other response as deemed necessary to protect human health or the environment.

NOTE: See § 265.15(c) for the requirements necessary to remedy a failure. Also, 40 CFR Part 302 requires the owner or operator to notify the National Response Center of a release of any ''reportable quantity.''

[51 FR 25479, July 14, 1986, as amended at 53 FR 34087, Sept. 2, 1988]

§ 265.197 Closure and post-closure care.

(a) At closure of a tank system, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste, unless § 261.3(d) of this Chapter applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for tank systems must meet all of the requirements specified in subparts G and H of this part.

(b) If the owner or operator demonstrates that not all contaminated soils can be practicably removed or decontaminated as required in paragraph (a) of this section, then the owner or operator must close the tank system and perform post-closure care in accordance with the closure and post-closure care requirements that apply to landfills (§ 265.310) In addition, for the purposes of closure, post-closure, and financial responsibility, such a tank system is then considered to be a landfill, and the owner or operator must meet all of the requirements for landfills specified in subparts G and H of this part.

(c) If an owner or operator has a tank system which does not have secondary containment that meets the requirements of § 265.193(b) through (f) and which is not exempt from the secondary containment requirements in accordance with § 265.193(g), then,

(1) The closure plan for the tank system must include both a plan for complying with paragraph (a) of this section and a contingent plan for complying with paragraph (b) of this section.

(2) A contingent post-closure plan for complying with paragraph (b) of this section must be prepared and submitted as part of the permit application.

(3) The cost estimates calculated for closure and post-closure care must reflect the costs of complying with the contingent closure plan and the contingent post-closure plan, if these costs are greater than the costs of complying with the closure plan prepared for the expected closure under paragraph (a) of this section.

(4) Financial assurance must be based on the cost estimates in paragraph (c)(3) of this section.

(5) For the purposes of the contingent closure and post-closure plans, such a tank system is considered to be a landfill, and the contingent plans must meet all of the closure, post-closure, and financial responsibility requirements for landfills under subparts G and H of this part.

§ 265.198 Special requirements for ignitable or reactive wastes.

(a) Ignitable or reactive waste must not be placed in a tank system, unless:

(1) The waste is treated, rendered, or mixed before or immediately after placement in the tank system so that:

(i) The resulting waste, mixture, or dissolved material no longer meets the definition of ignitable or reactive waste under §§ 261.21 or 261.23 of this chapter; and

(ii) Section 265.17(b) is complied with; or

(2) The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or

(3) The tank system is used solely for emergencies.

(b) The owner or operator of a facility where ignitable or reactive waste is stored or treated in tanks must comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon as required in Tables 2–1 through 2–6 of the National Fire Protection Association's ''Flammable and Combustible Liquids Code,'' (1977 or 1981), (incorporated by reference, see § 260.11).

§ 265.199 Special requirements for incompatible wastes.

(a) Incompatible wastes, or incompatible waste and materials, must not be placed in the same tank system, unless § 265.17(b) is complied with.

(b) Hazardous waste must not be placed in a tank system that has not been decontaminated and that previously held an incompatible waste or material, unless § 265.17(b) is complied with.

§ 265.200 Waste analysis and trial tests.

In addition to performing the waste analysis required by § 265.13, the owner or operator must, whenever a tank system is to be used to treat chemically or to store a hazardous waste that is substantially different from waste previously treated or stored in that tank system; or treat chemically a hazardous waste with a substantially different process than any previously used in that tank system:

(a) Conduct waste analyses and trial treatment or storage tests (e.g., bench-scale or pilot-plant scale tests); or

(b) Obtain written, documented information on similar waste under similar operating conditions to show that the proposed treatment or storage will meet the requirements of § 265.194(a).

NOTE: Section 265.13 requires the waste analysis plan to include analyses needed to comply with §§ 265.198 and 265.199. Section 265.73 requires the owner or operator to place the results from each waste analysis and trial test, or the documented information, in the operating record of the facility.

§ 265.201 Special requirements for generators of between 100 and 1,000 kg/mo that accumulate hazardous waste in tanks.

(a) The requirements of this section apply to small quantity generators of more than 100 kg but less than 1,000 kg of hazardous waste in a calendar month, that accumulate hazardous waste in tanks for less than 180 days (or 270 days if the generator must ship the waste greater than 200 miles), and do not accumulate over 6,000 kg on-site at any time.

(b) Generators of between 100 and 1,000 kg/mo hazardous waste must comply with the following general operating requirements:

(1) Treatment or storage of hazardous waste in tanks must comply with § 265.17(b).

(2) Hazardous wastes or treatment reagents must not be placed in a tank if they could cause the tank or its inner liner to rupture, leak, corrode, or otherwise fail before the end of its intended life.

(3) Uncovered tanks must be operated to ensure at least 60 centimeters (2 feet) of freeboard, unless the tank is equipped with a containment structure (e.g., dike or trench), a drainage control system, or a diversion structure (e.g., standby tank) with a capacity that equals or exceeds the volume of the top 60 centimeters (2 feet) of the tank.

(4) Where hazardous waste is continuously fed into a tank, the tank must be equipped with a means to stop this inflow (e.g., waste feed cutoff system or by-pass system to a stand-by tank).

NOTE: These systems are intended to be used in the event of a leak or overflow from the tank due to a system failure (e.g., a malfunction in the treatment process, a crack in the tank, etc.).

(c) Generators of between 100 and 1,000 kg/mo accumulating hazardous waste in tanks must inspect, where present:

(1) Discharge control equipment (e.g., waste feed cutoff systems, by-pass systems, and drainage systems) at least once each operating day, to ensure that it is in good working order;

(2) Data gathered from monitoring equipment (e.g., pressure and temperature gauges) at least once each operating day to ensure that the tank is being operated according to its design;

(3) The level of waste in the tank at least once each operating day to ensure compliance with § 265.201(b)(3);

(4) The construction materials of the tank at least weekly to detect corrosion or leaking of fixtures or seams; and

(5) The construction materials of, and the area immediately surrounding, discharge confinement structures (e.g., dikes) at least weekly to detect erosion or obvious signs of leakage (e.g., wet spots or dead vegetation).

NOTE: As required by § 265.15(c), the owner or operator must remedy any deterioration or malfunction he finds.

(d) Generators of between 100 and 1,000 kg/mo accumulating hazardous waste in tanks must, upon closure of the facility, remove all hazardous waste from tanks, discharge control equipment, and discharge confinement structures.

NOTE: At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with § 261.3(c) or (d) of this chapter, that any solid

waste removed from his tank is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of parts 262, 263, and 265 of this chapter.

(e) Generators of between 100 and 1,000 kg/mo must comply with the following special requirements for ignitable or reactive waste:

(1) Ignitable or reactive waste must not be placed in a tank, unless:

(i) The waste is treated, rendered, or mixed before or immediately after placement in a tank so that (A) the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under § 261.21 or § 261.23 of this chapter, and (B) § 265.17(b) is complied with; or

(ii) The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or

(iii) The tank is used solely for emergencies.

(2) The owner or operator of a facility which treats or stores ignitable or reactive waste in covered tanks must comply with the buffer zone requirements for tanks contained in Tables 2–1 through 2–6 of the National Fire Protection Association's ''Flammable and Combustible Liquids Code,'' (1977 or 1981) (incorporated by reference, see § 260.11).

(f) Generators of between 100 and 1,000 kg/mo must comply with the following special requirements for incompatible wastes:

(1) Incompatible wastes, or incompatible wastes and materials, (see appendix V for examples) must not be placed in the same tank, unless § 265.17(b) is complied with.

(2) Hazardous waste must not be placed in an unwashed tank which previously held an incompatible waste or material, unless § 265.17(b) is complied with.

[51 FR 25479, July 14, 1986, as amended at 53 FR 34087, Sept. 2, 1988]

§ 265.202 Air emission standards.

The owner or operator shall manage all hazardous waste placed in a tank in accordance with the applicable requirements of subparts AA, BB, and CC of this part.

[61 FR 59968, Nov. 25, 1996]

Subpart K—Surface Impoundments

§ 265.220 Applicability.

The regulations in this subpart apply to owners and operators of facilities that use surface impoundments to treat, store, or dispose of hazardous waste, except as § 265.1 provides otherwise.

§ 265.221 Design and operating requirements.

(a) The owner or operator of each new surface impoundment unit on which construction commences after January 29, 1992, each lateral expansion of a surface impoundment unit on which construction commences after July 29, 1992, and each replacement of an existing surface impoundment unit that is to commence reuse after July 29, 1992 must install two or more liners and a leachate collection and removal system between such liners, and operate the leachate collection and removal system, in accordance with § 264.221(c), unless exempted under § 264.221(d), (e), or (f), of this chapter. ''Construction commences'' is as defined in § 260.10 of this chapter under ''existing facility.''

(b) The owner or operator of each unit referred to in paragraph (a) of this section must notify the Regional Administrator at least sixty days prior to receiving waste. The owner or operator of each facility submitting notice must file a part B application within six months of the receipt of such notice.

(c) The owner or operator of any replacement surface impoundment unit is exempt from paragraph (a) of this section if:

(1) The existing unit was constructed in compliance with the design standards of § 3004(o)(1)(A)(i) and (o)(5) of the Resource Conservation and Recovery Act; and

(2) There is no reason to believe that the liner is not functioning as designed.

(d) The double liner requirement set forth in paragraph (a) of this section

may be waived by the Regional Administrator for any monofill, if:

(1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the Toxicity Characteristic in § 261.24 of this chapter, with EPA Hazardous Waste Numbers D004 through D017; and

(2)(i)(A) The monofill has at least one liner for which there is no evidence that such liner in leaking. For the purposes of this paragraph the term ''liner'' means a liner designed, constructed, installed, and operated to prevent hazardous waste from passing into the liner at any time during the active life of the facility, or a liner designed, constructed, installed, and operated to prevent hazardous waste from migrating beyond the liner to adjacent subsurface soil, ground water, or surface water at any time during the active life of the facility. In the case of any surface impoundment which has been exempted from the requirements of paragraph (a) of this section on the basis of a liner designed, constructed, installed, and operated to prevent hazardous waste from passing beyond the liner, at the closure of such impoundment the owner or operator must remove or decontaminate all waste residues, all contaminated liner material, and contaminated soil to the extent practicable. If all contaminated soil it is not removed or decontaminated, the owner of operator of such impoundment must comply with appropriate post-closure requirements, including but not limited to ground-water monitoring and corrective action;

(B) The monofill is located more than one-quarter mile from an underground source of drinking water (as that term is defined in § 144.3 of this chapter); and

(C) The monofill is in compliance with generally applicable ground-water monitoring requirements for facilities with permits under RCRA section 3005(c); or

(ii) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

(e) In the case of any unit in which the liner and leachate collection system has been installed pursuant to the requirements of paragraph (a) of this section and in good faith compliance with paragraph (a) of this section and with guidance documents governing liners and leachate collection systems under paragraph (a) of this section, no liner or leachate collection system which is different from that which was so installed pursuant to paragraph (a) of this section will be required for such unit by the Regional Administrator when issuing the first permit to such facility, except that the Regional Administrator will not be precluded from requiring installation of a new liner when the Regional Administrator has reason to believe that any liner installed pursuant to the requirements of paragraph (a) of this section is leaking.

(f) A surface impoundment must maintain enough freeboard to prevent any overtopping of the dike by overfilling, wave action, or a storm. Except as provided in paragraph (b) of this section, there must be at least 60 centimeters (two feet) of freeboard.

(g) A freeboard level less than 60 centimeters (two feet) may be maintained if the owner or operator obtains certification by a qualified engineer that alternate design features or operating plans will, to the best of his knowledge and opinion, prevent overtopping of the dike. The certification, along with a written identification of alternate design features or operating plans preventing overtopping, must be maintained at the facility.

(h) Surface impoundments that are newly subject to RCRA section 3005(j)(1) due to the promulgation of additional listings or characteristics for the identification of hazardous waste must be in compliance with paragraphs (a), (c) and (d) of this section not later than 48 months after the promulgation of the additional listing or characteristic. This compliance period shall not be cut short as the result of the promulgation of land disposal prohibitions under part 268 of this chapter or the granting of an extension to the effective date of

a prohibition pursuant to § 268.5 of this chapter, within this 48-month period.

[50 FR 16048, Apr. 23, 1985. Redesignated at 57 FR 3492, Jan. 29, 1992. 50 FR 28749, July 15, 1985, as amended at 55 FR 11876, Mar. 29, 1990; 57 FR 3492, Jan. 29, 1992; 57 FR 37267, Aug. 18, 1992]

§ 265.222 Action leakage rate.

(a) The owner or operator of surface impoundment units subject to § 265.221(a) must submit a proposed action leakage rate to the Regional Administrator when submitting the notice required under § 265.221(b). Within 60 days of receipt of the notification, the Regional Administrator will: Establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this section; or extend the review period for up to 30 days. If no action is taken by the Regional Administrator before the original 60 or extended 90 day review periods, the action leakage rate will be approved as proposed by the owner or operator.

(b) The Regional Administrator shall approve an action leakage rate for surface impoundment units subject to § 265.221(a). The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding 1 foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(c) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under § 265.226(b), to an average daily flow rate (gallons per acre per day) for each sump. Unless the Regional Administrator approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and if the unit closes in accordance with § 265.228(a)(2), monthly during the post-closure care period when monthly monitoring is required under § 265.226(b).

[57 FR 3492, Jan. 29, 1992]

§ 265.223 Containment system.

All earthen dikes must have a protective cover, such as grass, shale, or rock, to minimize wind and water erosion and to preserve their structural integrity.

EDITORIAL NOTE: At 57 FR 3492, Jan. 29, 1992 the Environmental Protection Agency added § 265.223, effective July 29, 1992. Since a § 265.223 already exists, both sections appear. An agency correction will be published in the FEDERAL REGISTER at a later date.

§ 265.223 Response actions.

(a) The owner or operator of surface impoundment units subject to § 265.221(a) must submit a response action plan to the Regional Administrator when submitting the proposed action leakage rate under § 265.222. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in paragraph (b) of this section.

(b) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator must:

(1) Notify the Regional Administrator in writing of the exceedence within 7 days of the determination;

(2) Submit a preliminary written assessment to the Regional Administrator within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(3) Determine to the extent practicable the location, size, and cause of any leak;

(4) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(5) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and

(6) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the Regional Administrator the results of the analyses specified in paragraphs (b)(3), (4), and (5) of this section, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the Regional Administrator a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak and/or remediation determinations in paragraphs (b)(3), (4), and (5) of this section, the owner or operator must:

(1)(i) Assess the source of liquids and amounts of liquids by source,

(ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

(iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) Document why such assessments are not needed.

[57 FR 3492, Jan. 29, 1992]

§ 265.224 [Reserved]

§ 265.225 Waste analysis and trial tests.

(a) In addition to the waste analyses required by § 265.13, whenever a surface impoundment is to be used to:

(1) Chemically treat a hazardous waste which is substantially different from waste previously treated in that impoundment; or

(2) Chemically treat hazardous waste with a substantially different process than any previously used in that impoundment; the owner or operator must, before treating the different waste or using the different process:

(i) Conduct waste analyses and trial treatment tests (e.g., bench scale or pilot plant scale tests); or

(ii) Obtain written, documented information on similar treatment of similar waste under similar operating conditions; to show that this treatment will comply with § 265.17(b).

[*Comment:* As required by § 265.13, the waste analysis plan must include analyses needed to comply with §§ 265.229 and 265.230. As required by § 265.73, the owner or operator must place the results from each waste analysis and trial test, or the documented information, in the operating record of the facility.]

(b) [Reserved]

§ 265.226 Monitoring and inspection.

(a) The owner or operator must inspect:

(1) The freeboard level at least once each operating day to ensure compliance with § 265.222, and

(2) The surface impoundment, including dikes and vegetation surrounding the dike, at least once a week to detect any leaks, deterioration, or failures in the impoundment.

(b)(1) An owner or operator required to have a leak detection system under § 265.221(a) must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

(2) After the final cover is installed, the amount of liquids removed from each leak detection system sump must be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for two consecutive months, the amount of liquids in the sumps must be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps must be recorded at least semi-annually. If at any time during the post-closure care period the pump operating level is exceeded at units on quarterly or semi-annual recording schedules, the owner or operator must return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months.

(3) ''Pump operating level'' is a liquid level proposed by the owner or operator and approved by the Regional Administrator based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump. The timing for submission and approval of the

proposed ''pump operating level'' will be in accordance with § 265.222(a).

[*Comment:* As required by § 265.15(c), the owner or operator must remedy any deterioration or malfunction he finds.]

[45 FR 33232, May 19, 1980, as amended at 57 FR 3493, Jan. 29, 1992]

§ 265.227 [Reserved]

§ 265.228 Closure and post-closure care.

(a) At closure, the owner or operator must:

(1) Remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless § 261.3(d) of this chapter applies; or

(2) Close the impoundment and provide post-closure care for a landfill under subpart G and § 265.310, including the following:

(i) Eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues;

(ii) Stabilize remaining wastes to a bearing capacity sufficient to support the final cover; and

(iii) Cover the surface impoundment with a final cover designed and constructed to:

(A) Provide long-term minimization of the migration of liquids through the closed impoundment;

(B) Function with minimum maintenance;

(C) Promote drainage and minimize erosion or abrasion of the cover;

(D) Accomodate settling and subsidence so that the cover's integrity is maintained; and

(E) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(b) In addition to the requirements of subpart G, and § 265.310, during the post-closure care period, the owner or operator of a surface impoundment in which wastes, waste residues, or contaminated materials remain after closure in accordance with the provisions of paragraph (a)(2) of this section must:

(1) Maintain the integrity and effectiveness of the final cover, including making repairs to the cover as necessary to correct the effects of settling, subsidence, erosion, or other events;

(2) Maintain and monitor the leak detection system in accordance with §§ 265.221(c)(2)(iv) and (3) of this chapter and 265.226(b) and comply with all other applicable leak detection system requirements of this part;

(3) Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of subpart F of this part; and

(4) Prevent run-on and run-off from eroding or otherwise damaging the final cover.

[52 FR 8708, Mar. 19, 1987, as amended at 57 FR 3493, Jan. 29, 1992]

§ 265.229 Special requirements for ignitable or reactive waste.

Ignitable or reactive waste must not be placed in a surface impoundment, unless the waste and impoundment satisfy all applicable requirements of 40 CFR part 268, and:

(a) The waste is treated, rendered, or mixed before or immediately after placement in the impoundment so that:

(1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under § 261.21 or § 261.23 of this chapter; and

(2) Section 265.17(b) is complied with; or

(b)(1) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react; and

(2) Maintain and monitor the leak detection system in accordance with §§ 265.221(c)(2)(iv) and (3) of this chapter and 265.226(b) and comply with all other applicable leak detection system requirements of this part;

(3) The owner or operator obtains a certification from a qualified chemist or engineer that, to the best of his knowledge and opinion, the design features or operating plans of the facility will prevent ignition or reaction; and

(4) The certification and the basis for it are maintained at the facility; or

(c) The surface impoundment is used solely for emergencies.

[50 FR 16048, Apr. 23, 1985, as amended at 55 FR 22685, June 1, 1990; 57 FR 3493, Jan. 29, 1992]

§ 265.230 Special requirements for incompatible wastes.

Incompatible wastes, or incompatible wastes and materials, (see appendix V for examples) must not be placed in the same surface impoundment, unless § 265.17(b) is complied with.

§ 265.231 Air emission standards.

The owner or operator shall manage all hazardous waste placed in a surface impoundment in accordance with the applicable requirements of subparts BB and CC of this part.

[61 FR 59968, Nov. 25, 1996]

Subpart L—Waste Piles

§ 265.250 Applicability.

The regulations in this subpart apply to owners and operators of facilities that treat or store hazardous waste in piles, except as § 265.1 provides otherwise. Alternatively, a pile of hazardous waste may be managed as a landfill under subpart N.

§ 265.251 Protection from wind.

The owner or operator of a pile containing hazardous waste which could be subject to dispersal by wind must cover or otherwise manage the pile so that wind dispersal is controlled.

§ 265.252 Waste analysis.

In addition to the waste analyses required by § 265.13, the owner or operator must analyze a representative sample of waste from each incoming movement before adding the waste to any existing pile, *unless* (1) The only wastes the facility receives which are amenable to piling are compatible with each other, or (2) the waste received is compatible with the waste in the pile to which it is to be added. The analysis conducted must be capable of differentiating between the types of hazardous waste the owner or operator places in piles, so that mixing of incompatible waste does not inadvertently occur. The analysis must include a visual comparison of color and texture.

[*Comment:* As required by § 265.13, the waste analysis plan must include analyses needed to comply with §§ 265.256 and 265.257. As required by § 265.73, the owner or operator must place the results of this analysis in the operating record of the facility.]

(b) [Reserved]

§ 265.253 Containment.

If leachate or run-off from a pile is a hazardous waste, then either:

(a)(1) The pile must be placed on an impermeable base that is compatible with the waste under the conditions of treatment or storage;

(2) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a 25-year storm;

(3) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm; and

(4) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously to maintain design capacity of the system; or

(b)(1) The pile must be protected from precipitation and run-on by some other means; and

(2) No liquids or wastes containing free liquids may be placed in the pile.

[*Comment:* If collected leachate or run-off is discharged through a point source to waters of the United States, it is subject to the requirements of section 402 of the Clean Water Act, as amended.]

[45 FR 33232, May 19, 1980, as amended at 47 FR 32367, July 26, 1982]

§ 265.254 Design and operating requirements.

The owner or operator of each new waste pile on which construction commences after January 29, 1992, each lateral expansion of a waste pile unit on which construction commences after

July 29, 1992, and each such replacement of an existing waste pile unit that is to commence reuse after July 29, 1992 must install two or more liners and a leachate collection and removal system above and between such liners, and operate the leachate collection and removal systems, in accordance with § 264.251(c), unless exempted under § 264.251(d), (e), or (f), of this chapter; and must comply with the procedures of § 265.221(b). ''Construction commences'' is as defined in § 260.10 of this chapter under ''existing facility''.

[57 FR 3493, Jan. 29, 1992]

§ 265.255 Action leakage rates.

(a) The owner or operator of waste pile units subject to § 265.254 must submit a proposed action leakage rate to the Regional Administrator when submitting the notice required under § 265.254. Within 60 days of receipt of the notification, the Regional Administrator will: Establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this section; or extend the review period for up to 30 days. If no action is taken by the Regional Administrator before the original 60 or extended 90 day review periods, the action leakage rate will be approved as proposed by the owner or operator.

(b) The Regional Administrator shall approve an action leakage rate for surface impoundment units subject to § 265.254. The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding 1 foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(c) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly flow rate from the monitoring data obtained under § 265.260, to an average daily flow rate (gallons per acre per day) for each sump. Unless the Regional Administrator approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period.

[57 FR 3493, Jan. 29, 1992]

§ 265.256 Special requirements for ignitable or reactive waste.

(a) Ignitable or reactive waste must not be placed in a pile unless the waste and pile satisfy all applicable requirements of 40 CFR part 268, and:

(1) Addition of the waste to an existing pile (i) results in the waste or mixture no longer meeting the definition of ignitable or reactive waste under § 261.21 or § 261.23 of this chapter, and (ii) complies with § 265.17(b); or

(2) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

(b) [Reserved]

[45 FR 33232, May 19, 1980, as amended at 55 FR 22685, June 1, 1990]

§ 265.257 Special requirements for incompatible wastes.

(a) Incompatible wastes, or incompatible wastes and materials, (see appendix V for examples) must not be placed in the same pile, unless § 265.17(b) is complied with.

(b) A pile of hazardous waste that is incompatible with any waste or other material stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials, or protected from them by means of a dike, berm, wall, or other device.

[*Comment:* The purpose of this is to prevent fires, explosions, gaseous emissions, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the contact or mixing of incompatible wastes or materials.]

(c) Hazardous waste must not be piled on the same area where incompatible wastes or materials were previously piled, unless that area has been decontaminated sufficiently to ensure compliance with § 265.17(b).

§ 265.258 Closure and post-closure care.

(a) At closure, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless § 261.3(d) of this chapter applies; or

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must close the facility and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills (§ 265.310).

[47 FR 32368, July 26, 1982]

§ 265.259 Response actions.

(a) The owner or operator of waste pile units subject to § 265.254 must submit a response action plan to the Regional Administrator when submitting the proposed action leakage rate under § 265.255. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in paragraph (b) of this section.

(b) If the flow rate into the leak determination system exceeds the action leakage rate for any sump, the owner or operator must:

(1) Notify the Regional Administrator in writing of the exceedence within 7 days of the determination;

(2) Submit a preliminary written assessment to the Regional Administrator within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(3) Determine to the extent practicable the location, size, and cause of any leak;

(4) Determine whether waste receipts should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(5) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and

(6) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the Regional Administrator the results of the analyses specified in paragraphs (b)(3), (4), and (5) of this section, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the Regional Administrator a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak and/or remediation determinations in paragraphs (b)(3), (4), and (5) of this section, the owner or operator must:

(1)(i) Assess the source of liquids and amounts of liquids by source,

(ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

(iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) Document why such assessments are not needed.

[57 FR 3494, Jan. 29, 1992]

§ 265.260 Monitoring and inspection.

An owner or operator required to have a leak detection system under § 265.254 must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

[57 FR 3494, Jan. 29, 1992]

Subpart M—Land Treatment

§265.270 Applicability.

The regulations in this subpart apply to owners and operators of hazardous waste land treatment facilities, except as §265.1 provides otherwise.

§265.271 [Reserved]

§265.272 General operating requirements.

(a) Hazardous waste must not be placed in or on a land treatment facility unless the waste can be made less hazardous or nonhazardous by degradation, transformation, or immobilization processes occurring in or on the soil.

(b) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portions of the facility during peak discharge from at least a 25-year storm.

(c) The owner or operator must design, construct, operate, and maintain a run-off management system capable of collecting and controlling a water volume at least equivalent to a 24-hour, 25-year storm.

(d) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(e) If the treatment zone contains particulate matter which may be subject to wind dispersal, the owner or operator must manage the unit to control wind dispersal.

[45 FR 33232, May 19, 1980, as amended at 47 FR 32368, July 26, 1982; 50 FR 16048, Apr. 23, 1985]

§265.273 Waste analysis.

In addition to the waste analyses required by §265.13, before placing a hazardous waste in or on a land treatment facility, the owner or operator must:

(a) Determine the concentrations in the waste of any substances which equal or exceed the maximum concentrations contained in Table 1 of §261.24 of this chapter that cause a waste to exhibit the Toxicity Characteristic;

(b) For any waste listed in part 261, subpart D, of this chapter, determine the concentrations of any substances which caused the waste to be listed as a hazardous waste; and

(c) If food chain crops are grown, determine the concentrations in the waste of each of the following constituents: arsenic, cadmium, lead, and mercury, *unless* the owner or operator has written, documented data that show that the constituent is not present.

[*Comment:* Part 261 of this chapter specifies the substances for which a waste is listed as a hazardous waste. As required by §265.13, the waste analysis plan must include analyses needed to comply with §§265.281 and 265.282. As required by §265.73, the owner or operator must place the results from each waste analysis, or the documented information, in the operating record of the facility.]

[45 FR 33232, May 19, 1980, as amended at 55 FR 11876, Mar. 29, 1990]

§§265.274—265.275 [Reserved]

§265.276 Food chain crops.

(a) An owner or operator of a hazardous waste land treatment facility on which food chain crops are being grown, or have been grown and will be grown in the future, must notify the Regional Administrator within 60 days after the effective date of this part.

[*Comment:* The growth of food chain crops at a facility which has never before been used for this purpose is a significant change in process under §122.72(c) of this chapter. Owners or operators of such land treatment facilities who propose to grow food chain crops after the effective date of this part must comply with §122.72(c) of this chapter.]

(b)(1) Food chain crops must not be grown on the treated area of a hazardous waste land treatment facility unless the owner or operator can demonstrate, based on field testing, that any arsenic, lead, mercury, or other constituents identified under §265.273(b):

(i) Will not be transferred to the food portion of the crop by plant uptake or direct contact, and will not otherwise be ingested by food chain animals (e.g., by grazing); or

(ii) Will not occur in greater concentrations in the crops grown on the land treatment facility than in the same crops grown on untreated soils

under similar conditions in the same region.

(2) The information necessary to make the demonstration required by paragraph (b)(1) of this section must be kept at the facility and must, at a minimum:

(i) Be based on tests for the specific waste and application rates being used at the facility; and

(ii) Include descriptions of crop and soil characteristics, sample selection criteria, sample size determination, analytical methods, and statistical procedures.

(c) Food chain crops must not be grown on a land treatment facility receiving waste that contains cadmium unless all requirements of paragraphs (c)(1) (i) through (iii) of this section or all requirements of paragraphs (c)(2) (i) through (iv) of this section are met.

(1)(i) The pH of the waste and soil mixture is 6.5 or greater at the time of each waste application, except for waste containing cadmium at concentrations of 2 mg/kg (dry weight) or less;

(ii) The annual application of cadmium from waste does not exceed 0.5 kilograms per hectare (kg/ha) on land used for production of tobacco, leafy vegetables, or root crops grown for human consumption. For other food chain crops, the annual cadmium application rate does not exceed:

Time period	Annual Cd application rate (kg/ha)
Present to June 30, 1984	2.0
July 1, 1984 to December 31, 1986	1.25
Beginning January 1, 1987	0.5

(iii) The cumulative application of cadmium from waste does not exceed the levels in either paragraph (c)(1)(iii)(A) or (B) of this section.

(A)

Soil caption exchange capacity (meq/100g)	Maximum cumulative application (kg/ha)	
	Background soil pH less than 6.5	Background soil pH greater than 6.5
Less than 5	5	5
5 to 15	5	10
Greater than 15	5	20

(B) For soils with a background pH of less than 6.5, the cumulative cadmium application rate does not exceed the levels below: *Provided,* that the pH of the waste and soil mixture is adjusted to and maintained at 6.5 or greater whenever food chain crops are grown.

Soil caption exchange capacity (meq/100g)	Maximum cumulative application (kg/ha)
Less than 5	5
5 to 15	10
Greater than 15	20

(2)(i) The only food chain crop produced is animal feed.

(ii) The pH of the waste and soil mixture is 6.5 or greater at the time of waste application or at the time the crop is planted, whichever occurs later, and this pH level is maintained whenever food chain crops are grown.

(iii) There is a facility operating plan which demonstrates how the animal feed will be distributed to preclude ingestion by humans. The facility operating plan describes the measures to be taken to safeguard against possible health hazards from cadmium entering the food chain, which may result from alternative land uses.

(iv) Future property owners are notified by a stipulation in the land record or property deed which states that the property has received waste at high cadmium application rates and that food chain crops must not be grown except in compliance with paragraph (c)(2) of this section.

[*Comment:* As required by § 265.73, if an owner or operator grows food chain crops on his land treatment facility, he must place the information developed in this section in the operating record of the facility.]

[45 FR 33232, May 19, 1980, as amended at 47 FR 32368, July 26, 1982; 48 FR 14295, Apr. 1, 1983]

§ 265.277 [Reserved]

§ 265.278 Unsaturated zone (zone of aeration) monitoring.

(a) The owner or operator must have in writing, and must implement, an unsaturated zone monitoring plan which is designed to:

(1) Detect the vertical migration of hazardous waste and hazardous waste constituents under the active portion of the land treatment facility, and

(2) Provide information on the background concentrations of the hazardous waste and hazardous waste constituents in similar but untreated soils nearby; this background monitoring must be conducted before or in conjunction with the monitoring required under paragraph (a)(1) of this section.

(b) The unsaturated zone monitoring plan must include, at a minimum:

(1) Soil monitoring using soil cores, and

(2) Soil-pore water monitoring using devices such as lysimeters.

(c) To comply with paragraph (a)(1) of this section, the owner or operator must demonstrate in his unsaturated zone monitoring plan that:

(1) The depth at which soil and soil-pore water samples are to be taken is below the depth to which the waste is incorporated into the soil;

(2) The number of soil and soil-pore water samples to be taken is based on the variability of:

(i) The hazardous waste constituents (as identified in § 265.273(a) and (b)) in the waste and in the soil; and

(ii) The soil type(s); and

(3) The frequency and timing of soil and soil-pore water sampling is based on the frequency, time, and rate of waste application, proximity to ground water, and soil permeability.

(d) The owner or operator must keep at the facility his unsaturated zone monitoring plan, and the rationale used in developing this plan.

(e) The owner or operator must analyze the soil and soil-pore water samples for the hazardous waste constituents that were found in the waste during the waste analysis under § 265.273 (a) and (b).

[*Comment:* As required by § 265.73, all data and information developed by the owner or operator under this section must be placed in the operating record of the facility.]

§ 265.279 Recordkeeping.

The owner or operator must include hazardous waste application dates and rates in the operating record required under § 265.73.

[47 FR 32368, July 26, 1982]

§ 265.280 Closure and post-closure.

(a) In the closure plan under § 265.112 and the post-closure plan under § 265.118, the owner or operator must address the following objectives and indicate how they will be achieved:

(1) Control of the migration of hazardous waste and hazardous waste constituents from the treated area into the ground water;

(2) Control of the release of contaminated run-off from the facility into surface water;

(3) Control of the release of airborne particulate contaminants caused by wind erosion; and

(4) Compliance with § 265.276 concerning the gowth of food-chain crops.

(b) The owner or operator must consider at least the following factors in addressing the closure and post-closure care objectives of paragraph (a) of this section:

(1) Type and amount of hazardous waste and hazardous waste constituents applied to the land treatment facility;

(2) The mobility and the expected rate of migration of the hazardous waste and hazardous waste constituents;

(3) Site location, topography, and surrounding land use, with respect to the potential effects of pollutant migration (e.g., proximity to ground water, surface water and drinking water sources);

(4) Climate, including amount, frequency, and pH of precipitation;

(5) Geological and soil profiles and surface and subsurface hydrology of the site, and soil characteristics, including cation exchange capacity, total organic carbon, and pH;

(6) Unsaturated zone monitoring information obtained under § 265.278; and

(7) Type, concentration, and depth of migration of hazardous waste constituents in the soil as compared to their background concentrations.

(c) The owner or operator must consider at least the following methods in addressing the closure and post-closure care objectives of paragraph (a) of this section:

(1) Removal of contaminated soils;

(2) Placement of a final cover, considering:

(i) Functions of the cover (e.g., infiltration control, erosion and run-off control, and wind erosion control); and

(ii) Characteristics of the cover, including material, final surface contours, thickness, porosity and permeability, slope, length of run of slope, and type of vegetation on the cover; and

(3) Monitoring of ground water.

