EPA-APPROVED LOUISIANA STATUTORY AND REGULATORY REQUIREMENTS APPLICABLE TO THE HAZARDOUS WASTE MANAGEMENT PROGRAM

Part 5 of 6

EPA-Approved Louisiana Hazardous Waste Regulatory Requirements:

LAC Title 33, Part. V, as of 12/31/09, Chapters 43-49 and 53

AUGUST 2011

ensure that transportation and disposal activities will protect human health and the environment.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Environmental Assessment, Environmental Planning Division, LR 28:1009 (May 2002).

Chapter 43. Interim Status

§4301. Purpose and Applicability

A. The purpose of interim status is to allow existing facilities to operate in an appropriate and responsible manner during the period of time required to process and review permit application or until certification of final closure or, if the facility is subject to post-closure requirements, until post-closure responsibilities are fulfilled. Interim status facilities must, when required by the administrative authority, submit to the Office of Environmental Services a permit application in compliance with the requirements of these regulations. Failure to