(d) In addition to the requirements of subpart G of this part, during the closure period the owner or operator of a land treatment facility must:

(1) Continue unsaturated zone monitoring in a manner and frequency specified in the closure plan, except that soil pore liquid monitoring may be terminated 90 days after the last application of waste to the treatment zone;

(2) Maintain the run-on control system required under § 265.272(b);

(3) Maintain the run-off management system required under § 265.272(c); and

(4) Control wind dispersal of particulate matter which may be subject to wind dispersal.

(e) For the purpose of complying with § 265.115, when closure is completed the owner or operator may submit to the Regional Administrator certification both by the owner or operator and by an independent qualified soil scientist, in lieu of an independent registered professional engineer, that the facility has been closed in accordance with the specifications in the approved closure plan.

(f) In addition to the requirements of § 265.117, during the post-closure care period the owner or operator of a land treatment unit must:

(1) Continue soil-core monitoring by collecting and analyzing samples in a manner and frequency specified in the post-closure plan;

(2) Restrict access to the unit as appropriate for its post-closure use;

(3) Assure that growth of food chain crops complies with § 265.276; and

(4) Control wind dispersal of hazardous waste.

[45 FR 33232, May 19, 1980, as amended at 47 FR 32368, July 26, 1982]

§ 265.281 Special requirements for ignitable or reactive waste.

The owner or operator must not apply ignitable or reactive waste to the treatment zone unless the waste and treatment zone meet all applicable requirements of 40 CFR part 268, and:

(a) The waste is immediately incorporated into the soil so that:

(1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under § 265.21 or § 261.23 of this chapter; and

(2) Section 264.17(b) is complied with; or

(b) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

[47 FR 32368, July 26, 1982, as amended at 55 FR 22686, June 1, 1990]

§ 265.282 Special requirements for incompatible wastes.

Incompatible wastes, or incompatible wastes and materials (see appendix V for examples), must not be placed in the same land treatment area, unless § 265.17(b) is complied with.

Subpart N—Landfills

§ 265.300 Applicability.

The regulations in this subpart apply to owners and operators of facilities that dispose of hazardous waste in landfills, except as § 265.1 provides otherwise. A waste pile used as a disposal facility is a landfill and is governed by this subpart.

§ 265.301 Design and operating requirements.

(a) The owner or operator of each new landfill unit on which construction commences after January 29, 1992, each lateral expansion of a landfill unit on which construction commences after July 29, 1992, and each replacement of an existing landfill unit that is to commence reuse after July 29, 1992 must install two or more liners and a leachate collection and removal system above and between such liners, and operate the leachate collection and removal systems, in accordance with § 264.301(d), (e), or (f), of this chapter. ''Construction commences'' is as defined in § 260.10 of this chapter under ''existing facility''.

(b) The owner or operator of each unit referred to in paragraph (a) of this section must notify the Regional Administrator at least sixty days prior to receiving waste. The owner or operator of each facility submitting notice must file a part B application within six months of the receipt of such notice.

(c) The owner or operator of any replacement landfill unit is exempt from paragraph (a) of this section if:

(1) The existing unit was constructed in compliance with the design standards of section 3004(o)(1)(A)(i) and (o)(5) of the Resource Conservation and Recovery Act; and

(2) There is no reason to believe that the liner is not functioning as designed.

(d) The double liner requirement set forth in paragraph (a) of this section may be waived by the Regional Administrator for any monofill, if:

(1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such waste does not contain constituents which would

render the wastes hazardous for reasons other than the Toxicity Characteristic in § 261.4 of this chapter, with EPA Hazardous Waste Number D004 through D017; and

(2)(i)(A) The monofill has at least one liner for which there is no evidence that such liner is leaking;

(B) The monofill is located more than one-quarter mile from an underground source of drinking water (as that term is defined in § 144.3 of this chapter); and

(C) The monofill is in compliance with generally applicable ground-water monitoring requirements for facilities with permits under RCRA section 3005(c); or

(ii) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

(e) In the case of any unit in which the liner and leachate collection system has been installed pursuant to the requirements of paragraph (a) of this section and in good faith compliance with paragraph (a) of this section and with guidance documents governing liners and leachate collection systems under paragraph (a) of this section, no liner or leachate collection system which is different from that which was so installed pursuant to paragraph (a) of this section will be required for such unit by the Regional Administrator when issuing the first permit to such facility, except that the Regional Administrator will not be precluded from requiring installation of a new liner when the Regional Administrator has reason to believe that any liner installed pursuant to the requirements of paragraph (a) of this section is leaking.

(f) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a 25-year storm.

(g) The owner or operator must design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(h) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(i) The owner or operator of a landfill containing hazardous waste which is subject to dispersal by wind must cover or otherwise manage the landfill so that wind dispersal of the hazardous waste is controlled.

[*Comment*: As required by § 265.13, the waste analysis plan must include analyses needed to comply with §§ 265.312, 265.313, and 265.314. As required by § 265.73, the owner or operator must place the results of these analyses in the operating record of the facility.]

[45 FR 33232, May 19, 1980, as amended at 47 FR 32368, July 26, 1982; 50 FR 18374, Apr. 30, 1985. Redesignated from § 265.302 at 57 FR 3494, Jan. 29, 1992; 50 FR 28750, July 15, 1985, as amended at 57 FR 3494, Jan. 29, 1992; 57 FR 30658, July 10, 1992]

§ 265.302 Action leakage rate.

(a) The owner or operator of landfill units subject to § 265.301(a) must submit a proposed action leakage rate to the Regional Administrator when submitting the notice required under § 265.301(b). Within 60 days of receipt of the notification, the Regional Administrator will: Establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this section; or extend the review period for up to 30 days. If no action is taken by the Regional Administrator before the original 60 or extended 90 day review periods, the action leakage rate will be approved as proposed by the owner or operator.

(b) The Regional Administrator shall approve an action leakage rate for surface impoundment units subject to § 265.301(a). The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding 1 foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g., the action leakage rate must consider decreases in the

flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(c) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under § 265.304 to an average daily flow rate (gallons per acre per day) for each sump. Unless the Regional Administrator approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and monthly during the post-closure care period when monthly monitoring is required under § 265.304(b).

[57 FR 3494, Jan. 29, 1992]

§ 265.303 Response actions.

(a) The owner or operator of landfill units subject to § 265.301(a) must submit a response action plan to the Regional Administrator when submitting the proposed action leakage rate under § 265.302. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in paragraph (b) of this section.

(b) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator must:

(1) Notify the Regional Administrator in writing of the exceedence within 7 days of the determination;

(2) Submit a preliminary written assessment to the Regional Administrator within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(3) Determine to the extent practicable the location, size, and cause of any leak;

(4) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(5) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and

(6) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the Regional Administrator the results of the analyses specified in paragraphs (b)(3), (4), and (5) of this section, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the Regional Administrator a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak and/or remediation determinations in paragraphs (b)(3), (4), and (5) of this section, the owner or operator must:

(1)(i) Assess the source of liquids and amounts of liquids by source,

(ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

(iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) Document why such assessments are not needed.

[57 FR 3494, Jan. 29, 1992]

§ 265.304 Monitoring and inspection.

(a) An owner or operator required to have a leak detection system under § 265.301(a) must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

(b) After the final cover is installed, the amount of liquids removed from each leak detection system sump must be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for two consecutive months, the amount of liquids in the sumps must be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps must be recorded at least semi-annually. If at any time during the post-closure care

period the pump operating level is exceeded at units on quarterly or semi-annual recording schedules, the owner or operator must return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months.

(c) ''Pump operating level'' is a liquid level proposed by the owner or operator and approved by the Regional Administrator based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump. The timing for submission and approval of the proposed ''pump operating level'' will be in accordance with § 265.302(a).

[57 FR 3495, Jan. 29, 1992]

§§ 265.305—265.308 [Reserved]

§ 265.309 Surveying and record-keeping.

The owner or operator of a landfill must maintain the following items in the operating record required in § 265.73:

(a) On a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks; and

(b) The contents of each cell and the approximate location of each hazardous waste type within each cell.

§ 265.310 Closure and post-closure care.

(a) At final closure of the landfill or upon closure of any cell, the owner or operator must cover the landfill or cell with a final cover designed and constructed to:

(1) Provide long-term minimization of migration of liquids through the closed landfill;

(2) Function with minimum maintenance;

(3) Promote drainage and minimize erosion or abrasion of the cover;

(4) Accommodate settling and subsidence so that the cover's integrity is maintained; and

(5) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(b) After final closure, the owner or operator must comply with all post-closure requirements contained in §§ 265.117 through 265.120 including maintenance and monitoring throughout the post-closure care period. The owner or operator must:

(1) Maintain the integrity and effectiveness of the final cover, including making repairs to the cover as necessary to correct the effects of settling, subsidence, erosion, or other events;

(2) Maintain and monitor the leak detection system in accordance with §§ 264.301(c)(3)(iv) and (4) of this chapter and 265.304(b), and comply with all other applicable leak detection system requirements of this part;

(3) Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of subpart F of this part;

(4) Prevent run-on and run-off from eroding or otherwise damaging the final cover; and

(5) Protect and maintain surveyed benchmarks used in complying with § 265.309.

[50 FR 16048, Apr. 23, 1985, as amended at 57 FR 3495, Jan. 29, 1992]

§ 265.311 [Reserved]

§ 265.312 Special requirements for ignitable or reactive waste.

(a) Except as provided in paragraph (b) of this section, and in § 265.316, ignitable or reactive waste must not be placed in a landfill, unless the waste and landfill meets all applicable requirements of 40 CFR part 268, and:

(1) The resulting waste, mixture, or dissolution or material no longer meets the definition of ignitable or reactive waste under § 261.21 or § 261.23 of this chapter; and

(2) Section 265.17(b) is complied with.

(b) Except for prohibited wastes which remain subject to treatment standards in subpart D of part 268, ignitable wastes in containers may be landfilled without meeting the requirements of paragraph (a) of this section, provided that the wastes are disposed of in such a way that they are protected from any material or conditions which may cause them to ignite. At a minimum, ignitable wastes must be disposed of in non-leaking containers which are carefully handled and placed so as to avoid heat, sparks, rupture, or

any other condition that might cause ignition of the wastes; must be covered daily with soil or other non-combustible material to minimize the potential for ignition of the wastes; and must not be disposed of in cells that contain or will contain other wastes which may generate heat sufficient to cause ignition of the waste.

[47 FR 32368, July 26, 1982, as amended at 55 FR 22686, June 1, 1990]

§ 265.313 Special requirements for incompatible wastes.

Incompatible wastes, or incompatible wastes and materials, (see appendix V for examples) must not be placed in the same landfill cell, unless § 265.17(b) is complied with.

§ 265.314 Special requirements for bulk and containerized liquids.

(a) Bulk or non-containerized liquid waste or waste containing free liquids may be placed in a landfill prior to May 8, 1985 only if:

(1) The landfill has a liner and leachate collection and removal system that meets the requirements of § 264.301(a) of this chapter; or

(2) Before disposal, the liquid waste or waste containing free liquids is treated or stabilized, chemically or physically (e.g., by mixing with a sorbent solid), so that free liquids are no longer present.

(b) Effective May 8, 1985, the placement of bulk or non-containerized liquid hazardous waste or hazardous waste containing free liquids (whether or not sorbents have been added) in any landfill is prohibited.

(c) Containers holding free liquids must not be placed in a landfill unless:

(1) All free-standing liquid,

(i) has been removed by decanting, or other methods,

(ii) has been mixed with sorbent or solidified so that free-standing liquid is no longer observed; or

(iii) had been otherwise eliminated; or

(2) The container is very small, such as an ampule; or

(3) The container is designed to hold free liquids for use other than storage, such as a battery or capacitor; or

(4) The container is a lab pack as defined in § 265.316 and is disposed of in accordance with § 265.316.

(d) To demonstrate the absence or presence of free liquids in either a containerized or a bulk waste, the following test must be used: Method 9095 (Paint Filter Liquids Test) as described in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' EPA Publication SW–846, as incorporated by reference in § 260.11 of this chapter.

(e) The date for compliance with paragraph (a) of this section is November 19, 1981. The date for compliance with paragraph (c) of this section is March 22, 1982.

(f) Sorbents used to treat free liquids to be disposed of in landfills must be nonbiodegradable. Nonbiodegradable sorbents are: materials listed or described in paragraph (f)(1) of this section; materials that pass one of the tests in paragraph (f)(2) of this section; or materials that are determined by EPA to be nonbiodegradable through the Part 260 petition process.

(1) Nonbiodegradable sorbents. (i) Inorganic minerals, other inorganic materials, and elemental carbon (e.g., aluminosilicates, clays, smectites, Fuller's earth, bentonite, calcium bentonite, montmorillonite, calcined montmorillonite, kaolinite, micas (illite), vermiculites, zeolites; calcium carbonate (organic free limestone); oxides/hydroxides, alumina, lime, silica (sand), diatomaceous earth; perlite (volcanic glass); expanded volcanic rock; volcanic ash; cement kiln dust; fly ash; rice hull ash; activated charcoal/activated carbon); or

(ii) High molecular weight synthetic polymers (e.g., polyethylene, high density polyethylene (HDPE), polypropylene, polystyrene, polyurethane, polyacrylate, polynorborene, polysobutylene, ground synthetic rubber, cross-linked allylstyrene and tertiary butyl copolymers). This does not include polymers derived from biological material or polymers specifically designed to be degradable; or

(iii) Mixtures of these nonbiodegradable materials.

(2) Tests for nonbiodegradable sorbents. (i) The sorbent material is determined to be nonbiodegradable under

ASTM Method G21–70 (1984a)—Standard Practice for Determining Resistance of Synthetic Polymer Materials to Fungi; or

(ii) The sorbent material is determined to be nonbiodegradable under ASTM Method G22–76 (1984b)—Standard Practice for Determining Resistance of Plastics to Bacteria; or

(iii) The sorbent material is determined to be non-biodegradable under OECD test 301B: [CO_2 Evolution (Modified Sturm Test)].

(g) Effective November 8, 1985, the placement of any liquid which is not a hazardous waste in a landfill is prohibited unless the owner or operator of such landfill demonstrates to the Regional Administrator, or the Regional Administrator determines, that:

(1) The only reasonably available alternative to the placement in such landfill is placement in a landfill or unlined surface impoundment, whether or not permitted or operating under interim status, which contains, or may reasonably be anticipated to contain, hazardous waste; and

(2) Placement in such owner or operator's landfill will not present a risk of contamination of any underground source of drinking water (as that term is defined in § 144.3 of this chapter).

[45 FR 33232, May 19, 1980, as amended at 47 FR 12318, Mar. 22, 1982; 47 FR 32369, July 26, 1982; 50 FR 18374, Apr. 30, 1985; 50 FR 28750, July 15, 1985; 51 FR 19177, May 28, 1986; 57 FR 54461, Nov. 18, 1992; 58 FR 46050, Aug. 31, 1993; 60 FR 35705, July 11, 1995]

§ 265.315 Special requirements for containers.

Unless they are very small, such as an ampule, containers must be either:

(a) At least 90 percent full when placed in the landfill; or

(b) Crushed, shredded, or similarly reduced in volume to the maximum practical extent before burial in the landfill.

[50 FR 16048, Apr. 23, 1985]

§ 265.316 Disposal of small containers of hazardous waste in overpacked drums (lab packs).

Small containers of hazardous waste in overpacked drums (lab packs) may be placed in a landfull if the following requirements are met:

(a) Hazardous waste must be packaged in non-leaking inside containers. The inside containers must be of a design and constructed of a material that will not react dangerously with, be decomposed by, or be ignited by the waste held therein. Inside containers must be tightly and securely sealed. The inside containers must be of the size and type specified in the Department of Transportation (DOT) hazardous materials regulations (49 CFR parts 173, 178 and 179), if those regulations specify a particular inside container for the waste.

(b) The inside containers must be overpacked in an open head DOT-specification metal shipping container (49 CFR parts 178 and 179) of no more than 416-liter (110 gallon) capacity and surrounded by, at a minimum, a sufficient quantity of sorbent material, determined to be nonbiodegradable in accordance with § 265.314(f), to completely sorb all of the liquid contents of the inside containers. The metal outer container must be full after it has been packed with inside containers and sorbent material.

(c) The sorbent material used must not be capable of reacting dangerously with, being decomposed by, or being ignited by the contents of the inside container's in accordance with § 265.17(b).

(d) Incompatible wastes, as defined in § 260.10(a) of this chapter, must not be placed in the same outside container.

(e) Reactive waste, other than cyanide- or sulfide-bearing waste as defined in § 261.23(a)(5) of this chapter, must be treated or rendered non-reactive prior to packaging in accordance with paragraphs (a) through (d) of this section. Cyanide- and sulfide-bearing reactive waste may be packaged in accordance with paragraphs (a) through (d) of this section without first being treated or rendered non-reactive.

(f) Such disposal is in compliance with the requirements of 40 CFR part 268. Persons who incinerate lab packs according to the requirements in 40 CFR 268.42(c)(1) may use fiber drums in place of metal outer containers. Such

fiber drums must meet the DOT specifications in 49 CFR 173.12 and be overpacked according to the requirements in paragraph (b) of this section.

[46 FR 56596, Nov. 17, 1981, as amended at 55 FR 22686, June 1, 1990; 57 FR 54461, Nov. 18, 1992]

Subpart O—Incinerators

SOURCE: 46 FR 7680, Jan. 23, 1981, unless otherwise noted.

§ 265.340 Applicability.

(a) The regulations of this subpart apply to owners and operators of hazardous waste incinerators (as defined in § 260.10 of this chapter), except as § 265.1 provides otherwise.

(b) Owners and operators of incinerators burning hazardous waste are exempt from all of the requirements of this subpart, except § 265.351 (Closure), provided that the owner or operator has documented, in writing, that the waste would not reasonably be expected to contain any of the hazardous constituents listed in part 261, appendix VIII, of this chapter, and such documentation is retained at the facility, if the waste to be burned is:

(1) Listed as a hazardous waste in part 261, subpart D, of this chapter solely because it is ignitable (Hazard Code I), corrosive (Hazard Code C), or both; or

(2) Listed as a hazardous waste in part 261, subpart D, of this chapter solely because it is reactive (Hazard Code R) for characteristics other than those listed in § 261.23(a) (4) and (5), and will not be burned when other hazardous wastes are present in the combustion zone; or

(3) A hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the tests for characteristics of hazardous wastes under part 261, subpart C, of this chapter; or

(4) A hazardous waste solely because it possesses the reactivity characteristics described by § 261.23(a) (1), (2), (3), (6), (7), or (8) of this chapter, and will not be burned when other hazardous wastes are present in the combustion zone.

[47 FR 27533, June 24, 1982 and 50 FR 666, Jan. 4, 1985, as amended at 50 FR 49203, Nov. 29, 1985; 56 FR 7208, Feb. 21, 1991]

§ 265.341 Waste analysis.

In addition to the waste analyses required by § 265.13, the owner or operator must sufficiently analyze any waste which he has not previously burned in his incinerator to enable him to establish steady state (normal) operating conditions (including waste and auxiliary fuel feed and air flow) and to determine the type of pollutants which might be emitted. At a minimum, the analysis must determine:

(a) Heating value of the waste;

(b) Halogen content and sulfur content in the waste; and

(c) Concentrations in the waste of lead and mercury, unless the owner or operator has written, documented data that show that the element is not present.

[*Comment:* As required by § 265.73, the owner or operator must place the results from each waste analysis, or the documented information, in the operating record of the facility.]

§§ 265.342—265.344 [Reserved]

§ 265.345 General operating requirements.

During start-up and shut-down of an incinerator, the owner or operator must not feed hazardous waste unless the incinerator is at steady state (normal) conditions of operation, including steady state operating temperature and air flow.

§ 265.346 [Reserved]

§ 265.347 Monitoring and inspections.

The owner or operator must conduct, as a minimum, the following monitoring and inspections when incinerating hazardous waste:

(a) Existing instruments which relate to combustion and emission control must be monitored at least every 15 minutes. Appropriate corrections to maintain steady state combustion conditions must be made immediately either automatically or by the operator.

Instruments which relate to combustion and emission control would normally include those measuring waste feed, auxiliary fuel feed, air flow, incinerator temperature, scrubber flow, scrubber pH, and relevant level controls.

(b) The complete incinerator and associated equipment (pumps, valves, conveyors, pipes, etc.) must be inspected at least daily for leaks, spills, and fugitive emissions, and all emergency shutdown controls and system alarms must be checked to assure proper operation.

[46 FR 7678, Jan. 23, 1981, as amended at 47 FR 27533, June 24, 1982]

§§ 265.348—265.350 [Reserved]

§ 265.351 Closure.

At closure, the owner or operator must remove all hazardous waste and hazardous waste residues (including but not limited to ash, scrubber waters, and scrubber sludges) from the incinerator.

[*Comment:* At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with § 261.3(d) of this chapter, that the residue removed from his incinerator is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of parts 262 through 266 of this chapter.]

§ 265.352 Interim status incinerators burning particular hazardous wastes.

(a) Owners or operators of incinerators subject to this subpart may burn EPA Hazardous Wastes FO20, FO21, FO22, FO23, FO26, or FO27 if they receive a certification from the Assistant Administrator for Solid Waste and Emergency Response that they can meet the performance standards of subpart O of part 264 when they burn these wastes.

(b) The following standards and procedures will be used in determining whether to certify an incinerator:

(1) The owner or operator will submit an application to the Assistant Administrator for Solid Waste and Emergency Response containing applicable information in §§ 270.19 and 270.62 demonstrating that the incinerator can meet the performance standards in subpart O of part 264 when they burn these wastes.

(2) The Assistant Administrator for Solid Waste and Emergency Response will issue a tentative decision as to whether the incinerator can meet the performance standards in subpart O of part 264. Notification of this tentative decision will be provided by newspaper advertisement and radio broadcast in the jurisdiction where the incinerator is located. The Assistant Administrator for Solid Waste and Emergency Response will accept comment on the tentative decision for 60 days. The Assistant Administrator for Solid Waste and Emergency Response also may hold a public hearing upon request or at his discretion.

(3) After the close of the public comment period, the Assistant Administrator for Solid Waste and Emergency Response will issue a decision whether or not to certify the incinerator.

[50 FR 2005, Jan. 14, 1985]

§§ 265.353—265.369 [Reserved]

Subpart P—Thermal Treatment

§ 265.370 Other thermal treatment.

The regulations in this subpart apply to owners or operators of facilities that thermally treat hazardous waste in devices other than enclosed devices using controlled flame combustion, except as § 265.1 provides otherwise. Thermal treatment in enclosed devices using controlled flame combustion is subject to the requirements of subpart O if the unit is an incinerator, and subpart H of part 266, if the unit is a boiler or an industrial furnace as defined in § 260.10.

[50 FR 666, Jan. 4, 1985, as amended at 56 FR 32692, July 17, 1991]

§§ 265.371—265.372 [Reserved]

§ 265.373 General operating requirements.

Before adding hazardous waste, the owner or operator must bring his thermal treatment process to steady state (normal) conditions of operation—including steady state operating temperature—using auxiliary fuel or other

means, unless the process is a non-continuous (batch) thermal treatment process which requires a complete thermal cycle to treat a discrete quantity of hazardous waste.

§ 265.374 [Reserved]

§ 265.375 Waste analysis.

In addition to the waste analyses required by § 265.13, the owner or operator must sufficiently analyze any waste which he has not previously treated in his thermal process to enable him to establish steady state (normal) or other appropriate (for a non-continuous process) operating conditions (including waste and auxiliary fuel feed) and to determine the type of pollutants which might be emitted. At a minimum, the analysis must determine:

(a) Heating value of the waste;

(b) Halogen content and sulfur content in the waste; and

(c) Concentrations in the waste of lead and mercury, *unless* the owner or operator has written, documented data that show that the element is not present.

[*Comment:* As required by § 265.73, the owner or operator must place the results from each waste analysis, or the documented information, in the operating record of the facility.]

§ 265.376 [Reserved]

§ 265.377 Monitoring and inspections.

(a) The owner or operator must conduct, as a minimum, the following monitoring and inspections when thermally treating hazardous waste:

(1) Existing instruments which relate to temperature and emission control (if an emission control device is present) must be monitored at least every 15 minutes. Appropriate corrections to maintain steady state or other appropriate thermal treatment conditions must be made immediately either automatically or by the operator. Instruments which relate to temperature and emission control would normally include those measuring waste feed, auxiliary fuel feed, treatment process temperature, and relevant process flow and level controls.

(2) The stack plume (emissions), where present, must be observed visually at least hourly for normal appearance (color and opacity). The operator must immediately make any indicated operating corrections necessary to return any visible emissions to their normal appearance.

(3) The complete thermal treatment process and associated equipment (pumps, valves, conveyors, pipes, etc.) must be inspected at least daily for leaks, spills, and fugitive emissions, and all emergency shutdown controls and system alarms must be checked to assure proper operation.

(b) [Reserved]

§§ 265.378—265.380 [Reserved]

§ 265.381 Closure.

At closure, the owner or operator must remove all hazardous waste and hazardous waste residues (including, but not limited to, ash) from the thermal treatment process or equipment.

[*Comment:* At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with § 261.3 (c) or (d) of this chapter, that any solid waste removed from his thermal treatment process or equipment is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of parts 262, 263, and 265 of this chapter.]

§ 265.382 Open burning; waste explosives.

Open burning of hazardous waste is prohibited except for the open burning and detonation of waste explosives. Waste explosives include waste which has the potential to detonate and bulk military propellants which cannot safely be disposed of through other modes of treatment. Detonation is an explosion in which chemical transformation passes through the material faster than the speed of sound (0.33 kilometers/second at sea level). Owners or operators choosing to open burn or detonate waste explosives must do so in accordance with the following table and in a manner that does not threaten human health or the environment.

Pounds of waste explosives or propellants	Minimum distance from open burning or detonation to the property of others
0 to 100	204 meters (670 feet).
101 to 1,000	380 meters (1,250 feet).
1,001 to 10,000	530 meters (1,730 feet).

Pounds of waste explosives or propellants	Minimum distance from open burning or detonation to the property of others
10,001 to 30,000	690 meters (2,260 feet).

§ 265.383 Interim status thermal treatment devices burning particular hazardous waste.

(a) Owners or operators of thermal treatment devices subject to this subpart may burn EPA Hazardous Wastes FO20, FO21, FO22, FO23, FO26, or FO27 if they receive a certification from the Assistant Administrator for Solid Waste and Emergency Response that they can meet the performance standards of subpart O of part 264 when they burn these wastes.

(b) The following standards and procedures will be used in determining whether to certify a thermal treatment unit:

(1) The owner or operator will submit an application to the Assistant Administrator for Solid Waste and Emergency Response containing the applicable information in §§ 270.19 and 270.62 demonstrating that the thermal treatment unit can meet the performance standard in subpart O of part 264 when they burn these wastes.

(2) The Assistant Administrator for Solid Waste and Emergency Response will issue a tentative decision as to whether the thermal treatment unit can meet the performance standards in subpart O of part 264. Notification of this tentative decision will be provided by newspaper advertisement and radio broadcast in the jurisdiction where the thermal treatment device is located. The Assistant Administrator for Solid Waste and Emergency Response will accept comment on the tentative decision for 60 days. The Assistant Administrator for Solid Waste and Emergency Response also may hold a public hearing upon request or at his discretion.

(3) After the close of the public comment period, the Assistant Administrator for Solid Waste and Emergency Response will issue a decision whether or not to certify the thermal treatment unit.

[50 FR 2005, Jan. 14, 1985]

Subpart Q—Chemical, Physical, and Biological Treatment

§ 265.400 Applicability.

The regulations in this subpart apply to owners and operators of facilities which treat hazardous wastes by chemical, physical, or biological methods in other than tanks, surface impoundments, and land treatment facilities, except as § 265.1 provides otherwise. Chemical, physical, and biological treatment of hazardous waste in tanks, surface impoundments, and land treatment facilities must be conducted in accordance with subparts J, K, and M, respectively.

§ 265.401 General operating requirements.

(a) Chemical, physical, or biological treatment of hazardous waste must comply with § 265.17(b).

(b) Hazardous wastes or treatment reagents must not be placed in the treatment process or equipment if they could cause the treatment process or equipment to rupture, leak, corrode, or otherwise fail before the end of its intended life.

(c) Where hazardous waste is continuously fed into a treatment process or equipment, the process or equipment must be equipped with a means to stop this inflow (e.g., a waste feed cut-off system or by-pass system to a standby containment device).

[*Comment:* These systems are intended to be used in the event of a malfunction in the treatment process or equipment.]

§ 265.402 Waste analysis and trial tests.

(a) In addition to the waste analysis required by § 265.13, whenever:

(1) A hazardous waste which is substantially different from waste previously treated in a treatment process or equipment at the facility is to be treated in that process or equipment, or

(2) A substantially different process than any previously used at the facility is to be used to chemically treat hazardous waste;

the owner or operator must, before treating the different waste or using the different process or equipment:

(i) Conduct waste analyses and trial treatment tests (e.g., bench scale or pilot plant scale tests); or

(ii) Obtain written, documented information on similar treatment of similar waste under similar operating conditions;

to show that this proposed treatment will meet all applicable requirements of §265.401 (a) and (b).

[(b) [Reserved]

[*Comment:* As required by §265.13, the waste analysis plan must include analyses needed to comply with §§265.405 and 265.406. As required by §265.73, the owner or operator must place the results from each waste analysis and trial test, or the documented information, in the operating record of the facility.]

§265.403 Inspections.

(a) The owner or operator of a treatment facility must inspect, where present:

(1) Discharge control and safety equipment (e.g., waste feed cut-off systems, by-pass systems, drainage systems, and pressure relief systems) at least once each operating day, to ensure that it is in good working order;

(2) Data gathered from monitoring equipment (e.g., pressure and temperature gauges), at least once each operating day, to ensure that the treatment process or equipment is being operated according to its design;

(3) The construction materials of the treatment process or equipment, at least weekly, to detect corrosion or leaking of fixtures or seams; and

(4) The construction materials of, and the area immediately surrounding, discharge confinement structures (e.g., dikes), at least weekly, to detect erosion or obvious signs of leakage (e.g., wet spots or dead vegetation).

(b) [Reserved]

[*Comment:* As required by §265.15(c), the owner or operator must remedy any deterioration or malfunction he finds.]

§265.404 Closure.

At closure, all hazardous waste and hazardous waste residues must be removed from treatment processes or equipment, discharge control equipment, and discharge confinement structures.

[*Comment:* At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with §261.3 (c) or (d) of this chapter, that any solid waste removed from his treatment process or equipment is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of parts 262, 263, and 265 of this chapter.]

§265.405 Special requirements for ignitable or reactive waste.

(a) Ignitable or reactive waste must not be placed in a treatment process or equipment unless:

(1) The waste is treated, rendered, or mixed before or immediately after placement in the treatment process or equipment so that (i) the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under §261.21 or 261.23 or this chapter, and (ii) §265.17(b) is complied with; or

(2) The waste is treated in such a way that it is protected from any material or conditions which may cause the waste to ignite or react.

(b)[Reserved]

§265.406 Special requirements for incompatible wastes.

(a) Incompatible wastes, or incompatible wastes and materials, (see appendix V for examples) must not be placed in the same treatment process or equipment, unless §265.17(b) is complied with.

(b) Hazardous waste must not be placed in unwashed treatment equipment which previously held an incompatible waste or material, unless §265.17(b) is complied with.

Subpart R—Underground Injection

§265.430 Applicability.

Except as §265.1 provides otherwise:

(a) The owner or operator of a facility which disposes of hazardous waste by underground injection is excluded from the requirements of subparts G and H of this part.

(b) The requirements of this subpart apply to owners and operators of wells used to dispose of hazardous waste

which are classified as Class I under § 144.6(a) of this chapter and which are classified as Class IV under § 144.6(d) of this chapter.

[*Comment:* In addition to the requirements of subparts A through E of this part, the owner or operator of a facility which disposes of hazardous waste by underground injection ultimately must comply with the requirements of §§ 265.431 through 265.437. These sections are reserved at this time. The Agency will propose regulations that would establish those requirements.]

[45 FR 33232, May 19, 1980, as amended at 48 FR 30115, June 30, 1983]

Subparts S—V [Reserved]

Subpart W—Drip Pads

SOURCE: 55 FR 50486, Dec. 6, 1990, unless otherwise noted.

§ 265.440 Applicability.

(a) The requirements of this subpart apply to owners and operators of facilities that use new or existing drip pads to convey treated wood drippage, precipitation, and/or surface water run-off to an associated collection system. Existing drip pads are those constructed before December 6, 1990 and those for which the owner or operator has a design and has entered into binding financial or other agreements for construction prior to December 6, 1990. All other drip pads are new drip pads. The requirement at § 265.443(b)(3) to install a leak collection system applies only to those drip pads that are constructed after December 24, 1992 except for those constructed after December 24, 1992 for which the owner or operator has a design and has entered into binding financial or other agreements for construction prior to December 24, 1992.

(b) The owner or operator of any drip pad that is inside or under a structure that provides protection from precipitation so that neither run-off nor run-on is generated is not subject to regulation under § 265.443(e) or § 265.443(f), as appropriate.

(c) The requirements of this subpart are not applicable to the management of infrequent and incidental drippage in storage yards provided that:

(1) The owner or operator maintains and complies with a written contingency plan that describes how the owner or operator will respond immediately to the discharge of such infrequent and incidental drippage. At a minimum, the contingency plan must describe how the facility will do the following:

(i) Clean up the drippage;

(ii) Document the cleanup of the drippage;

(iii) Retain documents regarding cleanup for three years; and

(iv) Manage the contaminated media in a manner consistent with Federal regulations.

[55 FR 50486, Dec. 6, 1990, as amended by 56 FR 30198, July 1, 1991; 57 FR 61503, Dec. 24, 1992]

§ 265.441 Assessment of existing drip pad integrity.

(a) For each existing drip pad as defined in § 265.440 of this subpart, the owner or operator must evaluate the drip pad and determine that it meets all of the requirements of this subpart, except the requirements for liners and leak detection systems of § 265.443(b). No later than the effective date of this rule, the owner or operator must obtain and keep on file at the facility a written assessment of the drip pad, reviewed and certified by an independent, qualified registered professional engineer that attests to the results of the evaluation. The assessment must be reviewed, updated and re-certified annually until all upgrades, repairs, or modifications necessary to achieve compliance with all of the standards of § 265.443 of this subpart are complete. The evaluation must document the extent to which the drip pad meets each of the design and operating standards of § 265.443 of this subpart, except the standards for liners and leak detection systems, specified in § 265.443(b) of this subpart.

(b) The owner or operator must develop a written plan for upgrading, repairing, and modifying the drip pad to meet the requirements of § 265.443(b) of this subpart, and submit the plan to the Regional Administrator no later than 2 years before the date that all repairs, upgrades, and modifications are complete. This written plan must describe all changes to be made to the

drip pad in sufficient detail to document compliance with all the requirements of § 265.443 of this subpart. The plan must be reviewed and certified by an independent qualified registered professional engineer.

(c) Upon completion of all, repairs, and modifications, the owner or operator must submit to the Regional Administrator or State Director, the as-built drawings for the drip pad together with a certification by an independent, qualified registered professional engineer attesting that the drip pad conforms to the drawings.

(d) If the drip pad is found to be leaking or unfit for use, the owner or operator must comply with the provisions of § 265.443(m) of this subpart or close the drip pad in accordance with § 265.445 of this subpart.

[55 FR 50486, Dec. 6, 1990, as amended at 57 FR 61504, Dec. 24, 1992]

§ 265.442 Design and installation of new drip pads.

Owners and operators of new drip pads must ensure that the pads are designed, installed, and operated in accordance with one of the following:

(a) All of the applicable requirements of §§ 265.443 (except § 265.443(a)(4)), 265.444 and 265.445 of this subpart, or

(b) All of the applicable requirements of §§ 265.443 (except § 265.443(b)), 265.444 and 265.445 of this subpart.

[57 FR 61504, Dec. 24, 1992]

§ 265.443 Design and operating requirements.

(a) Drip pads must:

(1) Be constructed of non-earthen materials, excluding wood and non-structurally supported asphalt;

(2) Be sloped to free-drain treated wood drippage, rain and other waters, or solutions of drippage and water or other wastes to the associated collection system;

(3) Have a curb or berm around the perimeter;

(4)(i) Have a hydraulic conductivity of less than or equal to 1×10^{-7} centimeters per second, e.g., existing concrete drip pads must be sealed, coated, or covered with a surface material with a hydraulic conductivity of less than or equal to 1×10^{-7} centimeters per second such that the entire surface where drippage occurs or may run across is capable of containing such drippage and mixtures of drippage and precipitation, materials, or other wastes while being routed to an associated collection system. This surface material must be maintained free of cracks and gaps that could adversely affect its hydraulic conductivity, and the material must be chemically compatible with the preservatives that contact the drip pad. The requirements of this provision apply only to existing drip pads and those drip pads for which the owner or operator elects to comply with § 265.442(a) instead of § 265.442(b).

(ii) The owner or operator must obtain and keep on file at the facility a written assessment of the drip pad, reviewed and certified by an independent, qualified registered professional engineer that attests to the results of the evaluation. The assessment must be reviewed, updated and recertified annually. The evaluation must document the extent to which the drip pad meets the design and operating standards of this section, except for subsection (b).

(5) Be of sufficient structural strength and thickness to prevent failure due to physical contact, climatic conditions, the stress of installation, and the stress of daily operations, e.g., variable and moving loads such as vehicle traffic, movement of wood, etc.

NOTE: EPA will generally consider applicable standards established by professional organizations generally recognized by industry such as the American Concrete Institute (ACI) and the American Society of Testing Materials (ASTM) in judging the structural integrity requirement of this paragraph.

(b) If an owner/operator elects to comply with § 265.442(b) instead of § 265.442(a), the drip pad must have:

(1) A synthetic liner installed below the drip pad that is designed, constructed, and installed to prevent leakage from the drip pad into the adjacent subsurface soil or groundwater or surface water at any time during the active life (including the closure period) of the drip pad. The liner must be constructed of materials that will prevent waste from being absorbed into the liner and prevent releases into the adjacent subsurface soil or ground water or surface water during the active life of the facility. The liner must be:

(i) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or drip pad leakage to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation (including stresses from vehicular traffic on the drip pad);

(ii) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression or uplift; and

(iii) Installed to cover all surrounding earth that could come in contact with the waste or leakage; and

(2) A leakage detection system immediately above the liner that is designed, constructed, maintained and operated to detect leakage from the drip pad. The leakage detection system must be:

(i) Constructed of materials that are:

(A) Chemically resistant to the waste managed in the drip pad and the leakage that might be generated; and

(B) Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlaying materials and by any equipment used at the drip pad; and

(ii) Designed and operated to function without clogging through the scheduled closure of the drip pad.

(iii) Designed so that it will detect the failure of the drip pad or the presence of a release of hazardous waste or accumulated liquid at the earliest practicable time.

(3) A leakage collection system immediately above the liner that is designed, constructed, maintained and operated to collect leakage from the drip pad such that it can be removed from below the drip pad. The date, time, and quantity of any leakage collected in this system and removed must be documented in the operating log.

(c) Drip pads must be maintained such that they remain free of cracks, gaps, corrosion, or other deterioration that could cause hazardous waste to be released from the drip pad.

NOTE: See § 265.443(m) for remedial action required if deterioration or leakage is detected.

(d) The drip pad and associated collection system must be designed and operated to convey, drain, and collect liquid resulting from drippage or precipitation in order to prevent run-off.

(e) Unless protected by a structure, as described in § 265.440(b) of this subpart, the owner or operator must design, construct, operate and maintain a run-on control system capable of preventing flow onto the drip pad during peak discharge from at least a 24-hour, 25-year storm unless the system has sufficient excess capacity to contain any run-on that might enter the system, or the drip pad is protected by a structure or cover, as described in § 265.440(b) of this subpart.

(f) Unless protected by a structure or cover, as described in § 265.440(b) of this subpart, the owner or operator must design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(g) The drip pad must be evaluated to determine that it meets the requirements of paragraphs (a) through (f) of this section and the owner or operator must obtain a statement from an independent, qualified registered professional engineer certifying that the drip pad design meets the requirements of this section.

(h) Drippage and accumulated precipitation must be removed from the associated collection system as necessary to prevent overflow onto the drip pad.

(i) The drip pad surface must be cleaned thoroughly in a manner and frequency such that accumulated residues of hazardous waste or other materials are removed, with residues being properly managed as hazardous waste, so as to allow weekly inspections of the entire drip pad surface without interference or hindrance from accumulated residues of hazardous waste or other materials on the drip pad. The owner or operator must document the date and time of each cleaning and the cleaning procedure used in the facility's operating log.

(j) Drip pads must be operated and maintained in a manner to minimize tracking of hazardous waste or hazardous waste constituents off the drip pad as a result of activities by personnel or equipment.

(k) After being removed from the treatment vessel, treated wood from pressure and non-pressure processes must be held on the drip pad until drippage has ceased. The owner or operator must maintain records sufficient to document that all treated wood is held on the pad following treatment in accordance with this requirement.

(l) Collection and holding units associated with run-on and run-off control systems must be emptied or otherwise managed as soon as possible after storms to maintain design capacity of the system.

(m) Throughout the active life of the drip pad, if the owner or operator detects a condition that may have caused or has caused a release of hazardous waste, the condition must be repaired within a reasonably prompt period of time following discovery, in accordance with the following procedures:

(1) Upon detection of a condition that may have caused or has caused a release of hazardous waste (e.g., upon detection of leakage by the leak detection system), the owner or operator must:

(i) Enter a record of the discovery in the facility operating log;

(ii) Immediately remove the portion of the drip pad affected by the condition from service;

(iii) Determine what steps must be taken to repair the drip pad, remove any leakage from below the drip pad, and establish a schedule for accomplishing the clean up and repairs;

(iv) Within 24 hours after discovery of the condition, notify the Regional Administrator of the condition and, within 10 working days, provide a written notice to the Regional Administrator with a description of the steps that will be taken to repair the drip pad, and clean up any leakage, and the schedule for accomplishing this work.

(2) The Regional Administrator will review the information submitted, make a determination regarding whether the pad must be removed from service completely or partially until repairs and clean up are complete, and notify the owner or operator of the determination and the underlying rationale in writing.

(3) Upon completing all repairs and clean up, the owner or operator must notify the Regional Administrator in writing and provide a certification, signed by an independent qualified, registered professional engineer, that the repairs and clean up have been completed according to the written plan submitted in accordance with paragraph (m)(1)(iv) of this section.

(n) The owner or operator must maintain, as part of the facility operating log, documentation of past operating and waste handling practices. This must include identification of preservative formulations used in the past, a description of drippage management practices, and a description of treated wood storage and handling practices.

[55 FR 50486, Dec. 6, 1990, as amended at 56 FR 30198, July 1, 1991; 57 FR 5861, Feb. 18, 1992; 57 FR 61504, Dec. 24, 1992]

§ 265.444 Inspections.

(a) During construction or installation, liners and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation, liners must be inspected and certified as meeting the requirements of § 265.443 of this subpart by an independent qualified, registered professional engineer. The certification must be maintained at the facility as part of the facility operating record. After installation liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters.

(b) While a drip pad is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) Deterioration, malfunctions or improper operation of run-on and run-off control systems;

(2) The presence of leakage in and proper functioning of leakage detection system.

(3) Deterioration or cracking of the drip pad surface.

NOTE: See § 265.443(m) for remedial action required if deterioration or leakage is detected.

§ 265.445 Closure.

(a) At closure, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (pad, liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leakage, and manage them as hazardous waste.

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practically removed or decontaminated, he must close the facility and perform post/closure care in accordance with closure and post-closure care requirements that apply to landfills (§ 265.310). For permitted units, the requirement to have a permit continues throughout the post-closure period.

(c)(1) The owner or operator of an existing drip pad, as defined in § 265.440 of this subpart, that does not comply with the liner requirements of § 265.443(b)(1) must:

(i) Include in the closure plan for the drip pad under § 265.112 both a plan for complying with paragraph (a) of this section and a contingent plan for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure; and

(ii) Prepare a contingent post-closure plan under § 265.118 of this part for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure.

(2) The cost estimates calculated under §§ 265.112 and 265.144 of this part for closure and post-closure care of a drip pad subject to this paragraph must include the cost of complying with the contingent closure plan and the contingent post-closure plan, but are not required to include the cost of expected closure under paragraph (a) of this section.

Subparts X—Z [Reserved]

Subpart AA—Air Emission Standards for Process Vents

SOURCE: 55 FR 25507, June 21, 1990, unless otherwise noted.

§ 265.1030 Applicability.

(a) The regulations in this subpart apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes (except as provided in § 265.1).

(b) Except for §§ 265.1034, paragraphs (d) and (e), this subpart applies to process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations that manage hazardous wastes with organic concentrations of at least 10 ppmw, if these operations are conducted in one of the following:

(1) A unit that is subject to the permitting requirements of 40 CFR part 270, or

(2) A unit (including a hazardous waste recycling unit) that is not exempt from permitting under the provisions of 40 CFR 262.34(a) (i.e., a hazardous waste recycling unit that is not a 90-day tank or container) and that is located at a hazardous waste management facility otherwise subject to the permitting requirements of 40 CFR part 270, or

(3) A unit that is exempt from permitting under the provisions of 40 CFR 262.34(a) (i.e., a 90-day tank or container).

[NOTE: The requirements of §§ 265.1032 through 265.1036 apply to process vents on hazardous waste recycling units previously exempt under paragraph 261.6(c)(1). Other exemptions under §§ 261.4, and 265.1(c) are not affected by these requirements.]

[55 FR 25507, June 21, 1990, as amended at 56 FR 19290, Apr. 26, 1991; 61 FR 59968, Nov. 25, 1996]

§ 265.1031 Definitions.

As used in this subpart, all terms shall have the meaning given them in § 264.1031, the Act, and parts 260–266.

§265.1032 Standards: Process vents.

(a) The owner or operator of a facility with process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction or air or steam stripping operations managing hazardous wastes with organic concentrations at least 10 ppmw shall either:

(1) Reduce total organic emissions from all affected process vents at the facility below 1.4 kg/h (3 lb/h) and 2.8 Mg/yr (3.1 tons/yr), or

(2) Reduce, by use of a control device, total organic emissions from all affected process vents at the facility by 95 weight percent.

(b) If the owner or operator installs a closed-vent system and control device to comply with the provisions of paragraph (a) of this section, the closed-vent system and control device must meet the requirements of §265.1033.

(c) Determinations of vent emissions and emission reductions or total organic compound concentrations achieved by add-on control devices may be based on engineering calculations or performance tests. If performance tests are used to determine vent emissions, emission reductions, or total organic compound concentrations achieved by add-on control devices, the performance tests must conform with the requirements of §265.1034(c).

(d) When an owner or operator and the Regional Administrator do not agree on determinations of vent emissions and/or emission reductions or total organic compound concentrations achieved by add-on control devices based on engineering calculations, the test methods in §265.1034(c) shall be used to resolve the disagreement.

§265.1033 Standards: Closed-vent systems and control devices.

(a)(1) Owners or operators of closed-vent systems and control devices used to comply with provisions of this part shall comply with the provisions of this section.

(2) The owner or operator of an existing facility who cannot install a closed-vent system and control device to comply with the provisions of this subpart on the effective date that the facility becomes subject to the provisions of this subpart must prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The controls must be installed as soon as possible, but the implementation schedule may allow up to 30 months after the effective date that the facility becomes subject to this subpart for installation and startup. All units that begin operation after December 21, 1990 must comply with the rules immediately (i.e., must have control devices installed and operating on startup of the affected unit); the 2-year implementation schedule does not apply to these units.

(b) A control device involving vapor recovery (e.g., a condenser or adsorber) shall be designed and operated to recover the organic vapors vented to it with an efficiency of 95 weight percent or greater unless the total organic emission limits of §265.1032(a)(1) for all affected process vents can be attained at an efficiency less than 95 weight percent.

(c) An enclosed combustion device (e.g., a vapor incinerator, boiler, or process heater) shall be designed and operated to reduce the organic emissions vented to it by 95 weight percent or greater; to achieve a total organic compound concentration of 20 ppmv, expressed as the sum of the actual compounds, not carbon equivalents, on a dry basis corrected to 3 percent oxygen; or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 °C. If a boiler or process heater is used as the control device, then the vent stream shall be introduced into the flame combustion zone of the boiler or process heater.

(d)(1) A flare shall be designed for and operated with no visible emissions as determined by the methods specified in paragraph (e)(1) of this section, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(2) A flare shall be operated with a flame present at all times, as determined by the methods specified in paragraph (f)(2)(iii) of this section.

(3) A flare shall be used only if the net heating value of the gas being combusted is 11.2 MJ/scm (300 Btu/scf) or greater, if the flare is steam-assisted or air-assisted; or if the net heating value

of the gas being combusted is 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (e)(2) of this section.

(4)(i) A steam-assisted or nonassisted flare shall be designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, of less than 18.3 m/s (60 ft/s), except as provided in paragraphs (d)(4) (ii) and (iii) of this section.

(ii) A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, equal to or greater than 18.3 m/s (60 ft/s) but less than 122 m/s (400 ft/s) is allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, less than the velocity, V_{max}, as determined by the method specified in paragraph (e)(4) of this section, and less than 122 m/s (400 ft/s) is allowed.

(5) An air-assisted flare shall be designed and operated with an exit velocity less than the velocity, V_{max}, as determined by the method specified in paragraph (e)(5) of this section.

(6) A flare used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.

(e)(1) Reference Method 22 in 40 CFR part 60 shall be used to determine the compliance of a flare with the visible emission provisions of this subpart. The observation period is 2 hours and shall be used according to Method 22.

(2) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \left[\sum_{i=1}^{n} C_i H_i \right]$$

where:

H_T=Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to 1 mol is 20 °C;

K=Constant, 1.74×10^{-7} (1/ppm) (g mol/scm) (MJ/kcal) where standard temperature for (g mol/scm) is 20 °C;

C_i=Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 in 40 CFR part 60 and measured for hydrogen and carbon monoxide by ASTM D 1946–82 (incorporated by reference as specified in § 260.11); and

H_i=Net heat of combustion of sample component i, kcal/g mol at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D 2382–83 (incorporated by reference as specified in § 260.11) if published values are not available or cannot be calculated.

(3) The actual exit velocity of a flare shall be determined by dividing the volumetric flow rate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D in 40 CFR part 60 as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(4) The maximum allowed velocity in m/s, V_{max}, for a flare complying with paragraph (d)(4)(iii) of this section shall be determined by the following equation:

$$\mathrm{Log}_{10}(V_{max}) = (H_T + 28.8)/31.7$$

where:

H_T=The net heating value as determined in paragraph (e)(2) of this section.

28.8=Constant,

31.7=Constant.

(5) The maximum allowed velocity in m/s, V_{max}, for an air-assisted flare shall be determined by the following equation:

$$V_{max} = 8.706 + 0.7084\ (H_T)$$

where:

8.706 = Constant.

0.7084 = Constant.

H_T = The net heating value as determined in paragraph (e)(2) of this section.

(f) The owner or operator shall monitor and inspect each control device required to comply with this section to ensure proper operation and maintenance of the control device by implementing the following requirements:

(1) Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow indicator that provides a record of vent stream flow from each affected process vent to the control device at least once every hour. The flow indicator sensor shall be installed in the vent stream at the nearest feasible point to the control device inlet, but before being combined with other vent streams.

(2) Install, calibrate, maintain, and operate according to the manufacturer's specifications a device to continuously monitor control device operation as specified below:

(i) For a thermal vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ±1 percent of the temperature being monitored in °C or ±0.5 °C, whichever is greater. The temperature sensor shall be installed at a location in the combustion chamber downstream of the combustion zone.

(ii) For a catalytic vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at two locations and have an accuracy of ±1 percent of the temperature being monitored in °C or ±0.5 °C. whichever is greater. One temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet and a second temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed outlet.

(iii) For a flare, a heat sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame.

(iv) For a boiler or process heater having a design heat input capacity less than 44 MW, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ±1 percent of the temperature being monitored in °C or ±0.5 °C, whichever is greater. The temperature sensor shall be installed at a location in the furnace downstream of the combustion zone.

(v) For a boiler or process heater having a design heat input capacity greater than or equal to 44 MW, a monitoring device equipped with a continuous recorder to measure a parameter(s) that indicates good combustion operating practices are being used.

(vi) For a condenser, either:

(A) A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the condenser; or

(B) A temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature with an accuracy of ± 1 percent of the temperature being monitored in degrees Celsius (oC) or ± 0.5 oC, whichever is greater. The temperature sensor shall be installed at a location in the exhaust vent stream from the condenser exit (i.e., product side).

(vii) For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly in the control device, either:

(A) A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the carbon bed, or

(B) A monitoring device equipped with a continuous recorder to measure a parameter that indicates the carbon bed is regenerated on a regular, predetermined time cycle.

(3) Inspect the readings from each monitoring device required by paragraphs (f) (1) and (2) of this section at least once each operating day to check control device operation and, if necessary, immediately implement the corrective measures necessary to ensure the control device operates in compliance with the requirements of this section.

(g) An owner or operator using a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device, shall replace the existing carbon in the control device with fresh carbon at a regular, predetermined time interval that is no longer than the carbon service life established as a requirement of § 265.1035(b)(4)(iii)(F).

(h) An owner or operator using a carbon adsorption system such as a carbon canister that does not regenerate the

carbon bed directly onsite in the control device shall replace the existing carbon in the control device with fresh carbon on a regular basis by using one of the following procedures:

(1) Monitor the concentration level of the organic compounds in the exhaust vent stream from the carbon adsorption system on a regular schedule and replace the existing carbon with fresh carbon immediately when carbon breakthrough is indicated. The monitoring frequency shall be daily or at an interval no greater than 20 percent of the time required to consume the total carbon working capacity established as a requirement of § 265.1035(b)(4)(iii)(G), whichever is longer.

(2) Replace the existing carbon with fresh carbon at a regular, predetermined time interval that is less than the design carbon replacement interval established as a requirement of § 265.1035(b)(4)(iii)(G).

(i) An owner or operator of an affected facility seeking to comply with the provisions of this part by using a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system is required to develop documentation including sufficient information to describe the control device operation and identify the process parameter or parameters that indicate proper operation and maintenance of the control device.

(j) A closed-vent system shall meet either of the following design requirements:

(1) A closed-vent system shall be designed to operate with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background as determined by the procedure in § 265.1034(b) of this subpart, and by visual inspections; or

(2) A closed-vent system shall be designed to operate at a pressure below atmospheric pressure. The system shall be equipped with at least one pressure gauge or other pressure measurement device that can be read from a readily accessible location to verify that negative pressure is being maintained in the closed-vent system when the control device is operating.

(k) The owner or operator shall monitor and inspect each closed-vent system required to comply with this section to ensure proper operation and maintenance of the closed-vent system by implementing the following requirements:

(1) Each closed-vent system that is used to comply with paragraph (j)(1) of this section shall be inspected and monitored in accordance with the following requirements:

(i) An initial leak detection monitoring of the closed-vent system shall be conducted by the owner or operator on or before the date that the system becomes subject to this section. The owner or operator shall monitor the closed-vent system components and connections using the procedures specified in § 265.1034(b) of this subpart to demonstrate that the closed-vent system operates with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background.

(ii) After initial leak detection monitoring required in paragraph (k)(1)(i) of this section, the owner or operator shall inspect and monitor the closed-vent system as follows:

(A) Closed-vent system joints, seams, or other connections that are permanently or semi-permanently sealed (e.g., a welded joint between two sections of hard piping or a bolted and gasketed ducting flange) shall be visually inspected at least once per year to check for defects that could result in air pollutant emissions. The owner or operator shall monitor a component or connection using the procedures specified in § 265.1034(b) of this subpart to demonstrate that it operates with no detectable emissions following any time the component is repaired or replaced (e.g., a section of damaged hard piping is replaced with new hard piping) or the connection is unsealed (e.g., a flange is unbolted).

(B) Closed-vent system components or connections other than those specified in paragraph (k)(1)(ii)(A) of this section shall be monitored annually and at other times as requested by the Regional Administrator, except as provided for in paragraph (n) of this section, using the procedures specified in

§265.1034(b) of this subpart to demonstrate that the components or connections operate with no detectable emissions.

(iii) In the event that a defect or leak is detected, the owner or operator shall repair the defect or leak in accordance with the requirements of paragraph (k)(3) of this section.

(iv) The owner or operator shall maintain a record of the inspection and monitoring in accordance with the requirements specified in §265.1035 of this subpart.

(2) Each closed-vent system that is used to comply with paragraph (j)(2) of this section shall be inspected and monitored in accordance with the following requirements:

(i) The closed-vent system shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in ductwork or piping or loose connections.

(ii) The owner or operator shall perform an initial inspection of the closed-vent system on or before the date that the system becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year.

(iii) In the event that a defect or leak is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k)(3) of this section.

(iv) The owner or operator shall maintain a record of the inspection and monitoring in accordance with the requirements specified in §265.1035 of this subpart.

(3) The owner or operator shall repair all detected defects as follows:

(i) Detectable emissions, as indicated by visual inspection, or by an instrument reading greater than 500 ppmv above background, shall be controlled as soon as practicable, but not later than 15 calendar days after the emission is detected, except as provided for in paragraph (k)(3)(iii) of this section.

(ii) A first attempt at repair shall be made no later than 5 calendar days after the emission is detected.

(iii) Delay of repair of a closed-vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next process unit shutdown.

(iv) The owner or operator shall maintain a record of the defect repair in accordance with the requirements specified in §265.1035 of this subpart.

(l) Closed-vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

(m) The owner or operator using a carbon adsorption system to control air pollutant emissions shall document that all carbon that is a hazardous waste and that is removed from the control device is managed in one of the following manners, regardless of the average volatile organic concentration of the carbon:

(1) Regenerated or reactivated in a thermal treatment unit that meets one of the following:

(i) The owner or operator of the unit has been issued a final permit under 40 CFR part 270 which implements the requirements of 40 CFR part 264 subpart X; or

(ii) The unit is equipped with and operating air emission controls in accordance with the applicable requirements of subparts AA and CC of either this part or of 40 CFR part 264; or

(iii) The unit is equipped with and operating air emission controls in accordance with a national emission standard for hazardous air pollutants under 40 CFR part 61 or 40 CFR part 63.

(2) Incinerated in a hazardous waste incinerator for which the owner or operator either:

(i) Has been issued a final permit under 40 CFR part 270 which implements the requirements of 40 CFR part 264, subpart O; or

(ii) Has designed and operates the incinerator in accordance with the interim status requirements of subpart O of this part.

(3) Burned in a boiler or industrial furnace for which the owner or operator either:

(i) Has been issued a final permit under 40 CFR part 270 which implements the requirements of 40 CFR part 266, subpart H; or

(ii) Has designed and operates the boiler or industrial furnace in accordance with the interim status requirements of 40 CFR part 266, subpart H.

(n) Any components of a closed-vent system that are designated, as described in § 265.1035(c)(9) of this subpart, as unsafe to monitor are exempt from the requirements of paragraph (k)(1)(ii)(B) of this section if:

(1) The owner or operator of the closed-vent system determines that the components of the closed-vent system are unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (k)(1)(ii)(B) of this section; and

(2) The owner or operator of the closed-vent system adheres to a written plan that requires monitoring the closed-vent system components using the procedure specified in paragraph (k)(1)(ii)(B) of this section as frequently as practicable during safe-to-monitor times.

[59 FR 62935, Dec. 6, 1994, as amended at 61 FR 4913, Feb. 9, 1996; 61 FR 59969, Nov. 25, 1996]

§ 265.1034 Test methods and procedures.

(a) Each owner or operator subject to the provisions of this subpart shall comply with the test methods and procedures requirements provided in this section.

(b) When a closed-vent system is tested for compliance with no detectable emissions, as required in § 265.1033(k) of this subpart, the test shall comply with the following requirements:

(1) Monitoring shall comply with Reference Method 21 in 40 CFR part 60.

(2) The detection instrument shall meet the performance criteria of Reference Method 21.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.

(4) Calibration gases shall be:

(i) Zero air (less than 10 ppm of hydrocarbon in air).

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(5) The background level shall be determined as set forth in Reference Method 21.

(6) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(7) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(c) Performance tests to determine compliance with § 265.1032(a) and with the total organic compound concentration limit of § 265.1033(c) shall comply with the following:

(1) Performance tests to determine total organic compound concentrations and mass flow rates entering and exiting control devices shall be conducted and data reduced in accordance with the following reference methods and calculation procedures:

(i) Method 2 in 40 CFR part 60 for velocity and volumetric flow rate.

(ii) Method 18 in 40 CFR part 60 for organic content.

(iii) Each performance test shall consist of three separate runs; each run conducted for at least 1 hour under the conditions that exist when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. For the purpose of determining total organic compound concentrations and mass flow rates, the average of results of all runs shall apply. The average shall be computed on a time-weighted basis.

(iv) Total organic mass flow rates shall be determined by the following equation:

$$E_h = Q_{sd} \left[\sum_{i=1}^{n} C_i MW_i \right] [0.0416] [10^{-6}]$$

where:

E_h=Total organic mass flow rate, kg/h;

Q_{sd}=Volumetric flow rate of gases entering or exiting control device, as determined by Method 2, dscm/h;

n=Number of organic compounds in the vent gas;

C_i=Organic concentration in ppm, dry basis, of compound i in the vent gas, as determined by Method 18;

MW_i=Molecular weight of organic compound i in the vent gas, kg/kg-mol;

0.0416=Conversion factor for molar volume, kg-mol/m^3 (@ 293 K and 760 mm Hg);

10^{-6}=Conversion from ppm, ppm^{-1}.

(v) The annual total organic emission rate shall be determined by the following equation:

$E_A=(E_h)\ (H)$

where:

E_A=Total organic mass emission rate, kg/y;

E_h=Total organic mass flow rate for the process vent, kg/h;

H=Total annual hours of operations for the affected unit, h.

(vi) Total organic emissions from all affected process vents at the facility shall be determined by summing the hourly total organic mass emission rates (E_h, as determined in paragraph (c)(1)(iv) of this section) and by summing the annual total organic mass emission rates (E_A, as determined in paragraph (c)(1)(v) of this section) for all affected process vents at the facility.

(2) The owner or operator shall record such process information as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test.

(3) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

(i) Sampling ports adequate for the test methods specified in paragraph (c)(1) of this section.

(ii) Safe sampling platform(s).

(iii) Safe access to sampling platform(s).

(iv) Utilities for sampling and testing equipment.

(4) For the purpose of making compliance determinations, the time-weighted average of the results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner or operator's control, compliance may, upon the Regional Administrator's approval, be determined using the average of the results of the two other runs.

(d) To show that a process vent associated with a hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation is not subject to the requirements of this subpart, the owner or operator must make an initial determination that the time-weighted, annual average total organic concentration of the waste managed by the waste management unit is less than 10 ppmw using one of the following two methods:

(1) Direct measurement of the organic concentration of the waste using the following procedures:

(i) The owner or operator must take a minimum of four grab samples of waste for each waste stream managed in the affected unit under process conditions expected to cause the maximum waste organic concentration.

(ii) For waste generated onsite, the grab samples must be collected at a point before the waste is exposed to the atmosphere such as in an enclosed pipe or other closed system that is used to transfer the waste after generation to the first affected distillation fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation. For waste generated offsite, the grab samples must be collected at the inlet to the first waste management unit that receives the waste provided the waste has been transferred to the facility in a closed system such as a tank truck and the waste is not diluted or mixed with other waste.

(iii) Each sample shall be analyzed and the total organic concentration of the sample shall be computed using Method 9060 or 8260 of SW–846 (incorporated by reference under § 260.11).

(iv) The arithmetic mean of the results of the analyses of the four samples shall apply for each waste stream managed in the unit in determining the time-weighted, annual average total organic concentration of the waste. The time-weighted average is to be calculated using the annual quantity of each waste stream processed and the

mean organic concentration of each waste stream managed in the unit.

(2) Using knowledge of the waste to determine that its total organic concentration is less than 10 ppmw. Documentation of the waste determination is required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to generate a waste stream having a total organic content less than 10 ppmw, or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(e) The determination that distillation fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations manage hazardous wastes with time-weighted annual average total organic concentrations less than 10 ppmw shall be made as follows:

(1) By the effective date that the facility becomes subject to the provisions of this subpart or by the date when the waste is first managed in a waste management unit, whichever is later; and

(2) For continuously generated waste, annually; or

(3) Whenever there is a change in the waste being managed or a change in the process that generates or treats the waste.

(f) When an owner or operator and the Regional Administrator do not agree on whether a distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation manages a hazardous waste with organic concentrations of at least 10 ppmw based on knowledge of the waste, the procedures in Method 8260 of SW–846 (incorporated by reference under § 260.11) may be used to resolve the dispute.

[55 FR 25507, June 21, 1990, as amended at 56 FR 19290, Apr. 26, 1991; 61 FR 59970, Nov. 25, 1996; 62 FR 32463, June 13, 1997]

§ 265.1035 Recordkeeping requirements.

(a)(1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one hazardous waste management unit subject to the provisions of this subpart may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

(b) Owners and operators must record the following information in the facility operating record:

(1) For facilities that comply with the provisions of § 265.1033(a)(2), an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The schedule must also include a rationale of why the installation cannot be completed at an earlier date. The implementation schedule must be in the facility operating record by the effective date that the facility becomes subject to the provisions of this subpart.

(2) Up-to-date documentation of compliance with the process vent standards in § 265.1032. including:

(i) Information and data identifying all affected process vents, annual throughput end operating hours of each affected unit, estimated emission rates for each affected vent and for the overall facility (i.e., the total emissions for all affected vents at the facility), and the approximate location within the facility of each affected unit (e.g., identify the hazardous waste management units on a facility plot plan); and

(ii) Information and data supporting determinations of vent emissions and emission reductions achieved by add-on control devices based on engineering calculations or source tests. For the purpose of determining compliance, determinations of vent emissions and emission reductions must be made using operating parameter values (e.g., temperatures, flow rates or vent stream organic compounds and concentrations) that represent the conditions that result in maximum organic emissions, such as when the waste

management unit is operating at the highest load or capacity level reasonably expected to occur. If the owner or operator takes any action (e.g., managing a waste of different composition or increasing operating hours of affected waste management units) that would result in an increase in total organic emissions from affected process vents at the facility, then a new determination is required.

(3) Where an owner or operator chooses to use test data to determine the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan. The test plan must include:

(i) A description of how it is determined that the planned test is going to be conducted when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. This shall include the estimated or design flow rate and organic content of each vent stream and define the acceptable operating ranges of key process and control device parameters during the test program.

(ii) A detailed engineering description of the closed-vent system and control device including:

(A) Manufacturer's name and model number of control device.

(B) Type of control device.

(C) Dimensions of the control device.

(D) Capacity.

(E) Construction materials.

(iii) A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(4) Documentation of compliance with §265.1033 shall include the following information:

(i) A list of all information references and sources used in preparing the documentation.

(ii) Records, including the dates, of each compliance test required by §265.1033(j).

(iii) If engineering calculations are used, a design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of ''APTI Course 415: Control of Gaseous Emissions'' (incorporated by reference as specified in §260.11) or other engineering texts acceptable to the Regional Administrator that present basic control device design information. Documentation provided by the control device manufacturer or vendor that describes the control device design in accordance with paragraphs (b)(4)(iii)(A) through (b)(4)(iii)(G) of this section may be used to comply with this requirement. The design analysis shall address the vent stream characteristics and control device operation parameters as specified below.

(A) For a thermal vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.

(B) For a catalytic vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperatures across the catalyst bed inlet and outlet.

(C) For a boiler or process heater, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average flame zone temperatures, combustion zone residence time, and description of method and location where the vent stream is introduced into the combustion zone.

(D) For a flare, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also consider the requirements specified in §265.1033(d).

(E) For a condenser, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic compound concentration level, design average temperature of the condenser

exhaust vent stream, and design average temperatures of the coolant fluid at the condenser inlet and outlet.

(F) For a carbon adsorption system such as a fixed-bed adsorber that regenerates the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level, number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, design total steam flow over the period of each complete carbon bed regeneration cycle, duration of the carbon bed steaming and cooling/drying cycles, design carbon bed temperature after regeneration, design carbon bed regeneration time, and design service life of carbon.

(G) For a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.

(iv) A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

(v) A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of 95 percent or greater unless the total organic concentration limit of § 265.1032(a) is achieved at an efficiency less than 95 weight percent or the total organic emission limits of § 265.1032(a) for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95 weight percent. A statement provided by the control device manufacturer or vendor certifying that the control equipment meets the design specifications may be used to comply with this requirement.

(vi) If performance tests are used to demonstrate compliance, all test results.

(c) Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of this part shall be recorded and kept up-to-date in the facility operating record. The information shall include:

(1) Description and date of each modification that is made to the closed-vent system or control device design.

(2) Identification of operating parameter, description of monitoring device, and diagram of monitoring sensor location or locations used to comply with § 265.1033(f)(1) and (f)(2).

(3) Monitoring, operating and inspection information required by paragraphs (f) through (k) of § 265.1033 of this subpart.

(4) Date, time, and duration of each period that occurs while the control device is operating when any monitored parameter exceeds the value established in the control device design analysis as specified below:

(i) For a thermal vapor incinerator designed to operate with a minimum residence time of 0.50 seconds at a minimum temperature of 760 °C. period when the combustion temperature is below 760 °C.

(ii) For a thermal vapor incinerator designed to operate with an organic emission reduction efficiency of 95 percent or greater, period when the combustion zone temperature is more than 28 °C below the design average combustion zone temperature established as a requirement of paragraph (b)(4)(iii)(A) of this section.

(iii) For a catalytic vapor incinerator, period when:

(A) Temperature of the vent stream at the catalyst bed inlet is more than 28 °C below the average temperature of the inlet vent stream established as a

requirement of paragraph (b)(4)(iii)(B) of this section; or

(B) Temperature difference across the catalyst bed is less than 80 percent of the design average temperature difference established as a requirement of paragraph (b)(4)(iii)(B) of this section.

(iv) For a boiler or process heater, period when:

(A) Flame zone temperature is more than 28 °C below the design average flame zone temperature established as a requirement of paragraph (b)(4)(iii)(C) of this section; or

(B) Position changes where the vent stream is introduced to the combustion zone from the location established as a requirement of paragraph (b)(4)(iii)(C) of this section.

(v) For a flare, period when the pilot flame is not ignited.

(vi) For a condenser that complies with §265.1033(f)(2)(vi)(A), period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the condenser are more than 20 percent greater than the design outlet organic compound concentration level established as a requirement of paragraph (b)(4)(iii)(E) of this section.

(vii) For a condenser that complies with §265.1033(f)(2)(vi)(B), period when:

(A) Temperature of the exhaust vent stream from the condenser is more than 6 °C above the design average exhaust vent stream temperature established as a requirement of paragraph (b)(4)(iii)(E) of this section; or

(B) Temperature of the coolant fluid exiting the condenser is more than 6 °C above the design average coolant fluid temperature at the condenser outlet established as a requirement of paragraph (b)(4)(iii)(E) of this section.

(viii) For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device and complies with §265.1033(f)(2)(vii)(A), period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the carbon bed are more than 20 percent greater than the design exhaust vent stream organic compound concentration level established as a requirement of paragraph (b)(4)(iii)(F) of this section.

(ix) For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device and complies with §265.1033(f)(2)(vii)(B), period when the vent stream continues to flow through the control device beyond the predetermined carbon bed regeneration time established as a requirement of paragraph (b)(4)(iii)(F) of this section.

(5) Explanation for each period recorded under paragraph (c)(4) of this section of the cause for control device operating parameter exceeding the design value and the measures implemented to correct the control device operation.

(6) For carbon adsorption systems operated subject to requirements specified in §265.1033(g) or §265.1033(h)(2), date when existing carbon in the control device is replaced with fresh carbon.

(7) For carbon adsorption systems operated subject to requirements specified in §265.1033(h)(1), a log that records:

(i) Date and time when control device is monitored for carbon breakthrough and the monitoring device reading.

(ii) Date when existing carbon in the control device is replaced with fresh carbon.

(8) Date of each control device startup and shutdown.

(9) An owner or operator designating any components of a closed-vent system as unsafe to monitor pursuant to §265.1033(n) of this subpart shall record in a log that is kept in the facility operating record the identification of closed-vent system components that are designated as unsafe to monitor in accordance with the requirements of §265.1033(n) of this subpart, an explanation for each closed-vent system component stating why the closed-vent system component is unsafe to monitor, and the plan for monitoring each closed-vent system component.

(10) When each leak is detected as specified in §265.1033(k) of this subpart, the following information shall be recorded:

(i) The instrument identification number, the closed-vent system component identification number, and the operator name, initials, or identification number.

(ii) The date the leak was detected and the date of first attempt to repair the leak.

(iii) The date of successful repair of the leak.

(iv) Maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A after it is successfully repaired or determined to be nonrepairable.

(v) ''Repair delayed'' and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(A) The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

(B) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion.

(d) Records of the monitoring, operating, and inspection information required by paragraphs (c)(3) through (c)(10) of this section shall be maintained by the owner or operator for at least 3 years following the date of each occurrence, measurement, maintenance, corrective action, or record.

(e) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, monitoring and inspection information indicating proper operation and maintenance of the control device must be recorded in the facility operating record.

(f) Up-to-date information and data used to determine whether or not a process vent is subject to the requirements in § 265.1032 including supporting documentation as required by § 265.1034(d)(2) when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used, shall be recorded in a log that is kept in the facility operating record.

[55 FR 25507, June 21, 1990, as amended at 56 FR 19290, Apr. 26, 1991; 61 FR 59970, Nov. 25, 1996]

§§ 265.1036—265.1049 [Reserved]

Subpart BB—Air Emission Standards for Equipment Leaks

SOURCE: 55 FR 25512, June 21, 1990, unless otherwise noted.

§ 265.1050 Applicability.

(a) The regulations in this subpart apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes (except as provided in § 265.1).

(b) Except as provided in § 265.1064(k), this subpart applies to equipment that contains or contacts hazardous wastes with organic concentrations of at least 10 percent by weight that are managed in one of the following:

(1) A unit that is subject to the permitting requirements of 40 CFR part 270, or

(2) A unit (including a hazardous waste recycling unit) that is not exempt from permitting under the provisions of 40 CFR 262.34(a) (i.e., a hazardous waste recycling unit that is not a 90-day tank or container) and that is located at a hazardous waste management facility otherwise subject to the permitting requirements of 40 CFR part 270, or

(3) A unit that is exempt from permitting under the provisions of 40 CFR 262.34(a) (i.e., a 90-day tank or container).

(c) Each piece of equipment to which this subpart applies shall be marked in such a manner that it can be distinguished readily from other pieces of equipment.

(d) Equipment that is in vacuum service is excluded from the requirements of § 265.1052 to § 265.1060 if it is identified as required in § 265.1064(g)(5).

(e) Equipment that contains or contacts hazardous waste with an organic concentration of at least 10 percent by weight for a period of less than 300 hours per calendar year is excluded from the requirements of § 265.1052 through § 265.1060 of this subpart if it is

identified as required in §265.1064(g)(6) of this subpart.

[NOTE: The requirements of §§265.1052 through 265.1064 apply to equipment associated with hazardous waste recycling units previously exempt under paragraph 261.6(c)(1). Other exemptions under §§261.4 and 265.1(c) are not affected by these requirements.]

[55 FR 25512, June 21, 1990, as amended at 61 FR 59970, Nov. 25, 1996]

§265.1051 Definitions.

As used in this subpart, all terms shall have the meaning given them in §264.1031, the Act, and parts 260–266.

§265.1052 Standards: Pumps in light liquid service.

(a)(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in §265.1063(b), except as provided in paragraphs (d), (e), and (f) of this section.

(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(b)(1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(2) If there are indications of liquids dripping from the pump seal, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §265.1059.

(2) A first attempt at repair (e.g., tightening the packing gland) shall be made no later than 5 calendar days after each leak is detected.

(d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a), *provided* the following requirements are met:

(1) Each dual mechanical seal system must be:

(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure, or

(ii) Equipped with a barrier fluid degassing reservoir that is connected by a closed-vent system to a control device that complies with the requirements of §265.1060, or

(iii) Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to the atmosphere.

(2) The barrier fluid system must not be a hazardous waste with organic concentrations 10 percent or greater by weight.

(3) Each barrier fluid system must be equipped with a sensor that will detect failure of the seal system, the barrier fluid system or both.

(4) Each pump must be checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

(5)(i) Each sensor as described in paragraph (d)(3) of this section must be checked daily or be equipped with an audible alarm that must be checked monthly to ensure that it is functioning properly.

(ii) The owner or operator must determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(6)(i) If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined in paragraph (d)(5)(ii) of this section, a leak is detected.

(ii) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §265.1059.

(iii) A first attempt at repair (e.g., relapping the seal) shall be made no later than 5 calendar days after each leak is detected.

(e) Any pump that is designated, as described in §265.1064(g)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this section if the pump meets the following requirements:

(1) Must have no externally actuated shaft penetrating the pump housing.

(2) Must operate with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in §265.1063(c).

(3) Must be tested for compliance with paragraph (e)(2) of this section initially upon designation, annually, and at other times as requested by the Regional Administrator.

(f) If any pump is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a control device that complies with the requirements of § 265.1060, it is exempt from the requirements of paragraphs (a) through (e) of this section.

[55 FR 25512, June 21, 1990, as amended at 56 FR 19290, Apr. 26, 1991]

§ 265.1053 Standards: Compressors.

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of total organic emissions to the atmosphere, except as provided in paragraphs (h) and (i) of this section.

(b) Each compressor seal system as required in paragraph (a) of this section shall be:

(1) Operated with the barrier fluid at a pressure that is at all times greater than the compressor stuffing box pressure, or

(2) Equipped with a barrier fluid system that is connected by a closed-vent system to a control device that complies with the requirements of § 265.1060, or

(3) Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to atmosphere.

(c) The barrier fluid must not be a hazardous waste with organic concentrations 10 percent or greater by weight.

(d) Each barrier fluid system as described in paragraphs (a) through (c) of this section shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e)(1) Each sensor as required in paragraph (d) of this section shall be checked daily or shall be equipped with an audible alarm that must be checked monthly to ensure that it is functioning properly unless the compressor is located within the boundary of an unmanned plant site, in which case the sensor must be checked daily.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system or both.

(f) If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined under paragraph (e)(2) of this section, a leak is detected.

(g)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 265.1059.

(2) A first attempt at repair (e.g., tightening the packing gland) shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of this section if it is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal to a control device that complies with the requirements of § 265.1060, except as provided in paragraph (i) of this section.

(i) Any compressor that is designated, as described in § 265.1064(g)(2), for no detectable emission as indicated by an instrument reading of less than 500 ppm above background is exempt from the requirements of paragraphs (a) through (h) of this section if the compressor:

(1) Is determined to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in § 265.1063(c).

(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times as requested by the Regional Administrator.

§ 265.1054 Standards: Pressure relief devices in gas/vapor service.

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in § 265.1063(c).

(b)(1) After each pressure release, the pressure relief device shall be returned

to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in §265.1059.

(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in §265.1063(c).

(c) Any pressure relief device that is equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in §265.1060 is exempt from the requirements of paragraphs (a) and (b) of this section.

§265.1055 Standards: Sampling connection systems.

(a) Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system. This system shall collect the sample purge for return to the process or for routing to the appropriate treatment system. Gases displaced during filling of the sample container are not required to be collected or captured.

(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall:

(1) Return the purged process fluid directly to the process line; or

(2) Collect and recycle the purged process fluid; or

(3) Be designed and operated to capture and transport all the purged process fluid to a waste management unit that complies with the applicable requirements of §265.1085 through §265.1087 of this subpart or a control device that complies with the requirements of §265.1060 of this subpart.

(c) *In-situ* sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section.

[61 FR 59971, Nov. 25, 1996]

§265.1056 Standards: Open-ended valves or lines.

(a)(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve.

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring hazardous waste stream flow through the open-ended valve or line.

(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the hazardous waste stream end is closed before the second valve is closed.

(c) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) of this section at all other times.

§265.1057 Standards: Valves in gas/vapor service or in light liquid service.

(a) Each valve in gas/vapor or light liquid service shall be monitored monthly to detect leaks by the methods specified in §265.1063(b) and shall comply with paragraphs (b) through (e) of this section, except as provided in paragraphs (f), (g), and (h) of this section' and §§265.1061 and 265.1062.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) Any valve for which a leak is not detected for two successive months may be monitored the first month of every succeeding quarter, beginning with the next quarter, until a leak is detected.

(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.

(d)(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in §265.1059.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) First attempts at repair include, but are not limited to, the following best practices where practicable:

(1) Tightening of bonnet bolts.

(2) Replacement of bonnet bolts.

(3) Tightening of packing gland nuts.

(4) Injection of lubricant into lubricated packing.

(f) Any valve that is designated, as described in § 265.1064(g)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraph (a) of this section if the valve:

(1) Has no external actuating mechanism in contact with the hazardous waste stream.

(2) Is operated with emissions less than 500 ppm above background as determined by the method specified in § 265.1063(c).

(3) Is tested for compliance with paragraph (f)(2) of this section initially upon designation, annually, and at other times as requested by the Regional Administrator.

(g) Any valve that is designated, as described in § 265.1064(h)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator of the valve determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section.

(2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(h) Any valve that is designated, as described in § 265.1064(h)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.

(2) The hazardous waste management unit within which the valve is located was in operation before June 21, 1990.

(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

§ 265.1058 Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors.

(a) Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors shall be monitored within 5 days by the method specified in § 265.1063(b) if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 265.1059.

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) First attempts at repair include, but are not limited to, the best practices described under § 265.1057(e).

(e) Any connector that is inaccessible or is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined) is exempt from the monitoring requirements of paragraph (a) of this section and from the recordkeeping requirements of § 265.1064 of this subpart.

[55 FR 25512, June 21, 1990, as amended at 61 FR 59971, Nov. 25, 1996]

§ 265.1059 Standards: Delay of repair.

(a) Delay of repair of equipment for which leaks have been detected will be allowed if the repair is technically infeasible without a hazardous waste management unit shutdown. In such a case, repair of this equipment shall occur before the end of the next hazardous waste management unit shutdown.

(b) Delay of repair of equipment for which leaks have been detected will be allowed for equipment that is isolated from the hazardous waste management unit and that does not continue to contain or contact hazardous waste with organic concentrations at least 10 percent by weight.

(c) Delay of repair for valves will be allowed if:

(1) The owner or operator determines that emissions of purged material resulting from immediate repair are greater than the emissions likely to result from delay of repair.

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with §265.1060.

(d) Delay of repair for pumps will be allowed if:

(1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system.

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a hazardous waste management unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the hazardous waste management unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next hazardous waste management unit shutdown will not be allowed unless the next hazardous waste management unit shutdown occurs sooner than 6 months after the first hazardous waste management unit shutdown.

§265.1060 Standards: Closed-vent systems and control devices.

Owners or operators of closed-vent systems and control devices shall comply with the provisions of §265.1033.

§265.1061 Alternative standards for valves in gas/vapor service or in light liquid service: percentage of valves allowed to leak.

(a) An owner or operator subject to the requirements of §265.1057 may elect to have all valves within a hazardous waste management unit comply with an alternative standard which allows no greater than 2 percent of the valves to leak.

(b) The following requirements shall be met if an owner or operator decides to comply with the alternative standard of allowing 2 percent of valves to leak:

(1) An owner or operator must notify the Regional Administrator that the owner or operator has elected to comply with the requirements of this section.

(2) A performance test as specified in paragraph (c) of this section shall be conducted initially upon designation, annually, and at other times requested by the Regional Administrator.

(3) If a valve leak is detected, it shall be repaired in accordance with §265.1057 (d) and (e).

(c) Performance tests shall be conducted in the following manner:

(1) All valves subject to the requirements in §265.1057 within the hazardous waste management unit shall be monitored within 1 week by the methods specified in §265.1063(b).

(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(3) The leak percentage shall be determined by dividing the number of valves subject to the requirements in §265.1057 for which leaks are detected by the total number of valves subject to the requirements in §265.1057 within the hazardous waste management unit.

(d) If an owner or operator decides no longer to comply with this section, the owner or operator must notify the Regional Administrator in writing that the work practice standard described in §265.1057 (a) through (e) will be followed.

§265.1062 Alternative standards for valves in gas/vapor service or in light liquid service: skip period leak detection and repair.

(a)(1) An owner or operator subject to the requirements of §265.1057 may elect for all valves within a hazardous waste management unit to comply with one of the alternative work practices specified in paragraphs (b) (2) and (3) of this section.

(2) An owner or operator must notify the Regional Administrator before implementing one of the alternative work practices.

(b)(1) An owner or operator shall comply with the requirements for valves, as described in §265.1057, except as described in paragraphs (b)(2) and (b)(3) of this section.

(2) After two consecutive quarterly leak detection periods with the percentage of valves leaking equal to or

less than 2 percent, an owner or operator may begin to skip one of the quarterly leak detection periods for the valves subject to the requirements in § 265.1057.

(3) After five consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2 percent, an owner or operator may begin to skip three of the quarterly leak detection periods for the valves subject to the requirements in § 265.1057.

(4) If the percentage of valves leaking is greater than 2 percent, the owner or operators shall monitor monthly in compliance with the requirements in § 265.1057, but may again elect to use this section after meeting the requirements of § 265.1057(c)(1).

§ 265.1063 Test methods and procedures.

(a) Each owner or operator subject to the provisions of this subpart shall comply with the test methods and procedures requirements provided in this section.

(b) Leak detection monitoring, as required in §§ 265.1052 through 265.1062, shall comply with the following requirements:

(1) Monitoring shall comply with Reference Method 21 in 40 CFR part 60.

(2) The detection instrument shall meet the performance criteria of Reference Method 21.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.

(4) Calibration gases shall be:

(i) Zero air (less than 10 ppm of hydrocarbon in air).

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10.000 ppm methane or n-hexane.

(5) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(c) When equipment is tested for compliance with no detectable emissions, as required in §§ 265.1052(e), 265.1053(i), 265.1054, and 265.1057(f), the test shall comply with the following requirements:

(1) The requirements of paragraphs (b) (1) through (4) of this section shall apply.

(2) The background level shall be determined, as set forth in Reference Method 21.

(3) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(4) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(d) In accordance with the waste analysis plan required by § 265.13(b), an owner or operator of a facility must determine, for each piece of equipment, whether the equipment contains or contacts a hazardous waste with organic concentration that equals or exceeds 10 percent by weight using the following:

(1) Methods described in ASTM Methods D 2267–88, E 169–87, E 168–88, E 260–85 (incorporated by reference under § 260.11);

(2) Method 9060 or 8260 of SW–846 (incorporated by reference under § 260.11); or

(3) Application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced. Documentation of a waste determination by knowledge is required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to have a total organic content less than 10 percent, or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(e) If an owner or operator determines that a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10 percent by weight, the determination

can be revised only after following the procedures in paragraph (d)(1) or (d)(2) of this section.

(f) When an owner or operator and the Regional Administrator do not agree on whether a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10 percent by weight, the procedures in paragraph (d)(1) or (d)(2) of this section can be used to resolve the dispute.

(g) Samples used in determining the percent organic content shall be representative of the highest total organic content hazardous waste that is expected to be contained in or contact the equipment.

(h) To determine if pumps or valves are in light liquid service, the vapor pressures of constituents may be obtained from standard reference texts or may be determined by ASTM D–2879–86 (incorporated by reference under §260.11).

(i) Performance tests to determine if a control device achieves 95 weight percent organic emission reduction shall comply with the procedures of §265.1034 (c)(1) through (c)(4).

[55 FR 25512, June 21, 1990, as amended at 62 FR 32463, June 13, 1997]

§265.1064 Recordkeeping requirements.

(a)(1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one hazardous waste management unit subject to the provisions of this subpart may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

(b) Owners and operators must record the following information in the facility operating record:

(1) For each piece of equipment to which subpart BB of part 265 applies:

(i) Equipment identification number and hazardous waste management unit identification.

(ii) Approximate locations within the facility (e.g., identify the hazardous waste management unit on a facility plot plan).

(iii) Type of equipment (e.g., a pump or pipeline valve).

(iv) Percent-by-weight total organics in the hazardous waste stream at the equipment.

(v) Hazardous waste state at the equipment (e.g., gas/vapor or liquid).

(vi) Method of compliance with the standard (e.g., ''monthly leak detection and repair'' or ''equipped with dual mechanical seals'').

(2) For facilities that comply with the provisions of §265.1033(a)(2), an implementation schedule as specified in §265.1033(a)(2).

(3) Where an owner or operator chooses to use test data to demonstrate the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan as specified in §265.1035(b)(3).

(4) Documentation of compliance with §265.1060, including the detailed design documentation or performance test results specified in §265.1035(b)(4).

(c) When each leak is detected as specified in §§265.1052, 265.1053, 265.1057, and 265.1058, the following requirements apply:

(1) A weatherproof and readily visible identification, marked with the equipment identification number, the date evidence of a potential leak was found in accordance with §265.1058(a), and the date the leak was detected, shall be attached to the leaking equipment.

(2) The identification on equipment, except on a valve, may be removed after it has been repaired.

(3) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in §265.1057(c) and no leak has been detected during those 2 months.

(d) When each leak is detected as specified in §§265.1052, 265.1053, 265.1057, and 265.1058, the following information shall be recorded in an inspection log and shall be kept in the facility operating record:

(1) The instrument and operator identification numbers and the equipment identification number.

(2) The date evidence of a potential leak was found in accordance with §265.1058(a).

(3) The date the leak was detected and the dates of each attempt to repair the leak.

(4) Repair methods applied in each attempt to repair the leak.

(5) ''Above 10,000'' if the maximum instrument reading measured by the methods specified in § 265.1063(b) after each repair attempt is equal to or greater than 10,000 ppm.

(6) ''Repair delayed'' and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(7) Documentation supporting the delay of repair of a valve in compliance with § 265.1059(c).

(8) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a hazardous waste management unit shutdown.

(9) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.

(10) The date of successful repair of the leak.

(e) Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of § 265.1060 shall be recorded and kept up-to-date in the facility operating record as specified in § 265.1035(c). Design documentation is specified in § 265.1035 (c)(1) and (c)(2) and monitoring, operating, and inspection information in § 265.1035 (c)(3)–(c)(8).

(f) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, monitoring and inspection information indicating proper operation and maintenance of the control device must be recorded in the facility operating record.

(g) The following information pertaining to all equipment subject to the requirements in §§ 265.1052 through 265.1060 shall be recorded in a log that is kept in the facility operating record:

(1) A list of identification numbers for equipment (except welded fittings) subject to the requirements of this subpart.

(2)(i) A list of identification numbers for equipment that the owner or operator elects to designate for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, under the provisions of §§ 265.1052(e), 265.1053(i), and 265.1057(f).

(ii) The designation of this equipment as subject to the requirements of §§ 265.1052(e), 265.1053(i), or 265.1057(f) shall be signed by the owner or operator.

(3) A list of equipment identification numbers for pressure relief devices required to comply with § 265.1054(a).

(4)(i) The dates of each compliance test required in §§ 265.1052(e), 265.1053(i), 265.1054, and 265.1057(f).

(ii) The background level measured during each compliance test.

(iii) The maximum instrument reading measured at the equipment during each compliance test.

(5) A list of identification numbers for equipment in vacuum service.

(6) Identification, either by list or location (area or group) of equipment that contains or contacts hazardous waste with an organic concentration of at least 10 percent by weight for a period of less than 300 hours per year.

(h) The following information pertaining to all valves subject to the requirements of § 265.1057 (g) and (h) shall be recorded in a log that is kept in the facility operating record:

(1) A list of identification numbers for valves that are designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve.

(2) A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the planned schedule for monitoring each valve.

(i) The following information shall be recorded in the facility operating record for valves complying with § 265.1062:

(1) A schedule of monitoring.

(2) The percent of valves found leaking during each monitoring period.

(j) The following information shall be recorded in a log that is kept in the facility operating record:

(1) Criteria required in §§265.1052 (d)(5)(ii) and 265.1053(e)(2) and an explanation of the criteria.

(2) Any changes to these criteria and the reasons for the changes.

(k) The following information shall be recorded in a log that is kept in the facility operating record for use in determining exemptions as provided in the applicability section of this subpart and other specific subparts:

(1) An analysis determining the design capacity of the hazardous waste management unit.

(2) A statement listing the hazardous waste influent to and effluent from each hazardous waste management unit subject to the requirements in §§265.1052 through 265.1060 and an analysis determining whether these hazardous wastes are heavy liquids.

(3) An up-to-date analysis and the supporting information and data used to determine whether or not equipment is subject to the requirements in §§265.1052 through 265.1060. The record shall include supporting documentation as required by §265.1063(d)(3) when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used. If the owner or operator takes any action (e.g., changing the process that produced the waste) that could result in an increase in the total organic content of the waste contained in or contacted by equipment determined not to be subject to the requirements in §§265.1052 through 265.1060, then a new determination is required.

(l) Records of the equipment leak information required by paragraph (d) of this section and the operating information required by paragraph (e) of this section need be kept only 3 years.

(m) 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 determine compliance with this subpart by documentation either pursuant to §265.1064 of this subpart, or pursuant to those provisions of 40 CFR part 60 or 61, to the extent that the documentation under the regulation at 40 CFR part 60 or part 61 duplicates the documentation required under this subpart. The documentation under the regulation at 40 CFR part 60 or part 61 shall be kept with or made readily available with the facility operating record.

[55 FR 25512, June 21, 1990, as amended at 56 FR 19290, Apr. 26, 1991; 61 FR 59971, Nov. 25, 1996]

§§265.1065—265.1079 [Reserved]

Subpart CC—Air Emission Standards for Tanks, Surface Impoundments, and Containers

SOURCE: 59 FR 62935, Dec. 6, 1994, unless otherwise noted.

§265.1080 Applicability.

(a) The requirements of this subpart apply to owners and operators of all facilities that treat, store, or dispose of hazardous waste in tanks, surface impoundments, or containers subject to either subparts I, J, or K of this part except as §265.1 and paragraph (b) of this section provide otherwise.

(b) The requirements of this subpart do not apply to the following waste management units at the facility:

(1) A waste management unit that holds hazardous waste placed in the unit before October 6, 1996, and in which no hazardous waste is added to the unit on or after this date.

(2) A container that has a design capacity less than or equal to 0.1 m^3.

(3) A tank in which an owner or operator has stopped adding hazardous waste and the owner or operator has begun implementing or completed closure pursuant to an approved closure plan.

(4) A surface impoundment in which an owner or operator has stopped adding hazardous waste (except to implement an approved closure plan) and the owner or operator has begun implementing or completed closure pursuant to an approved closure plan.

(5) A waste management unit that is used solely for on-site treatment or storage of hazardous waste that is generated as the result of implementing remedial activities required under the RCRA corrective action authorities of 3004(u), 3004(v) or 3008(h), CERCLA authorities, or similar Federal or State authorities.

(6) A waste management unit that is used solely for the management of radioactive mixed waste in accordance with all applicable regulations under the authority of the Atomic Energy Act and the Nuclear Waste Policy Act.

(7) A hazardous waste management unit that the owner or operator certifies is equipped with and operating air emission controls in accordance with the requirements of an applicable Clean Air Act regulation codified under 40 CFR part 60, part 61, or part 63. For the purpose of complying with this paragraph, a tank for which the air emission control includes an enclosure, as opposed to a cover, must be in compliance with the enclosure and control device requirements of § 265.1085(i), except as provided in § 265.1083(c)(5).

(8) A tank that has a process vent as defined in 40 CFR 264.1031.

(c) For the owner and operator of a facility subject to this subpart who has received a final permit under RCRA section 3005 prior to October 6, 1996, the following requirements apply:

(1) The requirements of 40 CFR part 264, subpart CC shall be incorporated into the permit when the permit is reissued in accordance with the requirements of 40 CFR 124.15 or reviewed in accordance with the requirements of 40 CFR 270.50(d).

(2) Until the date when the permit is reissued in accordance with the requirements of 40 CFR 124.15 or reviewed in accordance with the requirements of 40 CFR 270.50(d), the owner and operator is subject to the requirements of this subpart.

(d) The requirements of this subpart, except for the recordkeeping requirements specified in § 265.1090(i) of this subpart, are administratively stayed for a tank or a container used for the management of hazardous waste generated by organic peroxide manufacturing and its associated laboratory operations when the owner or operator of the unit meets all of the following conditions:

(1) The owner or operator identifies that the tank or container receives hazardous waste generated by an organic peroxide manufacturing process producing more than one functional family of organic peroxides or multiple organic peroxides within one functional family, that one or more of these organic peroxides could potentially undergo self-accelerating thermal decomposition at or below ambient temperatures, and that organic peroxides are the predominant products manufactured by the process. For the purpose of meeting the conditions of this paragraph, ''organic peroxide'' means an organic compound that contains the bivalent -O-O- structure and which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms has been replaced by an organic radical.

(2) The owner or operator prepares documentation, in accordance with the requirements of § 265.1090(i) of this subpart, explaining why an undue safety hazard would be created if air emission controls specified in §§ 265.1085 through 265.1088 of this subpart are installed and operated on the tanks and containers used at the facility to manage the hazardous waste generated by the organic peroxide manufacturing process or processes meeting the conditions of paragraph (d)(1) of this section.

(3) The owner or operator notifies the Regional Administrator in writing that hazardous waste generated by an organic peroxide manufacturing process or processes meeting the conditions of paragraph (d)(1) of this section are managed at the facility in tanks or containers meeting the conditions of paragraph (d)(2) of this section. The notification shall state the name and address of the facility, and be signed and dated by an authorized representative of the facility owner or operator.

[59 FR 62935, Dec. 6, 1994, as amended at 60 FR 26829, May 19, 1995; 60 FR 50429, Sept. 29, 1995; 60 FR 56953, Nov. 13, 1995; 61 FR 28510, June 5, 1996; 61 FR 59971, Nov. 25, 1996]

§ 265.1081 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given to them in the Act and parts 260 through 266 of this chapter.

Average volatile organic concentration or *average VO concentration* means the mass-weighted average volatile organic concentration of a hazardous waste as determined in accordance with the requirements of § 265.1084 of this subpart.

Closure device means a cap, hatch, lid, plug, seal, valve, or other type of fitting that blocks an opening in a cover such that when the device is secured in the closed position it prevents or reduces air pollutant emissions to the atmosphere. Closure devices include devices that are detachable from the cover (e.g., a sampling port cap), manually operated (e.g., a hinged access lid or hatch), or automatically operated (e.g., a spring-loaded pressure relief valve).

Continuous seal means a seal that forms a continuous closure that completely covers the space between the edge of the floating roof and the wall of a tank. A continuous seal may be a vapor-mounted seal, liquid-mounted seal, or metallic shoe seal. A continuous seal may be constructed of fastened segments so as to form a continuous seal.

Cover means a device that provides a continuous barrier over the hazardous waste managed in a unit to prevent or reduce air pollutant emissions to the atmosphere. A cover may have openings (such as access hatches, sampling ports, gauge wells) that are necessary for operation, inspection, maintenance, and repair of the unit on which the cover is used. A cover may be a separate piece of equipment which can be detached and removed from the unit or a cover may be formed by structural features permanently integrated into the design of the unit.

Enclosure means a structure that surrounds a tank or container, captures organic vapors emitted from the tank or container, and vents the captured vapors through a closed-vent system to a control device.

External floating roof means a pontoon-type or double-deck type cover that rests on the surface of the material managed in a tank with no fixed roof.

Fixed roof means a cover that is mounted on a unit in a stationary position and does not move with fluctuations in the level of the material managed in the unit.

Floating membrane cover means a cover consisting of a synthetic flexible membrane material that rests upon and is supported by the hazardous waste being managed in a surface impoundment.

Floating roof means a cover consisting of a double deck, pontoon single deck, or internal floating cover which rests upon and is supported by the material being contained, and is equipped with a continuous seal.

Hard-piping means pipe or tubing that is manufactured and properly installed in accordance with relevant standards and good engineering practices.

In light material service means the container is used to manage a material for which both of the following conditions apply: the vapor pressure of one or more of the organic constituents in the material is greater than 0.3 kilopascals (kPa) at 20 °C; and the total concentration of the pure organic constituents having a vapor pressure greater than 0.3 kPa at 20 °C is equal to or greater than 20 percent by weight.

Internal floating roof means a cover that rests or floats on the material surface (but not necessarily in complete contact with it) inside a tank that has a fixed roof.

Liquid-mounted seal means a foam or liquid-filled primary seal mounted in contact with the hazardous waste between the tank wall and the floating roof continuously around the circumference of the tank.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Maximum organic vapor pressure means the sum of the individual organic constituent partial pressures exerted by the material contained in a tank, at the maximum vapor pressure-causing conditions (i.e., temperature, agitation, pH effects of combining wastes, etc.) reasonably expected to occur in the tank. For the purpose of this subpart, maximum organic vapor pressure is determined using the procedures specified in § 265.1084(c) of this subpart.

Metallic shoe seal means a continuous seal that is constructed of metal sheets which are held vertically against the

wall of the tank by springs, weighted levers, or other mechanisms and is connected to the floating roof by braces or other means. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

No detectable organic emissions means no escape of organics to the atmosphere as determined using the procedure specified in § 265.1084(d) of this subpart.

Point of waste origination means as follows:

(1) When the facility owner or operator is the generator of the hazardous waste, the point of waste origination means the point where a solid waste produced by a system, process, or waste management unit is determined to be a hazardous waste as defined in 40 CFR part 261.

[NOTE: In this case, this term is being used in a manner similar to the use of the term ''point of generation'' in air standards established for waste management operations under authority of the Clean Air Act in 40 CFR parts 60, 61, and 63.]

(2) When the facility owner and operator are not the generator of the hazardous waste, point of waste origination means the point where the owner or operator accepts delivery or takes possession of the hazardous waste.

Point of waste treatment means the point where a hazardous waste to be treated in accordance with § 265.1083(c)(2) of this subpart exits the treatment process. Any waste determination shall be made before the waste is conveyed, handled, or otherwise managed in a manner that allows the waste to volatilize to the atmosphere.

Safety device means a closure device such as a pressure relief valve, frangible disc, fusible plug, or any other type of device which functions exclusively to prevent physical damage or permanent deformation to a unit or its air emission control equipment by venting gases or vapors directly to the atmosphere during unsafe conditions resulting from an unplanned, accidental, or emergency event. For the purpose of this subpart, a safety device is not used for routine venting of gases or vapors from the vapor headspace underneath a cover such as during filling of the unit or to adjust the pressure in this vapor headspace in response to normal daily diurnal ambient temperature fluctuations. A safety device is designed to remain in a closed position during normal operations and open only when the internal pressure, or another relevant parameter, exceeds the device threshold setting applicable to the air emission control equipment as determined by the owner or operator based on manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials.

Single-seal system means a floating roof having one continuous seal. This seal may be vapor-mounted, liquid-mounted, or a metallic shoe seal.

Vapor-mounted seal means a continuous seal that is mounted such that there is a vapor space between the hazardous waste in the unit and the bottom of the seal.

Volatile organic concentration or *VO concentration* means the fraction by weight of the volatile organic compounds contained in a hazardous waste expressed in terms of parts per million (ppmw) as determined by direct measurement or by knowledge of the waste in accordance with the requirements of § 265.1084 of this subpart. For the purpose of determining the VO concentration of a hazardous waste, organic compounds with a Henry's law constant value of at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in the liquid-phase (0.1 Y/X) (which can also be expressed as 1.8×10^{-6} atmospheres/gram-mole/m^3) at 25 degrees Celsius must be included. Appendix VI of this subpart presents a list of compounds known to have a Henry's law constant value less than the cutoff level.

Waste determination means performing all applicable procedures in accordance with the requirements of § 265.1084 of this subpart to determine whether a hazardous waste meets standards specified in this subpart. Examples of a waste determination include performing the procedures in accordance with the requirements of § 265.1084 of this subpart to determine the average VO concentration of a hazardous waste at

the point of waste origination; the average VO concentration of a hazardous waste at the point of waste treatment and comparing the results to the exit concentration limit specified for the process used to treat the hazardous waste; the organic reduction efficiency and the organic biodegradation efficiency for a biological process used to treat a hazardous waste and comparing the results to the applicable standards; or the maximum volatile organic vapor pressure for a hazardous waste in a tank and comparing the results to the applicable standards.

Waste stabilization process means any physical or chemical process used to either reduce the mobility of hazardous constituents in a hazardous waste or eliminate free liquids as determined by Test Method 9095 (Paint Filter Liquids Test) in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' EPA Publication No. SW–846, Third Edition, September 1986, as amended by Update I, November 15, 1992 (incorporated by reference—refer to §260.11 of this chapter). A waste stabilization process includes mixing the hazardous waste with binders or other materials, and curing the resulting hazardous waste and binder mixture. Other synonymous terms used to refer to this process are ''waste fixation'' or ''waste solidification.'' This does not include the adding of absorbent materials to the surface of a waste, without mixing, agitation, or subsequent curing, to absorb free liquid.

[59 FR 62935, Dec. 6, 1994, as amended at 61 FR 4914, Feb. 9, 1996; 61 FR 59971, Nov. 25, 1996]

§265.1082 Schedule for implementation of air emission standards.

(a) Owners or operators of facilities existing on October 6, 1996, and subject to subparts I, J, and K of this part shall meet the following requirements:

(1) Install and begin operation of all control equipment required by this subpart by October 6, 1996, except as provided for in paragraph (a)(2) of this section.

(2) When control equipment required by this subpart cannot be installed and in operation by October 6, 1996, the owner or operator shall:

(i) Install and begin operation of the control equipment as soon as possible but no later than December 8, 1997.

(ii) Prepare an implementation schedule that includes the following information: specific calendar dates for award of contracts or issuance of purchase orders for the control equipment, initiation of on-site installation of the control equipment, completion of the control equipment installation, and performance of any testing to demonstrate that the installed equipment meets the applicable standards of this subpart.

(iii) For facilities subject to the recordkeeping requirements of §265.73 of this part, the owner or operator shall enter the implementation schedule specified in paragraph (a)(2)(ii) of this section in the operating record no later than October 6, 1996.

(iv) For facilities not subject to §265.73 of this part, the owner or operator shall enter the implementation schedule specified in paragraph (a)(2)(ii) of this section in a permanent, readily available file located at the facility no later than October 6, 1996.

(b) Owners or operators of facilities in existence on the effective date of statutory or regulatory amendments under the Act that render the facility subject to subparts I, J, or K of this part shall meet the following requirements:

(1) Install and begin operation of all control equipment required by this subpart by the effective date of the amendment except as provided for in paragraph (b)(2) of this section.

(2) When control equipment required by this subpart cannot be installed and begin operation by the effective date of the amendment, the owner or operator shall:

(i) Install and operate the control equipment as soon as possible but no later than 30 months after the effective date of the amendment.

(ii) For facilities subject to the recordkeeping requirements of §265.73, enter and maintain the implementation schedule specified in paragraph (a)(2)(ii) of this section in the operating record no later than the effective date of the amendment, or

(iii) For facilities not subject to §265.73, the owner or operator shall

enter and maintain the implementation schedule specified in paragraph (a)(2)(ii) of this section in a permanent, readily available file located at the facility site no later than the effective date of the amendment. I11(c) The Regional Administrator may elect to extend the implementation date for control equipment at a facility, on a case by case basis, to a date later than December 8, 1997, when special circumstances that are beyond the facility owner's or operator's control delay installation or operation of control equipment and the owner or operator has made all reasonable and prudent attempts to comply with the requirements of this subpart.

[59 FR 62935, Dec. 6, 1994, as amended at 60 FR 26829, May 19, 1995; 60 FR 56954, Nov. 13, 1995; 61 FR 28510, June 5, 1996]

§ 265.1083 Standards: General.

(a) This section applies to the management of hazardous waste in tanks, surface impoundments, and containers subject to this subpart.

(b) The owner or operator shall control air pollutant emissions from each waste management unit in accordance with standards specified in § 265.1085 through § 265.1088 of this subpart, as applicable to the waste management unit, except as provided for in paragraph (c) of this section.

(c) A tank, surface impoundment, or container is exempt from standards specified in § 265.1085 through § 265.1088 of this subpart, as applicable, provided that the waste management unit is one of the following:

(1) A tank, surface impoundment, or container for which all hazardous waste entering the unit has an average VO concentration at the point of waste origination of less than 500 parts per million by weight (ppmw). The average VO concentration shall be determined using the procedures specified in § 265.1084(a) of this subpart. The owner or operator shall review and update, as necessary, this determination at least once every 12 months following the date of the initial determination for the hazardous waste streams entering the unit.

(2) A tank, surface impoundment, or container for which the organic content of all the hazardous waste entering the waste management unit has been reduced by an organic destruction or removal process that achieves any one of the following conditions:

(i) A process that removes or destroys the organics contained in the hazardous waste to a level such that the average VO concentration of the hazardous waste at the point of waste treatment is less than the exit concentration limit (C^t) established for the process. The average VO concentration of the hazardous waste at the point of waste treatment and the exit concentration limit for the process shall be determined using the procedures specified in § 265.1084(b) of this subpart.

(ii) A process that removes or destroys the organics contained in the hazardous waste to a level such that the organic reduction efficiency (R) for the process is equal to or greater than 95 percent, and the average VO concentration of the hazardous waste at the point of waste treatment is less than 100 ppmw. The organic reduction efficiency for the process and the average VO concentration of the hazardous waste at the point of waste treatment shall be determined using the procedures specified in § 265.1084(b) of this subpart.

(iii) A process that removes or destroys the organics contained in the hazardous waste to a level such that the actual organic mass removal rate (MR) for the process is equal to or greater than the required organic mass removal rate (RMR) established for the process. The required organic mass removal rate and the actual organic mass removal rate for the process shall be determined using the procedures specified in § 265.1084(b) of this subpart.

(iv) A biological process that destroys or degrades the organics contained in the hazardous waste, such that either of the following conditions is met:

(A) The organic reduction efficiency (R) for the process is equal to or greater than 95 percent, and the organic biodegradation efficiency (R_{bio}) for the process is equal to or greater than 95 percent. The organic reduction efficiency and the organic biodegradation efficiency for the process shall be determined using the procedures specified in § 265.1084(b) of this subpart.

(B) The total actual organic mass biodegradation rate (MR_{bio}) for all hazardous waste treated by the process is equal to or greater than the required organic mass removal rate (RMR). The required organic mass removal rate and the actual organic mass biodegradation rate for the process shall be determined using the procedures specified in § 265.1084(b) of this subpart.

(v) A process that removes or destroys the organics contained in the hazardous waste and meets all of the following conditions:

(A) From the point of waste origination through the point where the hazardous waste enters the treatment process, the hazardous waste is managed continuously in waste management units which use air emission controls in accordance with the standards specified in § 265.1085 through § 265.1088 of this subpart, as applicable to the waste management unit.

(B) From the point of waste origination through the point where the hazardous waste enters the treatment process, any transfer of the hazardous waste is accomplished through continuous hard-piping or other closed system transfer that does not allow exposure of the waste to the atmosphere. The EPA considers a drain system that meets the requirements of 40 CFR part 63, subpart RR—National Emission Standards for Individual Drain Systems to be a closed system.

(C) The average VO concentration of the hazardous waste at the point of waste treatment is less than the lowest average VO concentration at the point of waste origination determined for each of the individual waste streams entering the process or 500 ppmw, whichever value is lower. The average VO concentration of each individual waste stream at the point of waste origination shall be determined using the procedures specified in § 265.1084(a) of this subpart. The average VO concentration of the hazardous waste at the point of waste treatment shall be determined using the procedures specified in § 265.1084(b) of this subpart.

(vi) A process that removes or destroys the organics contained in the hazardous waste to a level such that the organic reduction efficiency (R) for the process is equal to or greater than 95 percent and the owner or operator certifies that the average VO concentration at the point of waste origination for each of the individual waste streams entering the process is less than 10,000 ppmw. The organic reduction efficiency for the process and the average VO concentration of the hazardous waste at the point of waste origination shall be determined using the procedures specified in § 265.1084(b) and § 265.1084(a) of this subpart, respectively.

(vii) A hazardous waste incinerator for which the owner or operator has either:

(A) Been issued a final permit under 40 CFR part 270 which implements the requirements of 40 CFR part 264, subpart O; or

(B) Has designed and operates the incinerator in accordance with the interim status requirements of subpart O of this part.

(viii) A boiler or industrial furnace for which the owner or operator has either:

(A) Been issued a final permit under 40 CFR part 270 which implements the requirements of 40 CFR part 266, subpart H, or

(B) Has designed and operates the boiler or industrial furnace in accordance with the interim status requirements of 40 CFR part 266, subpart H.

(ix) For the purpose of determining the performance of an organic destruction or removal process in accordance with the conditions in each of paragraphs (c)(2)(i) through (c)(2)(vi) of this section, the owner or operator shall account for VO concentrations determined to be below the limit of detection of the analytical method by using the following VO concentration:

(A) If Method 25D in 40 CFR part 60, appendix A is used for the analysis, one-half the blank value determined in the method.

(B) If any other analytical method is used, one-half the limit of detection established for the method.

(3) A tank used for biological treatment of hazardous waste in accordance with the requirements of paragraph (c)(2)(iv) of this section.

(4) A tank, surface impoundment, or container for which all hazardous waste placed in the unit either:

(i) Meets the numerical concentration limits for organic hazardous constituents, applicable to the hazardous waste, as specified in 40 CFR part 268—Land Disposal Restrictions under Table ''Treatment Standards for Hazardous Waste'' in 40 CFR 268.40; or

(ii) Has been treated by the treatment technology established by EPA for the waste in 40 CFR 268.42(a), or treated by an equivalent method of treatment approved by EPA pursuant to 40 CFR 268.42(b).

(5) A tank used for bulk feed of hazardous waste to a waste incinerator and all of the following conditions are met:

(i) The tank is located inside an enclosure vented to a control device that is designed and operated in accordance with all applicable requirements specified under 40 CFR part 61, subpart FF—National Emission Standards for Benzene Waste Operations for a facility at which the total annual benzene quantity from the facility waste is equal to or greater than 10 megagrams per year;

(ii) The enclosure and control device serving the tank were installed and began operation prior to November 25, 1996; and

(iii) The enclosure is designed and operated in accordance with the criteria for a permanent total enclosure as specified in ''Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure'' under 40 CFR 52.741, Appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the enclosure by conveyor, vehicles, or other mechanical or electrical equipment; or to direct air flow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in Section 5.0 to ''Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure'' annually.

(d) The Regional Administrator may at any time perform or request that the owner or operator perform a waste determination for a hazardous waste managed in a tank, surface impoundment, or container exempted from using air emission controls under the provisions of this section as follows:

(1) The waste determination for average VO concentration of a hazardous waste at the point of waste origination shall be performed using direct measurement in accordance with the applicable requirements of § 265.1084(a) of this subpart. The waste determination for a hazardous waste at the point of waste treatment shall be performed in accordance with the applicable requirements of § 265.1084(b) of this subpart.

(2) In performing a waste determination pursuant to paragraph (d)(1) of this section, the sample preparation and analysis shall be conducted as follows:

(i) In accordance with the method used by the owner or operator to perform the waste analysis, except in the case specified in paragraph (d)(2)(ii) of this section.

(ii) If the Regional Administrator determines that the method used by the owner or operator was not appropriate for the hazardous waste managed in the tank, surface impoundment, or container, then the Regional Administrator may choose an appropriate method.

(3) In a case when the owner or operator is requested to perform the waste determination, the Regional Administrator may elect to have an authorized representative observe the collection of the hazardous waste samples used for the analysis.

(4) In a case when the results of the waste determination performed or requested by the Regional Administrator do not agree with the results of a waste determination performed by the owner or operator using knowledge of the waste, then the results of the waste determination performed in accordance with the requirements of paragraph (d)(1) of this section shall be used to establish compliance with the requirements of this subpart.

(5) In a case when the owner or operator has used an averaging period greater than 1 hour for determining the average VO concentration of a hazardous waste at the point of waste origination, the Regional Administrator may elect to establish compliance with this subpart by performing or requesting that the owner or operator perform a waste

determination using direct measurement based on waste samples collected within a 1-hour period as follows:

(i) The average VO concentration of the hazardous waste at the point of waste origination shall be determined by direct measurement in accordance with the requirements of §265.1084(a) of this subpart.

(ii) Results of the waste determination performed or requested by the Regional Administrator showing that the average VO concentration of the hazardous waste at the point of waste origination is equal to or greater than 500 ppmw shall constitute noncompliance with this subpart except in a case as provided for in paragraph (d)(5)(iii) of this section.

(iii) For the case when the average VO concentration of the hazardous waste at the point of waste origination previously has been determined by the owner or operator using an averaging period greater than 1 hour to be less than 500 ppmw but because of normal operating process variations the VO concentration of the hazardous waste determined by direct measurement for any given 1-hour period may be equal to or greater than 500 ppmw, information that was used by the owner or operator to determine the average VO concentration of the hazardous waste (e.g., test results, measurements, calculations, and other documentation) and recorded in the facility records in accordance with the requirements of §265.1084(a) and §265.1090 of this subpart shall be considered by the Regional Administrator together with the results of the waste determination performed or requested by the Regional Administrator in establishing compliance with this subpart.

[61 FR 59972, Nov. 25, 1996]

§265.1084 Waste determination procedures.

(a) Waste determination procedure to determine average volatile organic (VO) concentration of a hazardous waste at the point of waste origination.

(1) An owner or operator shall determine the average VO concentration at the point of waste origination for each hazardous waste placed in a waste management unit exempted under the provisions of §265.1083(c)(1) of this subpart from using air emission controls in accordance with standards specified in §265.1085 through §265.1088 of this subpart, as applicable to the waste management unit.

(2) The average VO concentration of a hazardous waste at the point of waste origination shall be determined using either direct measurement as specified in paragraph (a)(3) of this section or by knowledge as specified in paragraph (a)(4) of this section.

(3) Direct measurement to determine average VO concentration of a hazardous waste at the point of waste origination.

(i) Identification. The owner or operator shall identify and record the point of waste origination for the hazardous waste.

(ii) Sampling. Samples of the hazardous waste stream shall be collected at the point of waste origination in a manner such that volatilization of organics contained in the waste and in the subsequent sample is minimized and an adequately representative sample is collected and maintained for analysis by the selected method.

(A) The averaging period to be used for determining the average VO concentration for the hazardous waste stream on a mass-weighted average basis shall be designated and recorded. The averaging period can represent any time interval that the owner or operator determines is appropriate for the hazardous waste stream but shall not exceed 1 year.

(B) A sufficient number of samples, but no less than four samples, shall be collected for the hazardous waste stream to represent the complete range of compositions and quantities that occur during the entire averaging period due to normal variations in the operating conditions for the source or process generating the hazardous waste stream. Examples of such normal variations are seasonal variations in waste quantity or fluctuations in ambient temperature.

(C) All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous waste stream

are collected such that a minimum loss of organics occurs throughout the sample collection and handling process, and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures in accordance with the requirements specified in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' EPA Publication SW–846, (incorporated by reference—refer to § 260.11(a) of this chapter), or in Method 25D in 40 CFR part 60, appendix A.

(iii) Analysis. Each collected sample shall be prepared and analyzed in accordance with one or more of the methods listed in paragraphs (a)(3)(iii)(A) through (a)(3)(iii)(I) of this section, including appropriate quality assurance and quality control (QA/QC) checks and use of target compounds for calibration. If Method 25D in 40 CFR part 60, appendix A is not used, then one or more methods should be chosen that are appropriate to ensure that the waste determination accounts for and reflects all organic compounds in the waste with Henry's law constant values at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8×10^{-6} atmospheres/gram-mole/m^3] at 25 degrees Celsius. Each of the analytical methods listed in paragraphs (a)(3)(iii)(B) through (a)(3)(iii)(G) of this section has an associated list of approved chemical compounds, for which EPA considers the method appropriate for measurement. If an owner or operator uses EPA Method 624, 625, 1624, or 1625 in 40 CFR part 136, appendix A to analyze one or more compounds that are not on that method's published list, the Alternative Test Procedure contained in 40 CFR 136.4 and 136.5 must be followed. If an owner or operator uses EPA Method 8260(B) or 8270(C) in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods'', EPA Publication SW–846, (incorporated by reference—refer to § 260.11(a) of this chapter) to analyze one or more compounds that are not on that method's published list, the procedures in paragraph (a)(3)(iii)(H) of this section must be followed. At the owner's or operator's discretion, the concentration of each individual chemical constituent measured in the waste by a method other than Method 25D may be corrected to the concentration had it been measured using Method 25D by multiplying the measured concentration by the constituent-specific adjustment factor (f_{m25D}) as specified in paragraph (a)(4)(iii) of this section. Constituent-specific adjustment factors (f_{m25D}) can be obtained by contacting the Waste and Chemical Processes Group, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711.

(A) Method 25D in 40 CFR part 60, appendix A.

(B) Method 624 in 40 CFR part 136, appendix A.

(C) Method 625 in 40 CFR part 136, appendix A. Perform corrections to the compounds for which the analysis is being conducted based on the ''accuracy as recovery'' using the factors in Table 7 of the method.

(D) Method 1624 in 40 CFR part 136, appendix A.

(E) Method 1625 in 40 CFR part 136, appendix A.

(F) Method 8260(B) in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods'', EPA Publication SW–846, (incorporated by reference—refer to § 260.11(a) of this chapter). Maintain a formal quality assurance program consistent with the requirements of Method 8260(B). The quality assurance program shall include the following elements:

(*1*) Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps.

(*2*) Measurement of the overall accuracy and precision of the specific procedures.

(G) Method 8270(C) in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods'', EPA Publication SW–846, (incorporated by reference—refer to § 260.11(a) of this chapter). Maintain a formal quality assurance program consistent with the requirements of Method 8270(C). The quality

assurance program shall include the following elements:

(*1*) Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, and preparation steps.

(*2*) Measurement of the overall accuracy and precision of the specific procedures.

(H) Any other EPA standard method that has been validated in accordance with ''Alternative Validation Procedure for EPA Waste and Wastewater Methods'', 40 CFR part 63, appendix D. As an alternative, other EPA standard methods may be validated by the procedure specified in paragraph (a)(3)(iii)(I) of this section.

(I) Any other analysis method that has been validated in accordance with the procedures specified in Section 5.1 or Section 5.3, and the corresponding calculations in Section 6.1 or Section 6.3, of Method 301 in 40 CFR part 63, appendix A. The data are acceptable if they meet the criteria specified in Section 6.1.5 or Section 6.3.3 of Method 301. If correction is required under section 6.3.3 of Method 301, the data are acceptable if the correction factor is within the range 0.7 to 1.30. Other sections of Method 301 are not required.

(iv) Calculations. The average VO concentration ($\overline{C}$) on a mass-weighted basis shall be calculated by using the results for all samples analyzed in accordance with paragraph (a)(3)(iii) of this section and the following equation:

$$\overline{C} = \frac{1}{Q_T} \times \sum_{i=1}^{n} \left(Q_i \times C_i\right)$$

Where:

$\overline{C}$ = Average VO concentration of the hazardous waste at the point of waste origination on a mass-weighted basis, ppmw.

i = Individual sample ''i'' of the hazardous waste.

n = Total number of samples of the hazardous waste collected (at least 4) for the averaging period (not to exceed 1 year).

Q_i = Mass quantity of hazardous waste stream represented by C_i, kg/hr.

Q_T = Total mass quantity of hazardous waste during the averaging period, kg/hr.

C_i = Measured VO concentration of sample ''i'' as determined in accordance with the requirements of § 265.1084(a)(3)(iii) of this subpart, ppmw.

(4) Use of owner or operator knowledge to determine average VO concentration of a hazardous waste at the point of waste origination.

(i) Documentation shall be prepared that presents the information used as the basis for the owner's or operator's knowledge of the hazardous waste stream's average VO concentration. Examples of information that may be used as the basis for knowledge include: Material balances for the source or process generating the hazardous waste stream; constituent-specific chemical test data for the hazardous waste stream from previous testing that are still applicable to the current waste stream; previous test data for other locations managing the same type of waste stream; or other knowledge based on information included in manifests, shipping papers, or waste certification notices.

(ii) If test data are used as the basis for knowledge, then the owner or operator shall document the test method, sampling protocol, and the means by which sampling variability and analytical variability are accounted for in the determination of the average VO concentration. For example, an owner or operator may use organic concentration test data for the hazardous waste stream that are validated in accordance with Method 301 in 40 CFR part 63, appendix A as the basis for knowledge of the waste.

(iii) An owner or operator using chemical constituent-specific concentration test data as the basis for knowledge of the hazardous waste may adjust the test data to the corresponding average VO concentration value which would have been obtained had the waste samples been analyzed using Method 25D in 40 CFR part 60, appendix A. To adjust these data, the measured concentration for each individual chemical constituent contained in the waste is multiplied by the appropriate

constituent-specific adjustment factor (f_{m25D}).

(iv) In the event that the Regional Administrator and the owner or operator disagree on a determination of the average VO concentration for a hazardous waste stream using knowledge, then the results from a determination of average VO concentration using direct measurement as specified in paragraph (a)(3) of this section shall be used to establish compliance with the applicable requirements of this subpart. The Regional Administrator may perform or request that the owner or operator perform this determination using direct measurement.

(b) Waste determination procedures for treated hazardous waste.

(1) An owner or operator shall perform the applicable waste determination for each treated hazardous waste placed in a waste management unit exempted under the provisions of § 265.1083(c)(2) of this subpart from using air emission controls in accordance with standards specified in § 265.1085 through § 265.1088 of this subpart, as applicable to the waste management unit.

(2) The owner or operator shall designate and record the specific provision in § 265.1083(c)(2) of this subpart under which the waste determination is being performed. The waste determination for the treated hazardous waste shall be performed using the applicable procedures specified in paragraphs (b)(3) through (b)(9) of this section.

(3) Procedure to determine the average VO concentration of a hazardous waste at the point of waste treatment.

(i) Identification. The owner or operator shall identify and record the point of waste treatment for the hazardous waste.

(ii) Sampling. Samples of the hazardous waste stream shall be collected at the point of waste treatment in a manner such that volatilization of organics contained in the waste and in the subsequent sample is minimized and an adequately representative sample is collected and maintained for analysis by the selected method.

(A) The averaging period to be used for determining the average VO concentration for the hazardous waste stream on a mass-weighted average basis shall be designated and recorded. The averaging period can represent any time interval that the owner or operator determines is appropriate for the hazardous waste stream but shall not exceed 1 year.

(B) A sufficient number of samples, but no less than four samples, shall be collected for the hazardous waste stream to represent the complete range of compositions and quantities that occur during the entire averaging period due to normal variations in the operating conditions for the process treating the hazardous waste stream. Examples of such normal variations are seasonal variations in waste quantity or fluctuations in ambient temperature.

(C) All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous waste stream are collected such that a minimum loss of organics occurs throughout the sample collection and handling process, and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures in accordance with the requirements specified in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' EPA Publication No. SW–846 (incorporated by reference—refer to § 260.11(a) of this chapter), or in Method 25D in 40 CFR part 60, appendix A.

(iii) Analysis. Each collected sample shall be prepared and analyzed in accordance with one or more of the methods listed in paragraphs (b)(3)(iii)(A) through (b)(3)(iii)(I) of this section, including appropriate quality assurance and quality control (QA/QC) checks and use of target compounds for calibration. If Method 25D in 40 CFR part 60, appendix A is not used, then one or more methods should be chosen that are appropriate to ensure that the waste determination accounts for and reflects all organic compounds in the waste with Henry's law constant values at least 0.1 mole-fraction-in-the-gas-

phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8×10^{-6} atmospheres/gram-mole/m^3] at 25 degrees Celsius. Each of the analytical methods listed in paragraphs (b)(3)(iii)(B) through (b)(3)(iii)(G) of this section has an associated list of approved chemical compounds, for which EPA considers the method appropriate for measurement. If an owner or operator uses EPA Method 624, 625, 1624, or 1625 in 40 CFR part 136, appendix A to analyze one or more compounds that are not on that method's published list, the Alternative Test Procedure contained in 40 CFR 136.4 and 136.5 must be followed. If an owner or operator uses EPA Method 8260(B) or 8270(C) in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods'', EPA Publication SW–846 (incorporated by reference—refer to § 260.11(a) of this chapter) to analyze one or more compounds that are not on that method's published list, the procedures in paragraph (b)(3)(iii)(H) of this section must be followed. At the owner's or operator's discretion, the concentration of each individual chemical constituent measured in the waste by a method other than Method 25D may be corrected to the concentration had it been measured using Method 25D by multiplying the measured concentration by the constituent-specific adjustment factor (f_{m25D}) as specified in paragraph (a)(4)(iii) of this section. Constituent-specific adjustment factors (f_{m25D}) can be obtained by contacting the Waste and Chemical Processes Group, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711.

(A) Method 25D in 40 CFR part 60, appendix A.

(B) Method 624 in 40 CFR part 136, appendix A.

(C) Method 625 in 40 CFR part 136, appendix A. Perform corrections to the compounds for which the analysis is being conducted based on the ''accuracy as recovery'' using the factors in Table 7 of the method.

(D) Method 1624 in 40 CFR part 136, appendix A.

(E) Method 1625 in 40 CFR part 136, appendix A.

(F) Method 8260(B) in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods'', EPA Publication SW–846, (incorporated by reference—refer to § 260.11(a) of this chapter). Maintain a formal quality assurance program consistent with the requirements of Method 8260(B). The quality assurance program shall include the following elements:

(*1*) Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps.

(*2*) Measurement of the overall accuracy and precision of the specific procedures.

(G) Method 8270(C) in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods'', EPA Publication SW–846, (incorporated by reference—refer to § 260.11(a) of this chapter). Maintain a formal quality assurance program consistent with the requirements of Method 8270(C). The quality assurance program shall include the following elements:

(*1*) Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps.

(*2*) Measurement of the overall accuracy and precision of the specific procedures.

(H) Any other EPA standard method that has been validated in accordance with ''Alternative Validation Procedure for EPA Waste and Wastewater Methods'', 40 CFR part 63, appendix D. As an alternative, other EPA standard methods may be validated by the procedure specified in paragraph (b)(3)(iii)(I) of this section.

(I) Any other analysis method that has been validated in accordance with the procedures specified in Section 5.1 or Section 5.3, and the corresponding calculations in Section 6.1 or Section 6.3, of Method 301 in 40 CFR part 63, appendix A. The data are acceptable if they meet the criteria specified in Section 6.1.5 or Section 6.3.3 of Method 301. If correction is required under section 6.3.3 of Method 301, the data are acceptable if the correction factor is within

the range 0.7 to 1.30. Other sections of Method 301 are not required.

(iv) Calculations. The average VO concentration ($\overline{C}$) on a mass-weighted basis shall be calculated by using the results for all samples analyzed in accordance with paragraph (b)(3)(iii) of this section and the following equation:

$$\overline{C} = \frac{1}{Q_T} \times \sum_{i=1}^{n} \left(Q_i \times C_i\right)$$

Where:

$\overline{C}$= Average VO concentration of the hazardous waste at the point of waste treatment on a mass-weighted basis, ppmw.

i = Individual sample ''i'' of the hazardous waste.

n = Total number of samples of the hazardous waste collected (at least 4) for the averaging period (not to exceed 1 year).

Q_i = Mass quantity of hazardous waste stream represented by C_i, kg/hr.

Q_T = Total mass quantity of hazardous waste during the averaging period, kg/hr.

C_i = Measured VO concentration of sample ''i'' as determined in accordance with the requirements of § 265.1084(b)(3)(iii) of this subpart, ppmw.

(4) Procedure to determine the exit concentration limit (C_t) for a treated hazardous waste.

(i) The point of waste origination for each hazardous waste treated by the process at the same time shall be identified.

(ii) If a single hazardous waste stream is identified in paragraph (b)(4)(i) of this section, then the exit concentration limit (C_t) shall be 500 ppmw.

(iii) If more than one hazardous waste stream is identified in paragraph (b)(4)(i) of this section, then the average VO concentration of each hazardous waste stream at the point of waste origination shall be determined in accordance with the requirements of paragraph (a) of this section. The exit concentration limit (C_t) shall be calculated by using the results determined for each individual hazardous waste stream and the following equation:

$$C_t = \frac{\sum_{x=1}^{m}\left(Q_x \times \overline{C_x}\right) + \sum_{y=1}^{n}\left(Q_y \times 500\ \text{ppmw}\right)}{\sum_{x=1}^{m} Q_x + \sum_{y=1}^{n} Q_y}$$

Where:

C_t = Exit concentration limit for treated hazardous waste, ppmw.

x = Individual hazardous waste stream ''x'' that has an average VO concentration less than 500 ppmw at the point of waste origination as determined in accordance with the requirements of § 265.1084(a) of this subpart.

y = Individual hazardous waste stream ''y'' that has an average VO concentration equal to or greater than 500 ppmw at the point of waste origination as determined in accordance with the requirements of § 265.1084(a) of this subpart.

m = Total number of ''x'' hazardous waste streams treated by process.

n = Total number of ''y'' hazardous waste streams treated by process.

Q_x = Annual mass quantity of hazardous waste stream ''x,'' kg/yr.

Q_y = Annual mass quantity of hazardous waste stream ''y,'' kg/yr.

$\overline{C}_x$ = Average VO concentration of hazardous waste stream ''x'' at the point of waste origination as determined in accordance with the requirements of § 265.1084(a) of this subpart, ppmw.

(5) Procedure to determine the organic reduction efficiency (R) for a treated hazardous waste.

(i) The organic reduction efficiency (R) for a treatment process shall be determined based on results for a minimum of three consecutive runs.

(ii) All hazardous waste streams entering the treatment process and all hazardous waste streams exiting the treatment process shall be identified. The owner or operator shall prepare a sampling plan for measuring these streams that accurately reflects the retention time of the hazardous waste in the process.

(iii) For each run, information shall be determined for each hazardous waste stream identified in paragraph

(b)(5)(ii) of this section using the following procedures:

(A) The mass quantity of each hazardous waste stream entering the process (Q_b) and the mass quantity of each hazardous waste stream exiting the process (Q_a) shall be determined.

(B) The average VO concentration at the point of waste origination of each hazardous waste stream entering the process ($\overline{C}_b$) during the run shall be determined in accordance with the requirements of paragraph (a)(3) of this section. The average VO concentration at the point of waste treatment of each waste stream exiting the process ($\overline{C}_a$) during the run shall be determined in accordance with the requirements of paragraph (b)(3) of this section.

(iv) The waste volatile organic mass flow entering the process (E_b) and the waste volatile organic mass flow exiting the process (E_a) shall be calculated by using the results determined in accordance with paragraph (b)(5)(iii) of this section and the following equations:

$$E_b = \frac{1}{10^6}\sum_{j=1}^{m}\left(Q_{bj} \times \overline{C_{bj}}\right)$$

$$E_a = \frac{1}{10^6}\sum_{j=1}^{m}\left(Q_{aj} \times \overline{C_{aj}}\right)$$

Where:

E_a = Waste volatile organic mass flow exiting process, kg/hr.

E_b = Waste volatile organic mass flow entering process, kg/hr.

m = Total number of runs (at least 3)

j = Individual run ''j''

Q_b = Mass quantity of hazardous waste entering process during run ''j,'' kg/hr.

Q_a = Average mass quantity of hazardous waste exiting process during run ''j,'' kg/hr.

$\overline{C}_a$ = Average VO concentration of hazardous waste exiting process during run ''j'' as determined in accordance with the requirements of § 265.1084(b)(3) of this subpart, ppmw.

$\overline{C}_b$ = Average VO concentration of hazardous waste entering process during run ''j'' as determined in accordance with the requirements of § 265.1084(a)(3) of this subpart, ppmw.

(v) The organic reduction efficiency of the process shall be calculated by using the results determined in accordance with paragraph (b)(5)(iv) of this section and the following equation:

$$R = \frac{E_b - E_a}{E_b} \times 100\%$$

Where:

R = Organic reduction efficiency, percent.

E_b = Waste volatile organic mass flow entering process as determined in accordance with the requirements of paragraph (b)(5)(iv) of this section, kg/hr.

E_a = Waste volatile organic mass flow exiting process as determined in accordance with the requirements of paragraph (b)(5)(iv) of this section, kg/hr.

(6) Procedure to determine the organic biodegradation efficiency (R_{bio}) for a treated hazardous waste.

(i) The fraction of organics biodegraded (F_{bio}) shall be determined using the procedure specified in 40 CFR part 63, appendix C of this chapter.

(ii) The R_{bio} shall be calculated by using the following equation:

$$R_{bio} = F_{bio} \times 100\%$$

Where:

R_{bio} = Organic biodegradation efficiency, percent.

F_{bio} = Fraction of organic biodegraded as determined in accordance with the requirements of paragraph (b)(6)(i) of this section.

(7) Procedure to determine the required organic mass removal rate (RMR) for a treated hazardous waste.

(i) All of the hazardous waste streams entering the treatment process shall be identified.

(ii) The average VO concentration of each hazardous waste stream at the point of waste origination shall be determined in accordance with the requirements of paragraph (a) of this section.

(iii) For each individual hazardous waste stream that has an average VO concentration equal to or greater than

500 ppmw at the point of waste origination, the average volumetric flow rate and the density of the hazardous waste stream at the point of waste origination shall be determined.

(iv) The RMR shall be calculated by using the average VO concentration, average volumetric flow rate, and density determined for each individual hazardous waste stream, and the following equation:

$$RMR = \sum_{y=1}^{n} \left[V_y \times k_y \times \frac{\left(\overline{C_y} - 500\ \text{ppmw}\right)}{10^6} \right]$$

Where:

RMR = Required organic mass removal rate, kg/hr.

y = Individual hazardous waste stream ''y'' that has an average VO concentration equal to or greater than 500 ppmw at the point of waste origination as determined in accordance with the requirements of § 265.1084(a) of this subpart.

n = Total number of ''y'' hazardous waste streams treated by process.

V_y = Average volumetric flow rate of hazardous waste stream ''y'' at the point of waste origination, m^3/hr.

k_y = Density of hazardous waste stream ''y,'' kg/m^3

$\overline{C}_y$ = Average VO concentration of hazardous waste stream ''y'' at the point of waste origination as determined in accordance with the requirements of § 265.1084(a) of this subpart, ppmw.

(8) Procedure to determine the actual organic mass removal rate (MR) for a treated hazardous waste.

(i) The MR shall be determined based on results for a minimum of three consecutive runs. The sampling time for each run shall be 1 hour.

(ii) The waste volatile organic mass flow entering the process (E_b) and the waste volatile organic mass flow exiting the process (E_a) shall be determined in accordance with the requirements of paragraph (b)(5)(iv) of this section.

(iii) The MR shall be calculated by using the mass flow rate determined in accordance with the requirements of paragraph (b)(8)(ii) of this section and the following equation:

Where:

$MR = E_b - E_a$

MR = Actual organic mass removal rate, kg/hr.

E_b = Waste volatile organic mass flow entering process as determined in accordance with the requirements of paragraph (b)(5)(iv) of this section, kg/hr.

E_a = Waste volatile organic mass flow exiting process as determined in accordance with the requirements of paragraph (b)(5)(iv) of this section, kg/hr.

(9) Procedure to determine the actual organic mass biodegradation rate (MR_{bio}) for a treated hazardous waste.

(i) The MR_{bio} shall be determined based on results for a minimum of three consecutive runs. The sampling time for each run shall be 1 hour.

(ii) The waste organic mass flow entering the process (E_b) shall be determined in accordance with the requirements of paragraph (b)(5)(iv) of this section.

(iii) The fraction of organic biodegraded (F_{bio}) shall be determined using the procedure specified in 40 CFR part 63, appendix C of this chapter.

(iv) The MR_{bio} shall be calculated by using the mass flow rates and fraction of organic biodegraded determined in accordance with the requirements of paragraphs (b)(9)(ii) and (b)(9)(iii), respectively, of this section and the following equation:

Where:

$MR_{bio} = E_b \times F_{bio}$

MR_{bio} = Actual organic mass biodegradation rate, kg/hr.

E_b = Waste organic mass flow entering process as determined in accordance with the requirements of paragraph (b)(5)(iv) of this section, kg/hr.

F_{bio} = Fraction of organic biodegraded as determined in accordance with the requirements of paragraph (b)(9)(iii) of this section.

(c) Procedure to determine the maximum organic vapor pressure of a hazardous waste in a tank.

(1) An owner or operator shall determine the maximum organic vapor pressure for each hazardous waste placed in a tank using Tank Level 1 controls in accordance with the standards specified in § 265.1085(c) of this subpart.

(2) An owner or operator shall use either direct measurement as specified in paragraph (c)(3) of this section or knowledge of the waste as specified by paragraph (c)(4) of this section to determine the maximum organic vapor pressure which is representative of the hazardous waste composition stored or treated in the tank.

(3) Direct measurement to determine the maximum organic vapor pressure of a hazardous waste.

(i) Sampling. A sufficient number of samples shall be collected to be representative of the waste contained in the tank. All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous waste are collected such that a minimum loss of organics occurs throughout the sample collection and handling process and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures in accordance with the requirements specified in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' EPA Publication No. SW–846, (incorporated by reference—refer to § 260.11(a) of this chapter), or in Method 25D in 40 CFR part 60, appendix A.

(ii) Analysis. Any appropriate one of the following methods may be used to analyze the samples and compute the maximum organic vapor pressure of the hazardous waste:

(A) Method 25E in 40 CFR part 60 appendix A;

(B) Methods described in American Petroleum Institute Publication 2517, Third Edition, February 1989, ''Evaporative Loss from External Floating-Roof Tanks,'' (incorporated by reference—refer to § 260.11 of this chapter);

(C) Methods obtained from standard reference texts;

(D) ASTM Method 2879–92 (incorporated by reference—refer to § 260.11 of this chapter); and

(E) Any other method approved by the Regional Administrator.

(4) Use of knowledge to determine the maximum organic vapor pressure of the hazardous waste. Documentation shall be prepared and recorded that presents the information used as the basis for the owner's or operator's knowledge that the maximum organic vapor pressure of the hazardous waste is less than the maximum vapor pressure limit listed in § 265.1085(b)(1)(i) of this subpart for the applicable tank design capacity category. An example of information that may be used is documentation that the hazardous waste is generated by a process for which at other locations it previously has been determined by direct measurement that the waste maximum organic vapor pressure is less than the maximum vapor pressure limit for the appropriate tank design capacity category.

(d) Procedure for determining no detectable organic emissions for the purpose of complying with this subpart:

(1) The test shall be conducted in accordance with the procedures specified in Method 21 of 40 CFR part 60, appendix A. Each potential leak interface (i.e., a location where organic vapor leakage could occur) on the cover and associated closure devices shall be checked. Potential leak interfaces that are associated with covers and closure devices include, but are not limited to: The interface of the cover and its foundation mounting; the periphery of any opening on the cover and its associated closure device; and the sealing seat interface on a spring-loaded pressure relief valve.

(2) The test shall be performed when the unit contains a hazardous waste having an organic concentration representative of the range of concentrations for the hazardous waste expected to be managed in the unit. During the test, the cover and closure devices shall be secured in the closed position.

(3) The detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the average composition of the organic constituents in the hazardous waste placed in the waste management unit, not for each individual organic constituent.

(4) The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(5) Calibration gases shall be as follows:

(i) Zero air (less than 10 ppmv hydrocarbon in air), and

(ii) A mixture of methane in air at a concentration of approximately, but less than 10,000 ppmv.

(6) The background level shall be determined according to the procedures in Method 21 of 40 CFR part 60, appendix A.

(7) Each potential leak interface shall be checked by traversing the instrument probe around the potential leak interface as close to the interface as possible, as described in Method 21 of 40 CFR part 60, appendix A. In the case when the configuration of the cover or closure device prevents a complete traverse of the interface, all accessible portions of the interface shall be sampled. In the case when the configuration of the closure device prevents any sampling at the interface and the device is equipped with an enclosed extension or horn (e.g., some pressure relief devices), the instrument probe inlet shall be placed at approximately the center of the exhaust area to the atmosphere.

(8) The arithmetic difference between the maximum organic concentration indicated by the instrument and the background level shall be compared with the value of 500 ppmv except when monitoring a seal around a rotating shaft that passes through a cover opening, in which case the comparison shall be as specified in paragraph (d)(9) of this section. If the difference is less than 500 ppmv, then the potential leak interface is determined to operate with no detectable organic emissions.

(9) For the seals around a rotating shaft that passes through a cover opening, the arithmetic difference between the maximum organic concentration indicated by the instrument and the background level shall be compared with the value of 10,000 ppmw. If the difference is less than 10,000 ppmw, then the potential leak interface is determined to operate with no detectable organic emissions.

[61 FR 59974, Nov. 25, 1996]

§ 265.1085 Standards: Tanks.

(a) The provisions of this section apply to the control of air pollutant emissions from tanks for which § 265.1083(b) of this subpart references the use of this section for such air emission control.

(b) The owner or operator shall control air pollutant emissions from each tank subject to this section in accordance with the following requirements, as applicable:

(1) For a tank that manages hazardous waste that meets all of the conditions specified in paragraphs (b)(1)(i) through (b)(1)(iii) of this section, the owner or operator shall control air pollutant emissions from the tank in accordance with the Tank Level 1 controls specified in paragraph (c) of this section or the Tank Level 2 controls specified in paragraph (d) of this section.

(i) The hazardous waste in the tank has a maximum organic vapor pressure which is less than the maximum organic vapor pressure limit for the tank's design capacity category as follows:

(A) For a tank design capacity equal to or greater than 151 m^3, the maximum organic vapor pressure limit for the tank is 5.2 kPa.

(B) For a tank design capacity equal to or greater than 75 m^3 but less than 151 m^3, the maximum organic vapor pressure limit for the tank is 27.6 kPa.

(C) For a tank design capacity less than 75 m^3, the maximum organic

vapor pressure limit for the tank is 76.6 kPa.

(ii) The hazardous waste in the tank is not heated by the owner or operator to a temperature that is greater than the temperature at which the maximum organic vapor pressure of the hazardous waste is determined for the purpose of complying with paragraph (b)(1)(i) of this section.

(iii) The hazardous waste in the tank is not treated by the owner or operator using a waste stabilization process, as defined in §265.1081 of this subpart.

(2) For a tank that manages hazardous waste that does not meet all of the conditions specified in paragraphs (b)(1)(i) through (b)(1)(iii) of this section, the owner or operator shall control air pollutant emissions from the tank by using Tank Level 2 controls in accordance with the requirements of paragraph (d) of this section. Examples of tanks required to use Tank Level 2 controls include: A tank used for a waste stabilization process; and a tank for which the hazardous waste in the tank has a maximum organic vapor pressure that is equal to or greater than the maximum organic vapor pressure limit for the tank's design capacity category as specified in paragraph (b)(1)(i) of this section.

(c) Owners and operators controlling air pollutant emissions from a tank using Tank Level 1 controls shall meet the requirements specified in paragraphs (c)(1) through (c)(4) of this section:

(1) The owner or operator shall determine the maximum organic vapor pressure for a hazardous waste to be managed in the tank using Tank Level 1 controls before the first time the hazardous waste is placed in the tank. The maximum organic vapor pressure shall be determined using the procedures specified in §265.1084(c) of this subpart. Thereafter, the owner or operator shall perform a new determination whenever changes to the hazardous waste managed in the tank could potentially cause the maximum organic vapor pressure to increase to a level that is equal to or greater than the maximum organic vapor pressure limit for the tank design capacity category specified in paragraph (b)(1)(i) of this section, as applicable to the tank.

(2) The tank shall be equipped with a fixed roof designed to meet the following specifications:

(i) The fixed roof and its closure devices shall be designed to form a continuous barrier over the entire surface area of the hazardous waste in the tank. The fixed roof may be a separate cover installed on the tank (e.g., a removable cover mounted on an open-top tank) or may be an integral part of the tank structural design (e.g., a horizontal cylindrical tank equipped with a hatch).

(ii) The fixed roof shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between roof section joints or between the interface of the roof edge and the tank wall.

(iii) Each opening in the fixed roof shall be either:

(A) Equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the opening and the closure device; or

(B) Connected by a closed-vent system that is vented to a control device. The control device shall remove or destroy organics in the vent stream, and it shall be operating whenever hazardous waste is managed in the tank.

(iv) The fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include: Organic vapor permeability, the effects of any contact with the hazardous waste or its vapors managed in the tank; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the tank on which the fixed roof is installed.

(3) Whenever a hazardous waste is in the tank, the fixed roof shall be installed with each closure device secured in the closed position except as follows:

(i) Opening of closure devices or removal of the fixed roof is allowed at the following times:

(A) To provide access to the tank for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample the liquid in the tank, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank.

(B) To remove accumulated sludge or other residues from the bottom of tank.

(ii) Opening of a spring-loaded pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the tank internal pressure in accordance with the tank design specifications. The device shall be designed to operate with no detectable organic emissions when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the tank internal pressure is within the internal pressure operating range determined by the owner or operator based on the tank manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the tank internal pressure exceeds the internal pressure operating range for the tank as a result of loading operations or diurnal ambient temperature fluctuations.

(iii) Opening of a safety device, as defined in § 265.1081 of this subpart, is allowed at any time conditions require doing so to avoid an unsafe condition.

(4) The owner or operator shall inspect the air emission control equipment in accordance with the following requirements.

(i) The fixed roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the tank wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The owner or operator shall perform an initial inspection of the fixed roof and its closure devices on or before the date that the tank becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except under the special conditions provided for in paragraph (l) of this section.

(iii) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(iv) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 265.1090(b) of this subpart.

(d) Owners and operators controlling air pollutant emissions from a tank using Tank Level 2 controls shall use one of the following tanks:

(1) A fixed-roof tank equipped with an internal floating roof in accordance with the requirements specified in paragraph (e) of this section;

(2) A tank equipped with an external floating roof in accordance with the requirements specified in paragraph (f) of this section;

(3) A tank vented through a closed-vent system to a control device in accordance with the requirements specified in paragraph (g) of this section;

(4) A pressure tank designed and operated in accordance with the requirements specified in paragraph (h) of this section; or

(5) A tank located inside an enclosure that is vented through a closed-vent system to an enclosed combustion control device in accordance with the requirements specified in paragraph (i) of this section.

(e) The owner or operator who controls air pollutant emissions from a tank using a fixed-roof with an internal floating roof shall meet the requirements specified in paragraphs (e)(1) through (e)(3) of this section.

(1) The tank shall be equipped with a fixed roof and an internal floating roof in accordance with the following requirements:

(i) The internal floating roof shall be designed to float on the liquid surface except when the floating roof must be supported by the leg supports.

(ii) The internal floating roof shall be equipped with a continuous seal between the wall of the tank and the floating roof edge that meets either of the following requirements:

(A) A single continuous seal that is either a liquid-mounted seal or a metallic shoe seal, as defined in §265.1081 of this subpart; or

(B) Two continuous seals mounted one above the other. The lower seal may be a vapor-mounted seal.

(iii) The internal floating roof shall meet the following specifications:

(A) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

(B) Each opening in the internal floating roof shall be equipped with a gasketed cover or a gasketed lid except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains.

(C) Each penetration of the internal floating roof for the purpose of sampling shall have a slit fabric cover that covers at least 90 percent of the opening.

(D) Each automatic bleeder vent and rim space vent shall be gasketed.

(E) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(F) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

(2) The owner or operator shall operate the tank in accordance with the following requirements:

(i) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be completed as soon as practical.

(ii) Automatic bleeder vents are to be set closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the leg supports.

(iii) Prior to filling the tank, each cover, access hatch, gauge float well or lid on any opening in the internal floating roof shall be bolted or fastened closed (i.e., no visible gaps). Rim space vents are to be set to open only when the internal floating roof is not floating or when the pressure beneath the rim exceeds the manufacturer's recommended setting.

(3) The owner or operator shall inspect the internal floating roof in accordance with the procedures specified as follows:

(i) The floating roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to: The internal floating roof is not floating on the surface of the liquid inside the tank; liquid has accumulated on top of the internal floating roof; any portion of the roof seals have detached from the roof rim; holes, tears, or other openings are visible in the seal fabric; the gaskets no longer close off the hazardous waste surface from the atmosphere; or the slotted membrane has more than 10 percent open area.

(ii) The owner or operator shall inspect the internal floating roof components as follows except as provided in paragraph (e)(3)(iii) of this section:

(A) Visually inspect the internal floating roof components through openings on the fixed-roof (e.g., manholes and roof hatches) at least once every 12 months after initial fill, and

(B) Visually inspect the internal floating roof, primary seal, secondary seal (if one is in service), gaskets, slotted membranes, and sleeve seals (if any) each time the tank is emptied and degassed and at least every 10 years.

(iii) As an alternative to performing the inspections specified in paragraph (e)(3)(ii) of this section for an internal floating roof equipped with two continuous seals mounted one above the other, the owner or operator may visually inspect the internal floating roof, primary and secondary seals, gaskets, slotted membranes, and sleeve seals (if any) each time the tank is emptied and degassed and at least every 5 years.

(iv) Prior to each inspection required by paragraph (e)(3)(ii) or (e)(3)(iii) of this section, the owner or operator shall notify the Regional Administrator in advance of each inspection to provide the Regional Administrator with the opportunity to have an observer present during the inspection. The owner or operator shall notify the Regional Administrator of the date and location of the inspection as follows:

(A) Prior to each visual inspection of an internal floating roof in a tank that has been emptied and degassed, written notification shall be prepared and sent by the owner or operator so that it is received by the Regional Administrator at least 30 calendar days before refilling the tank except when an inspection is not planned as provided for in paragraph (e)(3)(iv)(B) of this section.

(B) When a visual inspection is not planned and the owner or operator could not have known about the inspection 30 calendar days before refilling the tank, the owner or operator shall notify the Regional Administrator as soon as possible, but no later than 7 calendar days before refilling of the tank. This notification may be made by telephone and immediately followed by a written explanation for why the inspection is unplanned. Alternatively, written notification, including the explanation for the unplanned inspection, may be sent so that it is received by the Regional Administrator at least 7 calendar days before refilling the tank.

(v) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(vi) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 265.1090(b) of this subpart.

(f) The owner or operator who controls air pollutant emissions from a tank using an external floating roof shall meet the requirements specified in paragraphs (f)(1) through (f)(3) of this section.

(1) The owner or operator shall design the external floating roof in accordance with the following requirements:

(i) The external floating roof shall be designed to float on the liquid surface except when the floating roof must be supported by the leg supports.

(ii) The floating roof shall be equipped with two continuous seals, one above the other, between the wall of the tank and the roof edge. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

(A) The primary seal shall be a liquid-mounted seal or a metallic shoe seal, as defined in § 265.1081 of this subpart. The total area of the gaps between the tank wall and the primary seal shall not exceed 212 square centimeters (cm^2) per meter of tank diameter, and the width of any portion of these gaps shall not exceed 3.8 centimeters (cm). If a metallic shoe seal is used for the primary seal, the metallic shoe seal shall be designed so that one end extends into the liquid in the tank and the other end extends a vertical distance of at least 61 centimeters above the liquid surface.

(B) The secondary seal shall be mounted above the primary seal and cover the annular space between the floating roof and the wall of the tank. The total area of the gaps between the tank wall and the secondary seal shall not exceed 21.2 square centimeters (cm^2) per meter of tank diameter, and the width of any portion of these gaps shall not exceed 1.3 centimeters (cm).

(iii) The external floating roof shall meet the following specifications:

(A) Except for automatic bleeder vents (vacuum breaker vents) and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface.

(B) Except for automatic bleeder vents, rim space vents, roof drains, and

leg sleeves, each opening in the roof shall be equipped with a gasketed cover, seal, or lid.

(C) Each access hatch and each gauge float well shall be equipped with a cover designed to be bolted or fastened when the cover is secured in the closed position.

(D) Each automatic bleeder vent and each rim space vent shall be equipped with a gasket.

(E) Each roof drain that empties into the liquid managed in the tank shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(F) Each unslotted and slotted guide pole well shall be equipped with a gasketed sliding cover or a flexible fabric sleeve seal.

(G) Each unslotted guide pole shall be equipped with a gasketed cap on the end of the pole.

(H) Each slotted guide pole shall be equipped with a gasketed float or other device which closes off the liquid surface from the atmosphere.

(I) Each gauge hatch and each sample well shall be equipped with a gasketed cover.

(2) The owner or operator shall operate the tank in accordance with the following requirements:

(i) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be completed as soon as practical.

(ii) Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof shall be secured and maintained in a closed position at all times except when the closure device must be open for access.

(iii) Covers on each access hatch and each gauge float well shall be bolted or fastened when secured in the closed position.

(iv) Automatic bleeder vents shall be set closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the leg supports.

(v) Rim space vents shall be set to open only at those times that the roof is being floated off the roof leg supports or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting.

(vi) The cap on the end of each unslotted guide pole shall be secured in the closed position at all times except when measuring the level or collecting samples of the liquid in the tank.

(vii) The cover on each gauge hatch or sample well shall be secured in the closed position at all times except when the hatch or well must be opened for access.

(viii) Both the primary seal and the secondary seal shall completely cover the annular space between the external floating roof and the wall of the tank in a continuous fashion except during inspections.

(3) The owner or operator shall inspect the external floating roof in accordance with the procedures specified as follows:

(i) The owner or operator shall measure the external floating roof seal gaps in accordance with the following requirements:

(A) The owner or operator shall perform measurements of gaps between the tank wall and the primary seal within 60 calendar days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every 5 years.

(B) The owner or operator shall perform measurements of gaps between the tank wall and the secondary seal within 60 calendar days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every year.

(C) If a tank ceases to hold hazardous waste for a period of 1 year or more, subsequent introduction of hazardous waste into the tank shall be considered an initial operation for the purposes of paragraphs (f)(3)(i)(A) and (f)(3)(i)(B) of this section.

(D) The owner or operator shall determine the total surface area of gaps in the primary seal and in the secondary seal individually using the following procedure:

(*1*) The seal gap measurements shall be performed at one or more floating roof levels when the roof is floating off the roof supports.

(*2*) Seal gaps, if any, shall be measured around the entire perimeter of the floating roof in each place where a 0.32-

centimeter (cm) diameter uniform probe passes freely (without forcing or binding against the seal) between the seal and the wall of the tank and measure the circumferential distance of each such location.

(*3*) For a seal gap measured under paragraph (f)(3) of this section, the gap surface area shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.

(*4*) The total gap area shall be calculated by adding the gap surface areas determined for each identified gap location for the primary seal and the secondary seal individually, and then dividing the sum for each seal type by the nominal perimeter of the tank. These total gap areas for the primary seal and secondary seal are then are compared to the respective standards for the seal type as specified in paragraph (f)(1)(ii) of this section.

(E) In the event that the seal gap measurements do not conform to the specifications in paragraph (f)(1)(ii) of this section, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(F) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 265.1090(b) of this subpart.

(ii) The owner or operator shall visually inspect the external floating roof in accordance with the following requirements:

(A) The floating roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to: Holes, tears, or other openings in the rim seal or seal fabric of the floating roof; a rim seal detached from the floating roof; all or a portion of the floating roof deck being submerged below the surface of the liquid in the tank; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(B) The owner or operator shall perform an initial inspection of the external floating roof and its closure devices on or before the date that the tank becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in paragraph (l) of this section.

(C) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(D) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 265.1090(b) of this subpart.

(iii) Prior to each inspection required by paragraph (f)(3)(i) or (f)(3)(ii) of this section, the owner or operator shall notify the Regional Administrator in advance of each inspection to provide the Regional Administrator with the opportunity to have an observer present during the inspection. The owner or operator shall notify the Regional Administrator of the date and location of the inspection as follows:

(A) Prior to each inspection to measure external floating roof seal gaps as required under paragraph (f)(3)(i) of this section, written notification shall be prepared and sent by the owner or operator so that it is received by the Regional Administrator at least 30 calendar days before the date the measurements are scheduled to be performed.

(B) Prior to each visual inspection of an external floating roof in a tank that has been emptied and degassed, written notification shall be prepared and sent by the owner or operator so that it is received by the Regional Administrator at least 30 calendar days before refilling the tank except when an inspection is not planned as provided for in paragraph (f)(3)(iii)(C) of this section.

(C) When a visual inspection is not planned and the owner or operator could not have known about the inspection 30 calendar days before refilling the tank, the owner or operator shall notify the Regional Administrator as soon as possible, but no later than 7 calendar days before refilling of the tank. This notification may be made by telephone and immediately

followed by a written explanation for why the inspection is unplanned. Alternatively, written notification, including the explanation for the unplanned inspection, may be sent so that it is received by the Regional Administrator at least 7 calendar days before refilling the tank.

(g) The owner or operator who controls air pollutant emissions from a tank by venting the tank to a control device shall meet the requirements specified in paragraphs (g)(1) through (g)(3) of this section.

(1) The tank shall be covered by a fixed roof and vented directly through a closed-vent system to a control device in accordance with the following requirements:

(i) The fixed roof and its closure devices shall be designed to form a continuous barrier over the entire surface area of the liquid in the tank.

(ii) Each opening in the fixed roof not vented to the control device shall be equipped with a closure device. If the pressure in the vapor headspace underneath the fixed roof is less than atmospheric pressure when the control device is operating, the closure devices shall be designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the pressure in the vapor headspace underneath the fixed roof is equal to or greater than atmospheric pressure when the control device is operating, the closure device shall be designed to operate with no detectable organic emissions.

(iii) The fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include: Organic vapor permeability, the effects of any contact with the liquid and its vapor managed in the tank; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the tank on which the fixed roof is installed.

(iv) The closed-vent system and control device shall be designed and operated in accordance with the requirements of §265.1088 of this subpart.

(2) Whenever a hazardous waste is in the tank, the fixed roof shall be installed with each closure device secured in the closed position and the vapor headspace underneath the fixed roof vented to the control device except as follows:

(i) Venting to the control device is not required, and opening of closure devices or removal of the fixed roof is allowed at the following times:

(A) To provide access to the tank for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample liquid in the tank, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank.

(B) To remove accumulated sludge or other residues from the bottom of a tank.

(ii) Opening of a safety device, as defined in §265.1081 of this subpart, is allowed at any time conditions require doing so to avoid an unsafe condition.

(3) The owner or operator shall inspect and monitor the air emission control equipment in accordance with the following procedures:

(i) The fixed roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the tank wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The closed-vent system and control device shall be inspected and monitored by the owner or operator in accordance with the procedures specified in §265.1088 of this subpart.

(iii) The owner or operator shall perform an initial inspection of the air emission control equipment on or before the date that the tank becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in paragraph (l) of this section.

(iv) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(v) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 265.1090(b) of this subpart.

(h) The owner or operator who controls air pollutant emissions by using a pressure tank shall meet the following requirements.

(1) The tank shall be designed not to vent to the atmosphere as a result of compression of the vapor headspace in the tank during filling of the tank to its design capacity.

(2) All tank openings shall be equipped with closure devices designed to operate with no detectable organic emissions as determined using the procedure specified in § 265.1084(d) of this subpart.

(3) Whenever a hazardous waste is in the tank, the tank shall be operated as a closed system that does not vent to the atmosphere except in the event that a safety device, as defined in § 265.1081 of this subpart, is required to open to avoid an unsafe condition.

(i) The owner or operator who controls air pollutant emissions by using an enclosure vented through a closed-vent system to an enclosed combustion control device shall meet the requirements specified in paragraphs (i)(1) through (i)(4) of this section.

(1) The tank shall be located inside an enclosure. The enclosure shall be designed and operated in accordance with the criteria for a permanent total enclosure as specified in ''Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure'' under 40 CFR 52.741, appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the enclosure by conveyor, vehicles, or other mechanical means; entry of permanent mechanical or electrical equipment; or direct airflow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in Section 5.0 to ''Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure'' initially when the enclosure is first installed and, thereafter, annually.

(2) The enclosure shall be vented through a closed-vent system to an enclosed combustion control device that is designed and operated in accordance with the standards for either a vapor incinerator, boiler, or process heater specified in § 265.1088 of this subpart.

(3) Safety devices, as defined in § 265.1081 of this subpart, may be installed and operated as necessary on any enclosure, closed-vent system, or control device used to comply with the requirements of paragraphs (i)(1) and (i)(2) of this section.

(4) The owner or operator shall inspect and monitor the closed-vent system and control device as specified in § 265.1088 of this subpart.

(j) The owner or operator shall transfer hazardous waste to a tank subject to this section in accordance with the following requirements:

(1) Transfer of hazardous waste, except as provided in paragraph (j)(2) of this section, to the tank from another tank subject to this section or from a surface impoundment subject to § 265.1086 of this subpart shall be conducted using continuous hard-piping or another closed system that does not allow exposure of the hazardous waste to the atmosphere. For the purpose of complying with this provision, an individual drain system is considered to be a closed system when it meets the requirements of 40 CFR part 63, subpart RR—National Emission Standards for Individual Drain Systems.

(2) The requirements of paragraph (j)(1) of this section do not apply when transferring a hazardous waste to the tank under any of the following conditions:

(i) The hazardous waste meets the average VO concentration conditions specified in § 265.1083(c)(1) of this subpart at the point of waste origination.

(ii) The hazardous waste has been treated by an organic destruction or removal process to meet the requirements in §265.1083(c)(2) of this subpart.

(k) The owner or operator shall repair each defect detected during an inspection performed in accordance with the requirements of paragraphs (c)(4), (e)(3), (f)(3), or (g)(3) of this section as follows:

(1) The owner or operator shall make first efforts at repair of the defect no later than 5 calendar days after detection, and repair shall be completed as soon as possible but no later than 45 calendar days after detection except as provided in paragraph (k)(2) of this section.

(2) Repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the tank and no alternative tank capacity is available at the site to accept the hazardous waste normally managed in the tank. In this case, the owner or operator shall repair the defect the next time the process or unit that is generating the hazardous waste managed in the tank stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

(l) Following the initial inspection and monitoring of the cover as required by the applicable provisions of this subpart, subsequent inspection and monitoring may be performed at intervals longer than 1 year under the following special conditions:

(1) In the case when inspecting or monitoring the cover would expose a worker to dangerous, hazardous, or other unsafe conditions, then the owner or operator may designate a cover as an ''unsafe to inspect and monitor cover'' and comply with all of the following requirements:

(i) Prepare a written explanation for the cover stating the reasons why the cover is unsafe to visually inspect or to monitor, if required.

(ii) Develop and implement a written plan and schedule to inspect and monitor the cover, using the procedures specified in the applicable section of this subpart, as frequently as practicable during those times when a worker can safely access the cover.

(2) In the case when a tank is buried partially or entirely underground, an owner or operator is required to inspect and monitor, as required by the applicable provisions of this section, only those portions of the tank cover and those connections to the tank (e.g., fill ports, access hatches, gauge wells, etc.) that are located on or above the ground surface.

[61 FR 59979, Nov. 25, 1996]

§265.1086 Standards: Surface impoundments.

(a) The provisions of this section apply to the control of air pollutant emissions from surface impoundments for which §265.1083(b) of this subpart references the use of this section for such air emission control.

(b) The owner or operator shall control air pollutant emissions from the surface impoundment by installing and operating either of the following:

(1) A floating membrane cover in accordance with the provisions specified in paragraph (c) of this section; or

(2) A cover that is vented through a closed-vent system to a control device in accordance with the provisions specified in paragraph (d) of this sections.

(c) The owner or operator who controls air pollutant emissions from a surface impoundment using a floating membrane cover shall meet the requirements specified in paragraphs (c)(1) through (c)(3) of this section.

(1) The surface impoundment shall be equipped with a floating membrane cover designed to meet the following specifications:

(i) The floating membrane cover shall be designed to float on the liquid surface during normal operations and form a continuous barrier over the entire surface area of the liquid.

(ii) The cover shall be fabricated from a synthetic membrane material that is either:

(A) High density polyethylene (HDPE) with a thickness no less than 2.5 millimeters (mm); or

(B) A material or a composite of different materials determined to have both organic permeability properties that are equivalent to those of the material listed in paragraph (c)(1)(ii)(A) of this section and chemical and physical properties that maintain the material

integrity for the intended service life of the material.

(iii) The cover shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between cover section seams or between the interface of the cover edge and its foundation mountings.

(iv) Except as provided for in paragraph (c)(1)(v) of this section, each opening in the floating membrane cover shall be equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device.

(v) The floating membrane cover may be equipped with one or more emergency cover drains for removal of stormwater. Each emergency cover drain shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening or a flexible fabric sleeve seal.

(vi) The closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the closure devices throughout their intended service life. Factors to be considered when selecting the materials of construction and designing the cover and closure devices shall include: Organic vapor permeability; the effects of any contact with the liquid and its vapor managed in the surface impoundment; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the surface impoundment on which the floating membrane cover is installed.

(2) Whenever a hazardous waste is in the surface impoundment, the floating membrane cover shall float on the liquid and each closure device shall be secured in the closed position except as follows:

(i) Opening of closure devices or removal of the cover is allowed at the following times:

(A) To provide access to the surface impoundment for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample the liquid in the surface impoundment, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly replace the cover and secure the closure device in the closed position, as applicable.

(B) To remove accumulated sludge or other residues from the bottom of surface impoundment.

(ii) Opening of a safety device, as defined in § 265.1081 of this subpart, is allowed at any time conditions require doing so to avoid an unsafe condition.

(3) The owner or operator shall inspect the floating membrane cover in accordance with the following procedures:

(i) The floating membrane cover and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the cover section seams or between the interface of the cover edge and its foundation mountings; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The owner or operator shall perform an initial inspection of the floating membrane cover and its closure devices on or before the date that the surface impoundment becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in paragraph (g) of this section.

(iii) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (f) of this section.

(iv) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 265.1090(c) of this subpart.

(d) The owner or operator who controls air pollutant emissions from a surface impoundment using a cover vented to a control device shall meet

the requirements specified in paragraphs (d)(1) through (d)(3) of this section.

(1) The surface impoundment shall be covered by a cover and vented directly through a closed-vent system to a control device in accordance with the following requirements:

(i) The cover and its closure devices shall be designed to form a continuous barrier over the entire surface area of the liquid in the surface impoundment.

(ii) Each opening in the cover not vented to the control device shall be equipped with a closure device. If the pressure in the vapor headspace underneath the cover is less than atmospheric pressure when the control device is operating, the closure devices shall be designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the pressure in the vapor headspace underneath the cover is equal to or greater than atmospheric pressure when the control device is operating, the closure device shall be designed to operate with no detectable organic emissions using the procedure specified in §265.1084(d) of this subpart.

(iii) The cover and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the cover and closure devices throughout their intended service life. Factors to be considered when selecting the materials for and designing the cover and closure devices shall include: Organic vapor permeability; the effects of any contact with the liquid or its vapors managed in the surface impoundment; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the surface impoundment on which the cover is installed.

(iv) The closed-vent system and control device shall be designed and operated in accordance with the requirements of §265.1088 of this subpart.

(2) Whenever a hazardous waste is in the surface impoundment, the cover shall be installed with each closure device secured in the closed position and the vapor headspace underneath the cover vented to the control device except as follows:

(i) Venting to the control device is not required, and opening of closure devices or removal of the cover is allowed at the following times:

(A) To provide access to the surface impoundment for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample liquid in the surface impoundment, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the surface impoundment.

(B) To remove accumulated sludge or other residues from the bottom of surface impoundment.

(ii) Opening of a safety device, as defined in §265.1081 of this subpart, is allowed at any time conditions require doing so to avoid an unsafe condition.

(3) The owner or operator shall inspect and monitor the air emission control equipment in accordance with the following procedures:

(i) The surface impoundment cover and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the cover section seams or between the interface of the cover edge and its foundation mountings; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The closed-vent system and control device shall be inspected and monitored by the owner or operator in accordance with the procedures specified in §265.1088 of this subpart.

(iii) The owner or operator shall perform an initial inspection of the air emission control equipment on or before the date that the surface impoundment becomes subject to this section. Thereafter, the owner or operator shall

perform the inspections at least once every year except for the special conditions provided for in paragraph (g) of this section.

(iv) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (f) of this section.

(v) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 265.1090(c) of this subpart.

(e) The owner or operator shall transfer hazardous waste to a surface impoundment subject to this section in accordance with the following requirements:

(1) Transfer of hazardous waste, except as provided in paragraph (e)(2) of this section, to the surface impoundment from another surface impoundment subject to this section or from a tank subject to § 265.1085 of this subpart shall be conducted using continuous hard-piping or another closed system that does not allow exposure of the waste to the atmosphere. For the purpose of complying with this provision, an individual drain system is considered to be a closed system when it meets the requirements of 40 CFR part 63, subpart RR—National Emission Standards for Individual Drain Systems.

(2) The requirements of paragraph (e)(1) of this section do not apply when transferring a hazardous waste to the surface impoundment under either of the following conditions:

(i) The hazardous waste meets the average VO concentration conditions specified in § 265.1083(c)(1) of this subpart at the point of waste origination.

(ii) The hazardous waste has been treated by an organic destruction or removal process to meet the requirements in § 265.1083(c)(2) of this subpart.

(f) The owner or operator shall repair each defect detected during an inspection performed in accordance with the requirements of paragraph (c)(3) or (d)(3) of this section as follows:

(1) The owner or operator shall make first efforts at repair of the defect no later than 5 calendar days after detection, and repair shall be completed as soon as possible but no later than 45 calendar days after detection except as provided in paragraph (f)(2) of this section.

(2) Repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the surface impoundment and no alternative capacity is available at the site to accept the hazardous waste normally managed in the surface impoundment. In this case, the owner or operator shall repair the defect the next time the process or unit that is generating the hazardous waste managed in the tank stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

(g) Following the initial inspection and monitoring of the cover as required by the applicable provisions of this subpart, subsequent inspection and monitoring may be performed at intervals longer than 1 year in the case when inspecting or monitoring the cover would expose a worker to dangerous, hazardous, or other unsafe conditions. In this case, the owner or operator may designate the cover as an ''unsafe to inspect and monitor cover'' and comply with all of the following requirements:

(1) Prepare a written explanation for the cover stating the reasons why the cover is unsafe to visually inspect or to monitor, if required.

(2) Develop and implement a written plan and schedule to inspect and monitor the cover using the procedures specified in the applicable section of this subpart as frequently as practicable during those times when a worker can safely access the cover.

[61 FR 59984, Nov. 25, 1996]

§ 265.1087 Standards: Containers.

(a) The provisions of this section apply to the control of air pollutant emissions from containers for which § 265.1083(b) of this subpart references the use of this section for such air emission control.

(b) *General requirements.* The owner or operator shall control air pollutant emissions from each container subject to this section in accordance with the following requirements, as applicable to the container, except when the special provisions for waste stabilization

processes specified in paragraph (b)(2) of this section apply to the container.

(i) For a container having a design capacity greater than 0.1 m^3 and less than or equal to 0.46 m^3, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 1 standards specified in paragraph (c) of this section.

(ii) For a container having a design capacity greater than 0.46 m^3 that is not in light material service, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 1 standards specified in paragraph (c) of this section.

(iii) For a container having a design capacity greater than 0.46 m^3 that is in light material service, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 2 standards specified in paragraph (d) of this section.

(2) When a container having a design capacity greater than 0.1 m^3 is used for treatment of a hazardous waste by a waste stabilization process, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 3 standards specified in paragraph (e) of this section at those times during the waste stabilization process when the hazardous waste in the container is exposed to the atmosphere.

(c) *Container Level 1 standards.* (1) A container using Container Level 1 controls is one of the following:

(i) A container that meets the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as specified in paragraph (f) of this section.

(ii) A container equipped with a cover and closure devices that form a continuous barrier over the container openings such that when the cover and closure devices are secured in the closed position there are no visible holes, gaps, or other open spaces into the interior of the container. The cover may be a separate cover installed on the container (e.g., a lid on a drum or a suitably secured tarp on a roll-off box) or may be an integral part of the container structural design (e.g., a ''portable tank'' or bulk cargo container equipped with a screw-type cap).

(iii) An open-top container in which an organic-vapor suppressing barrier is placed on or over the hazardous waste in the container such that no hazardous waste is exposed to the atmosphere. One example of such a barrier is application of a suitable organic-vapor suppressing foam.

(2) A container used to meet the requirements of paragraph (c)(1)(ii) or (c)(1)(iii) of this section shall be equipped with covers and closure devices, as applicable to the container, that are composed of suitable materials to minimize exposure of the hazardous waste to the atmosphere and to maintain the equipment integrity for as long as it is in service. Factors to be considered in selecting the materials of construction and designing the cover and closure devices shall include: Organic vapor permeability, the effects of contact with the hazardous waste or its vapor managed in the container; the effects of outdoor exposure of the closure device or cover material to wind, moisture, and sunlight; and the operating practices for which the container is intended to be used.

(3) Whenever a hazardous waste is in a container using Container Level 1 controls, the owner or operator shall install all covers and closure devices for the container, as applicable to the container, and secure and maintain each closure device in the closed position except as follows:

(i) Opening of a closure device or cover is allowed for the purpose of adding hazardous waste or other material to the container as follows:

(A) In the case when the container is filled to the intended final level in one continuous operation, the owner or operator shall promptly secure the closure devices in the closed position and install the covers, as applicable to the container, upon conclusion of the filling operation.

(B) In the case when discrete quantities or batches of material intermittently are added to the container over a period of time, the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container,

upon either the container being filled to the intended final level; the completion of a batch loading after which no additional material will be added to the container within 15 minutes; the person performing the loading operation leaving the immediate vicinity of the container; or the shutdown of the process generating the material being added to the container, whichever condition occurs first.

(ii) Opening of a closure device or cover is allowed for the purpose of removing hazardous waste from the container as follows:

(A) For the purpose of meeting the requirements of this section, an empty container as defined in 40 CFR 261.7(b) may be open to the atmosphere at any time (i.e., covers and closure devices are not required to be secured in the closed position on an empty container).

(B) In the case when discrete quantities or batches of material are removed from the container but the container does not meet the conditions to be an empty container as defined in 40 CFR 261.7(b), the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon the completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first.

(iii) Opening of a closure device or cover is allowed when access inside the container is needed to perform routine activities other than transfer of hazardous waste. Examples of such activities include those times when a worker needs to open a port to measure the depth of or sample the material in the container, or when a worker needs to open a manhole hatch to access equipment inside the container. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable to the container.

(iv) Opening of a spring-loaded, pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the container internal pressure in accordance with the design specifications of the container. The device shall be designed to operate with no detectable organic emissions when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the internal pressure of the container is within the internal pressure operating range determined by the owner or operator based on container manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the internal pressure of the container exceeds the internal pressure operating range for the container as a result of loading operations or diurnal ambient temperature fluctuations.

(v) Opening of a safety device, as defined in § 265.1081 of this subpart, is allowed at any time conditions require doing so to avoid an unsafe condition.

(4) The owner or operator of containers using Container Level 1 controls shall inspect the containers and their covers and closure devices as follows:

(i) In the case when a hazardous waste already is in the container at the time the owner or operator first accepts possession of the container at the facility and the container is not emptied (i.e., does not meet the conditions for an empty container as specified in 40 CFR 261.7(b)) within 24 hours after the container is accepted at the facility, the owner or operator shall visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (c)(4)(iii) of this section.

(ii) In the case when a container used for managing hazardous waste remains

at the facility for a period of 1 year or more, the owner or operator shall visually inspect the container and its cover and closure devices initially and thereafter, at least once every 12 months, to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (c)(4)(iii) of this section.

(iii) When a defect is detected for the container, cover, or closure devices, the owner or operator shall make first efforts at repair of the defect no later than 24 hours after detection, and repair shall be completed as soon as possible but no later than 5 calendar days after detection. If repair of a defect cannot be completed within 5 calendar days, then the hazardous waste shall be removed from the container and the container shall not be used to manage hazardous waste until the defect is repaired.

(5) The owner or operator shall maintain at the facility a copy of the procedure used to determine that containers with capacity of 0.46 m^3 or greater, which do not meet applicable DOT regulations as specified in paragraph (f) of this section, are not managing hazardous waste in light material service.

(d) *Container Level 2 standards.* A container using Container Level 2 controls is one of the following:

(i) A container that meets the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as specified in paragraph (f) of this section.

(ii) A container that operates with no detectable organic emissions as defined in § 265.1081 of this subpart and determined in accordance with the procedure specified in paragraph (g) of this section.

(iii) A container that has been demonstrated within the preceding 12 months to be vapor-tight by using 40 CFR part 60, appendix A, Method 27 in accordance with the procedure specified in paragraph (h) of this section.

(2) Transfer of hazardous waste in or out of a container using Container Level 2 controls shall be conducted in such a manner as to minimize exposure of the hazardous waste to the atmosphere, to the extent practical, considering the physical properties of the hazardous waste and good engineering and safety practices for handling flammable, ignitable, explosive, reactive or other hazardous materials. Examples of container loading procedures that the EPA considers to meet the requirements of this paragraph include using any one of the following: A submerged-fill pipe or other submerged-fill method to load liquids into the container; a vapor-balancing system or a vapor-recovery system to collect and control the vapors displaced from the container during filling operations; or a fitted opening in the top of a container through which the hazardous waste is filled and subsequently purging the transfer line before removing it from the container opening.

(3) Whenever a hazardous waste is in a container using Container Level 2 controls, the owner or operator shall install all covers and closure devices for the container, and secure and maintain each closure device in the closed position except as follows:

(i) Opening of a closure device or cover is allowed for the purpose of adding hazardous waste or other material to the container as follows:

(A) In the case when the container is filled to the intended final level in one continuous operation, the owner or operator shall promptly secure the closure devices in the closed position and install the covers, as applicable to the container, upon conclusion of the filling operation.

(B) In the case when discrete quantities or batches of material intermittently are added to the container over a period of time, the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon either the container being filled to the intended final level; the completion of a batch loading after which no additional material will be added to the container within 15 minutes; the person performing the loading operation leaving the immediate vicinity of the container; or the shutdown of the process generating the material being

added to the container, whichever condition occurs first.

(ii) Opening of a closure device or cover is allowed for the purpose of removing hazardous waste from the container as follows:

(A) For the purpose of meeting the requirements of this section, an empty container as defined in 40 CFR 261.7(b) may be open to the atmosphere at any time (i.e., covers and closure devices are not required to be secured in the closed position on an empty container).

(B) In the case when discrete quantities or batches of material are removed from the container but the container does not meet the conditions to be an empty container as defined in 40 CFR 261.7(b), the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon the completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first.

(iii) Opening of a closure device or cover is allowed when access inside the container is needed to perform routine activities other than transfer of hazardous waste. Examples of such activities include those times when a worker needs to open a port to measure the depth of or sample the material in the container, or when a worker needs to open a manhole hatch to access equipment inside the container. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable to the container.

(iv) Opening of a spring-loaded, pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the internal pressure of the container in accordance with the container design specifications. The device shall be designed to operate with no detectable organic emission when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the internal pressure of the container is within the internal pressure operating range determined by the owner or operator based on container manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the internal pressure of the container exceeds the internal pressure operating range for the container as a result of loading operations or diurnal ambient temperature fluctuations.

(v) Opening of a safety device, as defined in § 265.1081 of this subpart, is allowed at any time conditions require doing so to avoid an unsafe condition.

(4) The owner or operator of containers using Container Level 2 controls shall inspect the containers and their covers and closure devices as follows:

(i) In the case when a hazardous waste already is in the container at the time the owner or operator first accepts possession of the container at the facility and the container is not emptied (i.e., does not meet the conditions for an empty container as specified in 40 CFR 261.7(b)) within 24 hours after the container arrives at the facility, the owner or operator shall visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (d)(4)(iii) of this section.

(ii) In the case when a container used for managing hazardous waste remains at the facility for a period of 1 year or more, the owner or operator shall visually inspect the container and its cover and closure devices initially and thereafter, at least once every 12 months, to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured

in the closed position. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (d)(4)(iii) of this section.

(iii) When a defect is detected for the container, cover, or closure devices, the owner or operator shall make first efforts at repair of the defect no later than 24 hours after detection, and repair shall be completed as soon as possible but no later than 5 calendar days after detection. If repair of a defect cannot be completed within 5 calendar days, then the hazardous waste shall be removed from the container and the container shall not be used to manage hazardous waste until the defect is repaired.

(e) *Container Level 3 standards.* A container using Container Level 3 controls is one of the following:

(i) A container that is vented directly through a closed-vent system to a control device in accordance with the requirements of paragraph (e)(2)(ii) of this section.

(ii) A container that is vented inside an enclosure which is exhausted through a closed-vent system to a control device in accordance with the requirements of paragraphs (e)(2)(i) and (e)(2)(ii) of this section.

(2) The owner or operator shall meet the following requirements, as applicable to the type of air emission control equipment selected by the owner or operator:

(i) The container enclosure shall be designed and operated in accordance with the criteria for a permanent total enclosure as specified in ''Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure'' under 40 CFR 52.741, appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of containers through the enclosure by conveyor or other mechanical means; entry of permanent mechanical or electrical equipment; or direct airflow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in Section 5.0 to ''Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure'' initially when the enclosure is first installed and, thereafter, annually.

(ii) The closed-vent system and control device shall be designed and operated in accordance with the requirements of §265.1088 of this subpart.

(3) Safety devices, as defined in §265.1081 of this subpart, may be installed and operated as necessary on any container, enclosure, closed-vent system, or control device used to comply with the requirements of paragraph (e)(1) of this section.

(4) Owners and operators using Container Level 3 controls in accordance with the provisions of this subpart shall inspect and monitor the closed-vent systems and control devices as specified in §265.1088 of this subpart.

(5) Owners and operators that use Container Level 3 controls in accordance with the provisions of this subpart shall prepare and maintain the records specified in §265.1090(d) of this subpart.

(f) For the purpose of compliance with paragraph (c)(1)(i) or (d)(1)(i) of this section, containers shall be used that meet the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as follows:

(1) The container meets the applicable requirements specified in 49 CFR part 178—Specifications for Packaging or 49 CFR part 179—Specifications for Tank Cars.

(2) Hazardous waste is managed in the container in accordance with the applicable requirements specified in 49 CFR part 107, subpart B—Exemptions; 49 CFR part 172—Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements; 49 CFR part 173—Shippers—General Requirements for Shipments and Packages; and 49 CFR part 180—Continuing Qualification and Maintenance of Packagings.

(3) For the purpose of complying with this subpart, no exceptions to the 49 CFR part 178 or part 179 regulations are allowed except as provided for in paragraph (f)(4) of this section.

(4) For a lab pack that is managed in accordance with the requirements of 49

CFR part 178 for the purpose of complying with this subpart, an owner or operator may comply with the exceptions for combination packagings specified in 49 CFR 173.12(b).

(g) The owner or operator shall use the procedure specified in § 265.1084(d) of this subpart for determining a container operates with no detectable organic emissions for the purpose of complying with paragraph (d)(1)(ii) of this section.

(1) Each potential leak interface (i.e., a location where organic vapor leakage could occur) on the container, its cover, and associated closure devices, as applicable to the container, shall be checked. Potential leak interfaces that are associated with containers include, but are not limited to: The interface of the cover rim and the container wall; the periphery of any opening on the container or container cover and its associated closure device; and the sealing seat interface on a spring-loaded pressure-relief valve.

(2) The test shall be performed when the container is filled with a material having a volatile organic concentration representative of the range of volatile organic concentrations for the hazardous wastes expected to be managed in this type of container. During the test, the container cover and closure devices shall be secured in the closed position.

(h) Procedure for determining a container to be vapor-tight using Method 27 of 40 CFR part 60, appendix A for the purpose of complying with paragraph (d)(1)(iii) of this section.

(1) The test shall be performed in accordance with Method 27 of 40 CFR part 60, appendix A of this chapter.

(2) A pressure measurement device shall be used that has a precision of ±2.5 mm water and that is capable of measuring above the pressure at which the container is to be tested for vapor tightness.

(3) If the test results determined by Method 27 indicate that the container sustains a pressure change less than or equal to 750 Pascals within 5 minutes after it is pressurized to a minimum of 4,500 Pascals, then the container is determined to be vapor-tight.

[61 FR 59986, Nov. 25, 1996]

§ 265.1088 Standards: Closed-vent systems and control devices.

(a) This section applies to each closed-vent system and control device installed and operated by the owner or operator to control air emissions in accordance with standards of this subpart.

(b) The closed-vent system shall meet the following requirements:

(1) The closed-vent system shall route the gases, vapors, and fumes emitted from the hazardous waste in the waste management unit to a control device that meets the requirements specified in paragraph (c) of this section.

(2) The closed-vent system shall be designed and operated in accordance with the requirements specified in § 265.1033(j) of this part.

(3) In the case when the closed-vent system includes bypass devices that could be used to divert the gas or vapor stream to the atmosphere before entering the control device, each bypass device shall be equipped with either a flow indicator as specified in paragraph (b)(3)(i) of this section or a seal or locking device as specified in paragraph (b)(3)(ii) of this section. For the purpose of complying with this paragraph, low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, spring-loaded pressure relief valves, and other fittings used for safety purposes are not considered to be bypass devices.

(i) If a flow indicator is used to comply with paragraph (b)(3) of this section, the indicator shall be installed at the inlet to the bypass line used to divert gases and vapors from the closed-vent system to the atmosphere at a point upstream of the control device inlet. For this paragraph, a flow indicator means a device which indicates the presence of either gas or vapor flow in the bypass line.

(ii) If a seal or locking device is used to comply with paragraph (b)(3) of this section, the device shall be placed on the mechanism by which the bypass device position is controlled (e.g., valve handle, damper lever) when the bypass device is in the closed position such that the bypass device cannot be

opened without breaking the seal or removing the lock. Examples of such devices include, but are not limited to, a car-seal or a lock-and-key configuration valve. The owner or operator shall visually inspect the seal or closure mechanism at least once every month to verify that the bypass mechanism is maintained in the closed position.

(4) The closed-vent system shall be inspected and monitored by the owner or operator in accordance with the procedure specified in 40 CFR 265.1033(k).

(c) The control device shall meet the following requirements:

(1) The control device shall be one of the following devices:

(i) A control device designed and operated to reduce the total organic content of the inlet vapor stream vented to the control device by at least 95 percent by weight;

(ii) An enclosed combustion device designed and operated in accordance with the requirements of §265.1033(c); or

(iii) A flare designed and operated in accordance with the requirements of §265.1033(d).

(2) The owner or operator who elects to use a closed-vent system and control device to comply with the requirements of this section shall comply with the requirements specified in paragraphs (c)(2)(i) through (c)(2)(vi) of this section.

(i) Periods of planned routine maintenance of the control device, during which the control device does not meet the specifications of paragraphs (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this section, as applicable, shall not exceed 240 hours per year.

(ii) The specifications and requirements in paragraphs (c)(1)(i), (c)(1)(ii), and (c)(1)(iii) of this section for control devices do not apply during periods of planned routine maintenance.

(iii) The specifications and requirements in paragraphs (c)(1)(i), (c)(1)(ii), and (c)(1)(iii) of this section for control devices do not apply during a control device system malfunction.

(iv) The owner or operator shall demonstrate compliance with the requirements of paragraph (c)(2)(i) of this section (i.e., planned routine maintenance of a control device, during which the control device does not meet the specifications of paragraphs (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this section, as applicable, shall not exceed 240 hours per year) by recording the information specified in §265.1090(e)(1)(v) of this subpart.

(v) The owner or operator shall correct control device system malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of air pollutants.

(vi) The owner or operator shall operate the closed-vent system such that gases, vapors, and/or fumes are not actively vented to the control device during periods of planned maintenance or control device system malfunction (i.e., periods when the control device is not operating or not operating normally) except in cases when it is necessary to vent the gases, vapors, or fumes to avoid an unsafe condition or to implement malfunction corrective actions or planned maintenance actions.

(3) The owner or operator using a carbon adsorption system to comply with paragraph (c)(1) of this section shall operate and maintain the control device in accordance with the following requirements:

(i) Following the initial startup of the control device, all activated carbon in the control device shall be replaced with fresh carbon on a regular basis in accordance with the requirements of §265.1033(g) or §265.1033(h).

(ii) All carbon removed from the control device shall be managed in accordance with the requirements of 40 CFR 265.1033(m).

(4) An owner or operator using a control device other than a thermal vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system to comply with paragraph (c)(1) of this section shall operate and maintain the control device in accordance with the requirements of §265.1033(i).

(5) The owner or operator shall demonstrate that a control device achieves the performance requirements of paragraph (c)(1) of this section as follows:

(i) An owner or operator shall demonstrate using either a performance test as specified in paragraph (c)(5)(iii) of this section or a design analysis as specified in paragraph (c)(5)(iv) of this

section the performance of each control device except for the following:

(A) A flare;

(B) A boiler or process heater with a design heat input capacity of 44 megawatts or greater;

(C) A boiler or process heater into which the vent stream is introduced with the primary fuel;

(D) A boiler or industrial furnace burning hazardous waste for which the owner or operator has been issued a final permit under 40 CFR part 270 and has designed and operates the unit in accordance with the requirements of 40 CFR part 266, subpart H; or

(E) A boiler or industrial furnace burning hazardous waste for which the owner or operator has designed and operates in accordance with the interim status requirements of 40 CFR part 266, subpart H.

(ii) An owner or operator shall demonstrate the performance of each flare in accordance with the requirements specified in § 265.1033(e).

(iii) For a performance test conducted to meet the requirements of paragraph (c)(5)(i) of this section, the owner or operator shall use the test methods and procedures specified in § 265.1034(c)(1) through (c)(4).

(iv) For a design analysis conducted to meet the requirements of paragraph (c)(5)(i) of this section, the design analysis shall meet the requirements specified in § 265.1035(b)(4)(iii).

(v) The owner or operator shall demonstrate that a carbon adsorption system achieves the performance requirements of paragraph (c)(1) of this section based on the total quantity of organics vented to the atmosphere from all carbon adsorption system equipment that is used for organic adsorption, organic desorption or carbon regeneration, organic recovery, and carbon disposal.

(6) If the owner or operator and the Regional Administrator do not agree on a demonstration of control device performance using a design analysis then the disagreement shall be resolved using the results of a performance test performed by the owner or operator in accordance with the requirements of paragraph (c)(5)(iii) of this section. The Regional Administrator may choose to have an authorized representative observe the performance test.

(7) The control device shall be inspected and monitored by the owner or operator in accordance with the procedures specified in 40 CFR 265.1033(f)(2) and 40 CFR 265.1033(k). The readings from each monitoring device required by 40 CFR 265.1033(f)(2) shall be inspected at least once each operating day to check control device operation. Any necessary corrective measures shall be immediately implemented to ensure the control device is operated in compliance with the requirements of this section.

[59 FR 62935, Dec. 6, 1994, as amended at 61 FR 4915, Feb. 9, 1996; 61 FR 59989, Nov. 25, 1996]

§ 265.1089 Inspection and monitoring requirements.

(a) The owner or operator shall inspect and monitor air emission control equipment used to comply with this subpart in accordance with the applicable requirements specified in § 265.1085 through § 265.1088 of this subpart.

(b) The owner or operator shall develop and implement a written plan and schedule to perform the inspections and monitoring required by paragraph (a) of this section. The owner or operator shall incorporate this plan and schedule into the facility inspection plan required under 40 CFR 265.15.

[61 FR 59990, Nov. 25, 1996]

§ 265.1090 Recordkeeping requirements.

(a) Each owner or operator of a facility subject to requirements in this subpart shall record and maintain the information specified in paragraphs (b) through (i) of this section, as applicable to the facility. Except for air emission control equipment design documentation and information required by paragraph (i) of this section, records required by this section shall be maintained in the operating record for a minimum of 3 years. Air emission control equipment design documentation shall be maintained in the operating record until the air emission control equipment is replaced or otherwise no longer in service. Information required by paragraph (i) of this section shall be maintained in the operating record for

as long as the tank or container is not using air emission controls specified in §§264.1084 through 264.1087 of this subpart in accordance with the conditions specified in §264.1084(d) of this subpart.

(b) The owner or operator of a tank using air emission controls in accordance with the requirements of §265.1085 of this subpart shall prepare and maintain records for the tank that include the following information:

(1) For each tank using air emission controls in accordance with the requirements of §265.1085 of this subpart, the owner or operator shall record:

(i) A tank identification number (or other unique identification description as selected by the owner or operator).

(ii) A record for each inspection required by §265.1085 of this subpart that includes the following information:

(A) Date inspection was conducted.

(B) For each defect detected during the inspection, the following information: the location of the defect, a description of the defect, the date of detection, and corrective action taken to repair the defect. In the event that repair of the defect is delayed in accordance with the provisions of §265.1085 of this subpart, the owner or operator shall also record the reason for the delay and the date that completion of repair of the defect is expected.

(2) In addition to the information required by paragraph (b)(1) of this section, the owner or operator shall record the following information, as applicable to the tank:

(i) The owner or operator using a fixed roof to comply with the Tank Level 1 control requirements specified in §265.1085(c) of this subpart shall prepare and maintain records for each determination for the maximum organic vapor pressure of the hazardous waste in the tank performed in accordance with the requirements of §265.1085(c) of this subpart. The records shall include the date and time the samples were collected, the analysis method used, and the analysis results.

(ii) The owner or operator using an internal floating roof to comply with the Tank Level 2 control requirements specified in §265.1085(e) of this subpart shall prepare and maintain documentation describing the floating roof design.

(iii) Owners and operators using an external floating roof to comply with the Tank Level 2 control requirements specified in §265.1085(f) of this subpart shall prepare and maintain the following records:

(A) Documentation describing the floating roof design and the dimensions of the tank.

(B) Records for each seal gap inspection required by §265.1085(f)(3) of this subpart describing the results of the seal gap measurements. The records shall include the date that the measurements were performed, the raw data obtained for the measurements, and the calculations of the total gap surface area. In the event that the seal gap measurements do not conform to the specifications in §265.1085(f)(1) of this subpart, the records shall include a description of the repairs that were made, the date the repairs were made, and the date the tank was emptied, if necessary.

(iv) Each owner or operator using an enclosure to comply with the Tank Level 2 control requirements specified in §265.1085(i) of this subpart shall prepare and maintain the following records:

(A) Records for the most recent set of calculations and measurements performed by the owner or operator to verify that the enclosure meets the criteria of a permanent total enclosure as specified in ''Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure'' under 40 CFR 52.741, appendix B.

(B) Records required for the closed-vent system and control device in accordance with the requirements of paragraph (e) of this section.

(c) The owner or operator of a surface impoundment using air emission controls in accordance with the requirements of §265.1086 of this subpart shall prepare and maintain records for the surface impoundment that include the following information:

(1) A surface impoundment identification number (or other unique identification description as selected by the owner or operator).

(2) Documentation describing the floating membrane cover or cover design, as applicable to the surface impoundment, that includes information

prepared by the owner or operator or provided by the cover manufacturer or vendor describing the cover design, and certification by the owner or operator that the cover meets the specifications listed in § 265.1086(c) of this subpart.

(3) A record for each inspection required by § 265.1086 of this subpart that includes the following information:

(i) Date inspection was conducted.

(ii) For each defect detected during the inspection the following information: The location of the defect, a description of the defect, the date of detection, and corrective action taken to repair the defect. In the event that repair of the defect is delayed in accordance with the provisions of § 265.1086(f) of this subpart, the owner or operator shall also record the reason for the delay and the date that completion of repair of the defect is expected.

(4) For a surface impoundment equipped with a cover and vented through a closed-vent system to a control device, the owner or operator shall prepare and maintain the records specified in paragraph (e) of this section.

(d) The owner or operator of containers using Container Level 3 air emission controls in accordance with the requirements of § 265.1087 of this subpart shall prepare and maintain records that include the following information:

(1) Records for the most recent set of calculations and measurements performed by the owner or operator to verify that the enclosure meets the criteria of a permanent total enclosure as specified in ''Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure'' under 40 CFR 52.741, appendix B.

(2) Records required for the closed-vent system and control device in accordance with the requirements of paragraph (e) of this section.

(e) The owner or operator using a closed-vent system and control device in accordance with the requirements of § 265.1088 of this subpart shall prepare and maintain records that include the following information:

(1) Documentation for the closed-vent system and control device that includes:

(i) Certification that is signed and dated by the owner or operator stating that the control device is designed to operate at the performance level documented by a design analysis as specified in paragraph (e)(1)(ii) of this section or by performance tests as specified in paragraph (e)(1)(iii) of this section when the tank, surface impoundment, or container is or would be operating at capacity or the highest level reasonably expected to occur.

(ii) If a design analysis is used, then design documentation as specified in 40 CFR 265.1035(b)(4). The documentation shall include information prepared by the owner or operator or provided by the control device manufacturer or vendor that describes the control device design in accordance with 40 CFR 265.1035(b)(4)(iii) and certification by the owner or operator that the control equipment meets the applicable specifications.

(iii) If performance tests are used, then a performance test plan as specified in 40 CFR 265.1035(b)(3) and all test results.

(iv) Information as required by 40 CFR 265.1035(c)(1) and 40 CFR 265.1035(c)(2), as applicable.

(v) An owner or operator shall record, on a semiannual basis, the information specified in paragraphs (e)(1)(v)(A) and (e)(1)(v)(B) of this section for those planned routine maintenance operations that would require the control device not to meet the requirements of § 265.1088 (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this subpart, as applicable.

(A) A description of the planned routine maintenance that is anticipated to be performed for the control device during the next 6-month period. This description shall include the type of maintenance necessary, planned frequency of maintenance, and lengths of maintenance periods.

(B) A description of the planned routine maintenance that was performed for the control device during the previous 6-month period. This description shall include the type of maintenance performed and the total number of hours during those 6 months that the control device did not meet the requirements of § 265.1088 (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this subpart, as applicable, due to planned routine maintenance.

(vi) An owner or operator shall record the information specified in paragraphs (e)(1)(vi)(A) through (e)(1)(vi)(C) of this section for those unexpected control device system malfunctions that would require the control device not to meet the requirements of §265.1088 (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this subpart, as applicable.

(A) The occurrence and duration of each malfunction of the control device system.

(B) The duration of each period during a malfunction when gases, vapors, or fumes are vented from the waste management unit through the closed-vent system to the control device while the control device is not properly functioning.

(C) Actions taken during periods of malfunction to restore a malfunctioning control device to its normal or usual manner of operation.

(vii) Records of the management of carbon removed from a carbon adsorption system conducted in accordance with §265.1088(c)(3)(ii) of this subpart.

(f) The owner or operator of a tank, surface impoundment, or container exempted from standards in accordance with the provisions of §265.1083(c) of this subpart shall prepare and maintain the following records, as applicable:

(1) For tanks, surface impoundments, or containers exempted under the hazardous waste organic concentration conditions specified in §265.1083 (c)(1) or (c)(2) of this subpart, the owner or operator shall record the information used for each waste determination (e.g., test results, measurements, calculations, and other documentation) in the facility operating log. If analysis results for waste samples are used for the waste determination, then the owner or operator shall record the date, time, and location that each waste sample is collected in accordance with applicable requirements of §265.1084 of this subpart.

(2) For tanks, surface impoundments, or containers exempted under the provisions of §265.1083(c)(2)(vii) or §265.1083(c)(2)(viii) of this subpart, the owner or operator shall record the identification number for the incinerator, boiler, or industrial furnace in which the hazardous waste is treated.

(g) An owner or operator designating a cover as ''unsafe to inspect and monitor'' pursuant to §265.1085(l) or §265.1086(g) of this subpart shall record in a log that is kept in the facility operating record the following information: The identification numbers for waste management units with covers that are designated as ''unsafe to inspect and monitor,'' the explanation for each cover stating why the cover is unsafe to inspect and monitor, and the plan and schedule for inspecting and monitoring each cover.

(h) The owner or operator of a facility that is subject to this subpart and to the control device standards in 40 CFR part 60, subpart VV, or 40 CFR part 61, subpart V, may elect to demonstrate compliance with the applicable sections of this subpart by documentation either pursuant to this subpart, or pursuant to the provisions of 40 CFR part 60, subpart VV or 40 CFR part 61, subpart V, to the extent that the documentation required by 40 CFR parts 60 or 61 duplicates the documentation required by this section.

(i) For each tank or container not using air emission controls specified in §§265.1085 through 265.1088 of this subpart in accordance with the conditions specified in §265.1080(d) of this subpart, the owner or operator shall record and maintain the following information:

(1) A list of the individual organic peroxide compounds manufactured at the facility that meet the conditions specified in §265.1080(d)(1).

(2) A description of how the hazardous waste containing the organic peroxide compounds identified in paragraph (i)(1) of this section are managed at the facility in tanks and containers. This description shall include the following information:

(i) For the tanks used at the facility to manage this hazardous waste, sufficient information shall be provided to describe for each tank: A facility identification number for the tank; the purpose and placement of this tank in the management train of this hazardous waste; and the procedures used to ultimately dispose of the hazardous waste managed in the tanks.

(ii) For containers used at the facility to manage these hazardous wastes,

sufficient information shall be provided to describe: A facility identification number for the container or group of containers; the purpose and placement of this container, or group of containers, in the management train of this hazardous waste; and the procedures used to ultimately dispose of the hazardous waste handled in the containers.

(3) An explanation of why managing the hazardous waste containing the organic peroxide compounds identified in paragraph (i)(1) of this section in the tanks and containers as described in paragraph (i)(2) of this section would create an undue safety hazard if the air emission controls, as required under §§ 265.1085 through 265.1088 of this subpart, are installed and operated on these waste management units. This explanation shall include the following information:

(i) For tanks used at the facility to manage these hazardous wastes, sufficient information shall be provided to explain: How use of the required air emission controls on the tanks would affect the tank design features and facility operating procedures currently used to prevent an undue safety hazard during the management of this hazardous waste in the tanks; and why installation of safety devices on the required air emission controls, as allowed under this subpart, will not address those situations in which evacuation of tanks equipped with these air emission controls is necessary and consistent with good engineering and safety practices for handling organic peroxides.

(ii) For containers used at the facility to manage these hazardous wastes, sufficient information shall be provided to explain: How use of the required air emission controls on the containers would affect the container design features and handling procedures currently used to prevent an undue safety hazard during the management of this hazardous waste in the containers; and why installation of safety devices on the required air emission controls, as allowed under this subpart, will not address those situations in which evacuation of containers equipped with these air emission controls is necessary and consistent with good engineering and safety practices for handling organic peroxides.

[61 FR 59990, Nov. 25, 1996]

§ 265.1091 [Reserved]

Subpart DD—Containment Buildings

SOURCE: 57 FR 37268, Aug. 18, 1992, unless otherwise noted.

§ 265.1100 Applicability.

The requirements of this subpart apply to owners or operators who store or treat hazardous waste in units designed and operated under § 265.1101 of this subpart. These provisions will become effective on February 18, 1993, although the owner or operator may notify the Regional Administrator of his intent to be bound by this subpart at an earlier time. The owner or operator is not subject to the definition of land disposal in RCRA section 3004(k) provided that the unit:

(a) Is a completely enclosed, self-supporting structure that is designed and constructed of manmade materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the units, and to prevent failure due to pressure gradients, settlement, compression, or uplift, physical contact with the hazardous wastes to which they are exposed; climatic conditions; and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of such equipment with containment walls;

(b) Has a primary barrier that is designed to be sufficiently durable to withstand the movement of personnel and handling equipment within the unit;

(c) If the unit is used to manage liquids, has:

(1) A primary barrier designed and constructed of materials to prevent migration of hazardous constituents into the barrier;

(2) A liquid collection system designed and constructed of materials to minimize the accumulation of liquid on the primary barrier; and

(3) A secondary containment system designed and constructed of materials to prevent migration of hazardous constituents into the barrier, with a leak detection and liquid collection system capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest possible time, unless the unit has been granted a variance from the secondary containment system requirements under §265.1101(b)(4);

(d) Has controls as needed to permit fugitive dust emissions; and

(e) Is designed and operated to ensure containment and prevent the tracking of materials from the unit by personnel or equipment.

§265.1101 Design and operating standards.

(a) All containment buildings must comply with the following design standards:

(1) The containment building must be completely enclosed with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation, wind, run-on), and to assure containment of managed wastes.

(2) The floor and containment walls of the unit, including the secondary containment system if required under paragraph (b) of this section, must be designed and constructed of materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the unit, and to prevent failure due to pressure gradients, settlement, compression, or uplift, physical contact with the hazardous wastes to which they are exposed; climatic conditions; and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of such equipment with containment walls. The unit must be designed so that it has sufficient structural strength to prevent collapse or other failure. All surfaces to be in contact with hazardous wastes must be chemically compatible with those wastes. EPA will consider standards established by professional organizations generally recognized by the industry such as the American Concrete Institute (ACI) and the American Society of Testing Materials (ASTM) in judging the structural integrity requirements of this paragraph. If appropriate to the nature of the waste management operation to take place in the unit, an exception to the structural strength requirement may be made for light-weight doors and windows that meet these criteria:

(i) They provide an effective barrier against fugitive dust emissions under paragraph (c)(1)(iv); and

(ii) The unit is designed and operated in a fashion that assures that wastes will not actually come in contact with these openings.

(3) Incompatible hazardous wastes or treatment reagents must not be placed in the unit or its secondary containment system if they could cause the unit or secondary containment system to leak, corrode, or otherwise fail.

(4) A containment building must have a primary barrier designed to withstand the movement of personnel, waste, and handling equipment in the unit during the operating life of the unit and appropriate for the physical and chemical characteristics of the waste to be managed.

(b) For a containment building used to manage hazardous wastes containing free liquids or treated with free liquids (the presence of which is determined by the paint filter test, a visual examination, or other appropriate means), the owner or operator must include:

(1) A primary barrier designed and constructed of materials to prevent the migration of hazardous constituents into the barrier (e.g. a geomembrane covered by a concrete wear surface).

(2) A liquid collection and removal system to prevent the accumulation of liquid on the primary barrier of the containment building:

(i) The primary barrier must be sloped to drain liquids to the associated collection system; and

(ii) Liquids and waste must be collected and removed to minimize hydraulic head on the containment system at the earliest practicable time that protects human health and the environment.

(3) A secondary containment system including a secondary barrier designed and constructed to prevent migration of hazardous constituents into the barrier, and a leak detection system that

is capable of detecting failure of the primary barrier and collecting accumulated hazardous wastes and liquids at the earliest practicable time.

(i) The requirements of the leak detection component of the secondary containment system are satisfied by installation of a system that is, at a minimum:

(A) Constructed with a bottom slope of 1 percent or more; and

(B) Constructed of a granular drainage material with a hydraulic conductivity of 1×10^{-2} cm/sec or more and a thickness of 12 inches (30.5 cm) or more, or constructed of synthetic or geonet drainage materials with a trasmissivity of 3×10^{-5} m^2/sec or more.

(ii) If treatment is to be conducted in the building, an area in which such treatment will be conducted must be designed to prevent the release of liquids, wet materials, or liquid aerosols to other portions of the building.

(iii) The secondary containment system must be constructed of materials that are chemically resistant to the waste and liquids managed in the containment building and of sufficient strength and thickness to prevent collapse under the pressure exerted by overlaying materials and by any equipment used in the containment building. (Containment buildings can serve as secondary containment systems for tanks placed within the building under certain conditions. A containment building can serve as an external liner system for a tank, provided it meets the requirements of § 265.193(d)(1). In addition, the containment building must meet the requirements of § 265.193 (b) and (c) to be considered an acceptable secondary containment system for a tank.)

(4) For existing units other than 90-day generator units, the Regional Administrator may delay the secondary containment requirement for up to two years, based on a demonstration by the owner or operator that the unit substantially meets the standards of this Subpart. In making this demonstration, the owner or operator must:

(i) Provide written notice to the Regional Administrator of their request by February 18, 1993. This notification must describe the unit and its operating practices with specific reference to the performance of existing containment systems, and specific plans for retrofitting the unit with secondary containment;

(ii) Respond to any comments from the Regional Administrator on these plans within 30 days; and

(iii) Fulfill the terms of the revised plans, if such plans are approved by the Regional Administrator.

(c) Owners or operators of all containment buildings must:

(1) Use controls and practices to ensure containment of the hazardous waste within the unit; and, at a minimum:

(i) Maintain the primary barrier to be free of significant cracks, gaps, corrosion, or other deterioration that could cause hazardous waste to be released from the primary barrier;

(ii) Maintain the level of the stored/treated hazardous waste within the containment walls of the unit so that the height of any containment wall is not exceeded;

(iii) Take measures to prevent the tracking of hazardous waste out of the unit by personnel or by equipment used in handling the waste. An area must be designated to decontaminate equipment and any rinsate must be collected and properly managed; and

(iv) Take measures to control fugitive dust emissions such that any openings (doors, windows, vents, cracks, etc.) exhibit no visible emissions. In addition, all associated particulate collection devices (e.g., fabric filter, electrostatic precipitator) must be operated and maintained with sound air pollution control practices. This state of no visible emissions must be maintained effectively at all times during normal operating conditions, including when vehicles and personnel are entering and exiting the unit.

(2) Obtain certification by a qualified registered professional engineer that the containment building design meets the requirements of paragraphs (a) through (c) of this section. For units placed into operation prior to February 18, 1993, this certification must be placed in the facility's operating record (on-site files for generators who are not formally required to have operating records) no later than 60 days

after the date of initial operation of the unit. After February 18, 1993, PE certification will be required prior to operation of the unit.

(3) Throughout the active life of the containment building, if the owner or operator detects a condition that could lead to or has caused a release of hazardous waste, must repair the condition promptly, in accordance with the following procedures.

(i) Upon detection of a condition that has led to a release of hazardous waste (e.g., upon detection of leakage from the primary barrier) the owner or operator must:

(A) Enter a record of the discovery in the facility operating record;

(B) Immediately remove the portion of the containment building affected by the condition from service;

(C) Determine what steps must be taken to repair the containment building, remove any leakage from the secondary collection system, and establish a schedule for accomplishing the cleanup and repairs; and

(D) Within 7 days after the discovery of the condition, notify the Regional Administrator of the condition, and within 14 working days, provide a written notice to the Regional Administrator with a description of the steps taken to repair the containment building, and the schedule for accomplishing the work.

(ii) The Regional Administrator will review the information submitted, make a determination regarding whether the containment building must be removed from service completely or partially until repairs and cleanup are complete, and notify the owner or operator of the determination and the underlying rationale in writing.

(iii) Upon completing all repairs and cleanup the owner or operator must notify the Regional Administrator in writing and provide a verification, signed by a qualified, registered professional engineer, that the repairs and cleanup have been completed according to the written plan submitted in accordance with paragraph (c)(3)(i)(D) of this section.

(4) Inspect and record in the facility's operating record, at least once every seven days, data gathered from monitoring equipment and leak detection equipment as well as the containment building and the area immediately surrounding the containment building to detect signs of releases of hazardous waste.

(d) For containment building that contains both areas with and without secondary containment, the owner or operator must:

(1) Design and operate each area in accordance with the requirements enumerated in paragraphs (a) through (c) of this section;

(2) Take measures to prevent the release of liquids or wet materials into areas without secondary containment; and

(3) Maintain in the facility's operating log a written description of the operating procedures used to maintain the integrity of areas without secondary containment.

(e) Notwithstanding any other provision of this subpart, the Regional Administrator may waive requirements for secondary containment for a permitted containment building where the owner or operator demonstrates that the only free liquids in the unit are limited amounts of dust suppression liquids required to meet occupational health and safety requirements, and where containment of managed wastes and liquids can be assured without a secondary containment system.

§265.1102 Closure and post-closure care.

(a) At closure of a containment building, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless §261.3(d) of this chapter applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for containment buildings must meet all of the requirements specified in subparts G and H of this part.

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and

equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must close the facility and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills (§ 265.310). In addition, for the purposes of closure, post-closure, and financial responsibility, such a containment building is then considered to be a landfill, and the owner or operator must meet all of the requirements for landfills specified in subparts G and H of this part.

§§ 265.1103—265.1110 [Reserved]

Subpart EE—Hazardous Waste Munitions and Explosives Storage

SOURCE: 62 FR 6653, FEB. 12, 1997, UNLESS OTHERWISE NOTED.

EFFECTIVE DATE NOTE: At 62 FR 6653, Feb. 12, 1997, subpart EE was added, effective Aug. 12, 1997.

§ 265.1200 Applicability.

The requirements of this subpart apply to owners or operators who store munitions and explosive hazardous wastes, except as § 265.1 provides otherwise. (NOTE: Depending on explosive hazards, hazardous waste munitions and explosives may also be managed in other types of storage units, including containment buildings (40 CFR part 265, subpart DD), tanks (40 CFR part 265, subpart J), or containers (40 CFR part 265, subpart I); See 40 CFR 266.205 for storage of waste military munitions).

§ 265.1201 Design and operating standards.

(a) Hazardous waste munitions and explosives storage units must be designed and operated with containment systems, controls, and monitoring, that:

(1) Minimize the potential for detonation or other means of release of hazardous waste, hazardous constituents, hazardous decomposition products, or contaminated run-off, to the soil, ground water, surface water, and atmosphere;

(2) Provide a primary barrier, which may be a container (including a shell) or tank, designed to contain the hazardous waste;

(3) For wastes stored outdoors, provide that the waste and containers will not be in standing precipitation;

(4) For liquid wastes, provide a secondary containment system that assures that any released liquids are contained and promptly detected and removed from the waste area, or vapor detection system that assures that any released liquids or vapors are promptly detected and an appropriate response taken (e.g., additional containment, such as overpacking, or removal from the waste area); and

(5) Provide monitoring and inspection procedures that assure the controls and containment systems are working as designed and that releases that may adversely impact human health or the environment are not escaping from the unit.

(b) Hazardous waste munitions and explosives stored under this subpart may be stored in one of the following:

(1) *Earth-covered magazines.* Earth-covered magazines must be:

(i) Constructed of waterproofed, reinforced concrete or structural steel arches, with steel doors that are kept closed when not being accessed;

(ii) Designed and constructed:

(A) To be of sufficient strength and thickness to support the weight of any explosives or munitions stored and any equipment used in the unit;

(B) To provide working space for personnel and equipment in the unit; and

(C) To withstand movement activities that occur in the unit; and

(iii) Located and designed, with walls and earthen covers that direct an explosion in the unit in a safe direction, so as to minimize the propagation of an explosion to adjacent units and to minimize other effects of any explosion.

(2) *Above-ground magazines.* Above-ground magazines must be located and designed so as to minimize the propagation of an explosion to adjacent units and to minimize other effects of any explosion.

(3) *Outdoor or open storage areas.* Outdoor or open storage areas must be located and designed so as to minimize

the propagation of an explosion to adjacent units and to minimize other effects of any explosion.

(c) Hazardous waste munitions and explosives must be stored in accordance with a Standard Operating Procedure specifying procedures to ensure safety, security, and environmental protection. If these procedures serve the same purpose as the security and inspection requirements of 40 CFR 265.14, the preparedness and prevention procedures of 40 CFR part 265, subpart C, and the contingency plan and emergency procedures requirements of 40 CFR part 265, subpart D, then these procedures will be used to fulfill those requirements.

(d) Hazardous waste munitions and explosives must be packaged to ensure safety in handling and storage.

(e) Hazardous waste munitions and explosives must be inventoried at least annually.

(f) Hazardous waste munitions and explosives and their storage units must be inspected and monitored as necessary to ensure explosives safety and to ensure that there is no migration of contaminants out of the unit.

§ 265.1202 Closure and post-closure care.

(a) At closure of a magazine or unit which stored hazardous waste under this subpart, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components, contaminated subsoils, and structures and equipment contaminated with waste, and manage them as hazardous waste unless § 261.3(d) of this chapter applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for magazines or units must meet all of the requirements specified in subparts G and H of this part, except that the owner or operator may defer closure of the unit as long as it remains in service as a munitions or explosives magazine or storage unit.

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he or she must close the facility and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills (40 CFR 264.310).

APPENDICES TO PART 265

APPENDIX I TO PART 265—RECORDKEEPING INSTRUCTIONS

The recordkeeping provisions of § 265.73 specify that an owner or operator must keep a written operating record at his facility. This appendix provides additional instructions for keeping *portions* of the operating record. See § 265.73(b) for additional recordkeeping requirements.

The following information must be recorded, as it becomes available, and maintained in the operating record until closure of the facility in the following manner:

Records of each hazardous waste received, treated, stored, or disposed of at the facility which include the following:

(1) A description by its common name and the EPA Hazardous Waste Number(s) from part 261 of this chapter which apply to the waste. The waste description also must include the waste's physical form, i.e., liquid, sludge, solid, or contained gas. If the waste is not listed in part 261, subpart D, of this chapter, the description also must include the process that produced it (for example, solid filter cake from production of _____, EPA Hazardous Waste Number W051).

Each hazardous waste listed in part 261, subpart D, of this chapter, and each hazardous waste characteristic defined in part 261, subpart C, of this chapter, has a four-digit EPA Hazardous Waste Number assigned to it. This number must be used for recordkeeping and reporting purposes. Where a hazardous waste contains more than one listed hazardous waste, or where more than one hazardous waste characteristic applies to the waste, the waste description must include all applicable EPA Hazardous Waste Numbers.

(2) The estimated or manifest-reported weight, or volume and density, where applicable, in one of the units of measure specified in Table 1; and

TABLE 1

Unit of measure	Code [1]
Gallons	G
Gallons per Hour	E
Gallons per Day	U
Liters	L
Liters Per Hour	H
Liters Per Day	V
Short Tons Per Hour	D

TABLE 1—Continued

Unit of measure	Code [1]
Metric Tons Per Hour	W
Short Tons Per Day	N
Metric Tons Per Day	S
Pounds Per Hour	J
Kilograms Per Hour	R
Cubic Yards	Y
Cubic Meters	C
Acres	B
Acre-feet	A
Hectares	Q
Hectare-meter	F
Btu's per Hour	I

[1] Single digit symbols are used here for data processing purposes.

(3) The method(s) (by handling code(s) as specified in Table 2) and date(s) of treatment, storage, or disposal.

Table 2.—Handling Codes for Treatment, Storage and Disposal Methods

Enter the handling code(s) listed below that most closely represents the technique(s) used at the facility to treat, store or dispose of each quantity of hazardous waste received.

1. Storage

S01 Container (barrel, drum, etc.)
S02 Tank
S03 Waste Pile
S04 Surface Impoundment
S05 Drip Pad
S06 Containment Building (Storage)
S99 Other Storage (specify)

2. Treatment

(a) Thermal Treatment—

T06 Liquid injection incinerator
T07 Rotary kiln incinerator
T08 Fluidized bed incinerator
T09 Multiple hearth incinerator
T10 Infrared furnace incinerator
T11 Molten salt destructor
T12 Pyrolysis
T13 Wet Air oxidation
T14 Calcination
T15 Microwave discharge
T18 Other (specify)

(b) Chemical Treatment—

T19 Absorption mound
T20 Absorption field
T21 Chemical fixation
T22 Chemical oxidation
T23 Chemical precipitation
T24 Chemical reduction
T25 Chlorination
T26 Chlorinolysis
T27 Cyanide destruction
T28 Degradation
T29 Detoxification
T30 Ion exchange
T31 Neutralization
T32 Ozonation
T33 Photolysis
T34 Other (specify)

(c) Physical Treatment—

(1) Separation of components

T35 Centrifugation
T36 Clarification
T37 Coagulation
T38 Decanting
T39 Encapsulation
T40 Filtration
T41 Flocculation
T42 Flotation
T43 Foaming
T44 Sedimentation
T45 Thickening
T46 Ultrafiltration
T47 Other (specify)

(2) Removal of Specific Components

T48 Absorption-molecular sieve
T49 Activated carbon
T50 Blending
T51 Catalysis
T52 Crystallization
T53 Dialysis
T54 Distillation
T55 Electrodialysis
T56 Electrolysis
T57 Evaporation
T58 High gradient magnetic separation
T59 Leaching
T60 Liquid ion exchange
T61 Liquid-liquid extraction
T62 Reverse osmosis
T63 Solvent recovery
T64 Stripping
T65 Sand filter
T66 Other (specify)

(d) Biological Treatment

T67 Activated sludge
T68 Aerobic lagoon
T69 Aerobic tank
T70 Anaerobic tank
T71 Composting
T72 Septic tank
T73 Spray irrigation
T74 Thickening filter
T75 Tricking filter
T76 Waste stabilization pond
T77 Other (specify)
T78 [Reserved]
T79 [Reserved]

(e) Boilers and Industrial Furnaces

T80 Boiler
T81 Cement Kiln
T82 Lime Kiln
T83 Aggregate Kiln
T84 Phosphate Kiln
T85 Coke Oven
T86 Blast Furnace
T87 Smelting, Melting, or Refining Furnace
T88 Titanium Dioxide Chloride Process Oxidation Reactor
T89 Methane Reforming Furnace
T90 Pulping Liquor Recovery Furnace

T91 Combustion Device Used in the Recovery of Sulfur Values From Spent Sulfuric Acid
T92 Halogen Acid Furnaces
T93 Other Industrial Furnaces Listed in 40 CFR 260.10 (specify)

(f) Other Treatment

T94 Containment Building (Treatment)

3. Disposal

D79 Underground Injection
D80 Landfill
D81 Land Treatment
D82 Ocean Disposal
D83 Surface Impoundment (to be closed as a landfill)
D99 Other Disposal (specify)

4. Miscellaneous (Subpart X)

X01 Open Burning/Open Detonation
X02 Mechanical Processing
X03 Thermal Unit
X04 Geologic Repository
X99 Other Subpart X (specify)

[45 FR 33232, May 19, 1980, as amended at 59 FR 13892, Mar. 24, 1994]

APPENDIX II TO PART 265—[RESERVED]

APPENDIX III TO PART 265—EPA INTERIM PRIMARY DRINKING WATER STANDARDS

Parameter	Maximum level (mg/l)
Arsenic	0.05
Barium	1.0
Cadmium	0.01
Chromium	0.05
Fluoride	1.4–2.4
Lead	0.05
Mercury	0.002
Nitrate (as N)	10
Selenium	0.01
Silver	0.05
Endrin	0.0002
Lindane	0.004
Methoxychlor	0.1
Toxaphene	0.005
2,4-D	0.1
2,4,5-TP Silver	0.01
Radium	5 pCi/1
Gross Alpha	15 pCi/1
Gross Beta	4 millirem/yr
Turbidity	1/TU
Coliform Bacteria	1/100 ml

[*Comment:* Turbidity is applicable only to surface water supplies.]

APPENDIX IV TO PART 265—TESTS FOR SIGNIFICANCE

As required in §265.93(b) the owner or operator must use the Student's t-test to determine statistically significant changes in the concentration or value of an indicator parameter in periodic ground-water samples when compared to the initial background concentration or value of that indicator parameter. The comparison must consider individually each of the wells in the monitoring system. For three of the indicator parameters (specific conductance, total organic carbon, and total organic halogen) a single-tailed Student's t-test must be used to test at the 0.01 level of significance for significant increases over background. The difference test for pH must be a two-tailed Student's t-test at the overall 0.01 level of significance.

The student's t-test involves calculation of the value of a t-statistic for each comparison of the mean (average) concentration or value (based on a minimum of four replicate measurements) of an indicator parameter with its initial background concentration or value. The calculated value of the t-statistic must then be compared to the value of the t-statistic found in a table for t-test of significance at the specified level of significance. A calculated value of t which exceeds the value of t found in the table indicates a statistically significant change in the concentration or value of the indicator parameter.

Formulae for calculation of the t-statistic and tables for t-test of significance can be found in most introductory statistics texts.

APPENDIX V TO PART 265—EXAMPLES OF POTENTIALLY INCOMPATIBLE WASTE

Many hazardous wastes, when mixed with other waste or materials at a hazardous waste facility, can produce effects which are harmful to human health and the environment, such as (1) heat or pressure, (2) fire or explosion, (3) violent reaction, (4) toxic dusts, mists, fumes, or gases, or (5) flammable fumes or gases.

Below are examples of potentially incompatible wastes, waste components, and materials, along with the harmful consequences which result from mixing materials in one group with materials in another group. The list is intended as a guide to owners or operators of treatment, storage, and disposal facilities, and to enforcement and permit granting officials, to indicate the need for special precautions when managing these potentially incompatible waste materials or components.

This list is not intended to be exhaustive. An owner or operator must, as the regulations require, adequately analyze his wastes so that he can avoid creating uncontrolled substances or reactions of the type listed below, whether they are listed below or not.

It is possible for potentially incompatible wastes to be mixed in a way that precludes a reaction (e.g., adding acid to water rather than water to acid) or that neutralizes them (e.g., a strong acid mixed with a strong base), or that controls substances produced (e.g., by generating flammable gases in a

closed tank equipped so that ignition cannot occur, and burning the gases in an incinerator).

In the lists below, the mixing of a Group A material with a Group B material may have the potential consequence as noted.

Group 1–A	Group 1–B
Acetylene sludge	Acid sludge
Akaline caustic liquids	Acid and water
Alkaline cleaner	Battery acid
Alkaline corrosive liquids	Chemical cleaners
Alkaline corrosive battery fluid	Electrolyte, acid
Caustic wastewater	Etching acid liquid or solvent
Lime sludge and other corrosive alkalines	
Lime wastewater	Pickling liquor and other corrosive acids
Lime and water	Spent acid
Spent caustic	Spent mixed acid
	Spent sulfuric acid

Potential consequences: Heat generation; violent reaction.

Group 2–A	Group 2–B
Aluminum	Any waste in Group 1–A or 1–B
Beryllium	
Calcium	
Lithium	
Magnesium	
Potassium	
Sodium	
Zinc powder	
Other reactive metals and metal hydrides	

Potential consequences: Fire or explosion; generation of flammable hydrogen gas.

Group 3–A	Group 3–B
Alcohols	Any concentrated waste in Groups 1–A or 1–B
Water	Calcium
	Lithium
	Metal hydrides
	Potassium
	SO_2Cl_2, $SOCl_2$, PCl_3, CH_3SiCl_3
	Other water-reactive waste

Potential consequences: Fire, explosion, or heat generation; generation of flammable or toxic gases.

Group 4–A	Group 4–B
Alcohols	Concentrated Group 1–A or 1–B wastes
Aldehydes	Group 2–A wastes
Halogenated hydrocarbons	
Nitrated hydrocarbons	
Unsaturated hydrocarbons	
Other reactive organic compounds and solvents	

Potential consequences: Fire, explosion, or violent reaction.

Group 5–A	Group 5–B
Spent cyanide and sulfide solutions	Group 1–B wastes

Potential consequences: Generation of toxic hydrogen cyanide or hydrogen sulfide gas.

Group 6–A	Group 6–B
Chlorates	Acetic acid and other organic acids
Chlorine	Concentrated mineral acids
Chlorites	Group 2–A wastes
Chromic acid	Group 4–A wastes
Hyphochlorites	Other flammable and combustible wastes
Nitrates	
Nitric acid, fuming	
Perchlorates	
Permanganates	
Peroxides	
Other strong oxidizers	

Potential consequences: Fire, explosion, or violent reaction.

Source: ''Law, Regulations, and Guidelines for Handling of Hazardous Waste.'' California Department of Health, February 1975.

APPENDIX VI TO PART 265.—COMPOUNDS WITH HENRY'S LAW CONSTANT LESS THAN 0.1 Y/X—Continued

[At 25 degrees Celsius]

Compound name	CAS No.
Trichloro(1,1,2)Trifluoro	.....
Formaldehyde	50–00–0
Hydrocyanic Acid	74–90–8
Formamide	.....
Quinone	.....
Dimethyl Hydrazine(1,1)	57–14–7
Methyl Acrylate	96–33–3
Acetamide	60–35–5
Methyl Hydrazine	60–34–4
Diethylhydrazine N,N	.....
Formic Acid	64–18–6
Dimethyl Disulfide	624–92–0
Phorate	298–02–2
Hydrazine	302–01–2
Lead Subacetate	1335–32–
Lead Acetate	301–04–2
Naphthol,beta-	135–19–3
Diethylene Glycol Monomethyl Ether	.....
Nitrosodimethylamine N	62–75–9
Diethylene Glycol Monobutyl Ether	.....
AcetyL–2–Thiourea, 1-	591–08–2
Acrylic Acid	79–10–7
Ethylene Glycol Monophenyl Ether	.....

APPENDIX VI TO PART 265.—COMPOUNDS WITH HENRY'S LAW CONSTANT LESS THAN 0.1 Y/X—Continued

[At 25 degrees Celsius]

Compound name	CAS No.
Ethylene Glycol Monomethyl Ether	.....
Dimethyl Formamide	68–12–2
Diethylene Glycol Dimethyl Ether	.....
Propiolactone b	57–57–8
Ethylene Glycol Monopropyl Ether	.....
Methyl Sulfuric Acid	.....
Methyl Thiophenol 4	106–45–6
Ethylene Glycol Monoethyl Ether Cellosol	.....
Dimethyl Carbamoyl Chloride	.....
Ethylene Glycol Monoethyl Ether Acetate	.....
Butyl Cellosolve	111–76–2
Toluene Diamine(2,4)	95–80–7
Dimethylsulfoxide	.....
Aniline	62–53–3
Diethylene Glycol	111–46–6
Ethylphenol, 3-	620–17–7
Gylcidol	556–52–5
Butyric Acid	107–92–6
Nitroso-N-Methylurea N	684–93–5
Monomethyl Formanide	.....
Ethyl Carbamate	.....
Ethyl Morpholine, ethyl diethylene oxime	.....
Ethanolamine(mono-)	141–43–5
Ethylene Thiourea	.....
Phenol	108–95–2
Ethylene Glycol Monobutyl Ether	.....
Cresol	1319–77–
Propylene Glycol	57–55–6
Triethylene Glycol Dimethyl Ether	.....
Cresol(-o)	95–48–7
Toluidine (m)	.....
Chlorophenol-4	106–48–9
Benzyl Alcohol	100–51–6
Acetaldol	.....
Chloroacetic Acid	79–11–8
Glyphosate	.....
Ethylene Glycol	107–21–1
Adenine	73–24–5
Hexamethylphosphoramide	.....
Diethylene Glycol Monoethyl Ether Acetat	.....
Dichlorophenol 2,5	.....
Cresol(-p)	106–44–5
Nitrosomorpholine	.....
Quinoline	91–22–5
Dimethylsulfone	.....
Cresol(-m)	108–39–4
Toluene Diisocyanate(2,4)	584–84–9
Hydroxy-(2)-Propionitrile	109–78–4
Hexanoic Acid	142–62–1
Fumaric Acid	110–17–8
Methane Sulfonic Acid	75–75–2
Mesityl Oxide	141–79–7
Chloro-2,5-Diketopyrrolidine 3	.....
Pyridinium Bromide	.....
Methyliminoacetic Acid	.....
Dimethoate	60–51–5
Guanidine, Nitroso	674–81–7
Phenylacetic Acid	103–82–2
Benzene Sulfonic Acid	.....
Acetyl-5-Hydroxypiperidine 3	.....
Leucine	61–90–5
alpha-Picoline	1333–41–
Methyl-2-Methoxyaziridine 1	.....
Bromochloromethyl Acetate	.....
Dichlorotetrahydrofuran 3,4	3511–19–
Acetylpiperidine 3	618–42–8
Chloro-1,2-Ethane Diol	.....
Cyanide	57–12–5

APPENDIX VI TO PART 265.—COMPOUNDS WITH HENRY'S LAW CONSTANT LESS THAN 0.1 Y/X—Continued

[At 25 degrees Celsius]

Compound name	CAS No.
Niacinamide	98–92–0
Methoxyphenol P	150–76–5
Methylfurfural 5	620–02–0
Glycinamide	598–41–4
Succinimide	123–56–8
Sulfanilic Acid	121–47–1
Maleic Acid	110–16–7
Ametryn	.....
Dimethylphenol(3,4)	.....
Anisidine,o-	90–04–0
Tetraethylene Pentamine	.....
Diethylene Glycol Monoethyl Ether	.....
Chloracetophenone,2-	93–76–5
Dipropylene Glycol	.....
Hexamethylene 1,6 Diisocyanate	.....
Neopentyl Glycol	126–30–7
BHC,gamma-	58–89–9
Phenylene Diamine(-m)	108–45–2
Chlorohydrin, a 3 Chloro 1,2 Propanediol	.....
Xylenol(3,4)	95–65–8
Dinitro-o-Cresol(4,6)	534–52–1
Proporur (Baygon)	.....
Dibromo-4-Hydroxybenzonitrile (3,5)	.....
Catechol	120–80–9
Chloroaniline,p-	106–47–8
Dichlorvos	.....
Acrylamide	79–06–1
Thiosemicarbazide	79–19–6
Triethanolamine	102–71–6
Pentaerythritol	115–77–5
Phenylene Diamine(-o)	95–54–5
Caprolactam	.....
Benzoic Acid	65–85–0
Toluenediamine(3,4)	496–72–0
Tripropylene Glycol	.....
Phenylene Diamine(-p)	106–50–3
Terephthalic Acid	.....
Nitroglycerin	55–63–0
Chloro(-p)Cresol(-m)	59–50–7
Dichloroaniline 2,3-	.....
Nitroaniline(-o)	88–74–4
Diethyl (N,N) Aniline	91–66–7
Naphthol,alpha-	90–15–3
Aminopyridine,4-	504–24–5
Adiponitrile	.....
Bromoxynil	.....
Phthalic Anhydride	85–44–9
Maleic Anhydride	108–31–6
Nitrophenol,2-	88–75–5
Acetylaminofluorene,2	53–96–3
Propane Sultone,1,3-	1120–71–
Citric Acid	77–92–9
Epinephrine	51–43–4
Chlorophenol Polymers	.....
Creosote	8001–58–
Fluoroacetic Acid, Sodium Salt	62–74–8
Sodium Acetate	.....
Succinic Acid	110–15–6
Sodium Formate	141–53–7
Phenacetin	62–44–2
Hydroquinone	123–31–9
Dimethylaminoazobenzene,4-	60–11–7
Methylene Diphenyl Diisocyanate	.....
Oxalic Acid	144–62–7
Benzo(A)Pyrene	50–32–8
Dichlorobenzonitrile,2,6-	1194–65–6
Aminobiphenyl,4-	92–67–1
Naphthylamine,alpha-	134–32–7

APPENDIX VI TO PART 265.—COMPOUNDS WITH HENRY'S LAW CONSTANT LESS THAN 0.1 Y/X—Continued

[At 25 degrees Celsius]

Compound name	CAS No.
Diethanolamine	.....
Methylenedianiline 4,4	.....
Naphthylamine,beta-	91–59–8
Methylene Diphenylamine (MDA)	.....
Glutaric Acid	110–94–1
Resorcinol	108–46–3
Toluic Acid (para-)	99–94–5
Guthion	.....
Dimethyl Phthalate	131–11–3
Glycerin (glycerol)	56–81–5
Thiofanox	39196–18
Dibutylphthalate	84–74–2
Aldicarb	116–06–3
Nitrophenol,4-	100–02–7
Methylene-bis (2-Chloroaniline),4,4'-	101–14–4
Diphenylhydrazine(1,2)	122–66–7
Methomyl	16752–77
Malathion	121–75–5
Parathion	56–38–2
Adipic Acid	124–04–9
Alachlor	15972–60
Strychnidin-10-one,2,3-Dimethoxy-	357–57–3
Toluenediamine(2,6)	823–40–5
Cumylphenol-4	27576–86
Diazinon	.....
Benzene Arsonic Acid	98–05–5
Warfarin	81–81–2
Methyl Parathion	298–00–0
Diethylthiophosphatebenzo M Ethyl Pether	.....
Phenyl Mercuric Acetate	62–38–4

APPENDIX VI TO PART 265.—COMPOUNDS WITH HENRY'S LAW CONSTANT LESS THAN 0.1 Y/X—Continued

[At 25 degrees Celsius]

Compound name	CAS No.
Diethyl Propionamide,2aN	15299–99
Chlorobenzophenone (Para)	134–85–0
Thiourea,1-(o-Chlorophenyl)-	5344–82–
Dimethylbenzidine 3,3	.....
Dichloro-(2,6)-Nitroaniline(4)	99–30–9
Cellulose	9000–11–
Cell wall	.....
Benzidine	92–87–5
Tetraethyldithiopyrophosphate	3689–24–
Nabam	.....
Atrazine	1912–24–
Endrin	72–20–8
Bis(2-Ethylhexyl) Phthalate	117–81–7
Benzo(A)Anthracene	56–55–3
Cyanomethyl Benzoate 4	.....
Anthraquinone	84–65–1
Strychnine	57–24–9
Simazine	122–34–9
Pyrene	129–00–0
Chlorobenzylate	510–15–6
Dimethylbenz(A) Anthracene(7,12)	57–97–6
Indeno(1,2,3-cd)-Pyrene	193–39–5
Chrysene	218–01–9
Benzo(ghi)Perylene	191–24–2
Benzo(k) Fluoranthene	207–08–9
Dibenzo(a,h)Anthracene	53–70–3
Diethyl Phosphorothioate	126–75–0

[61 FR 59993, Nov. 25, 1996]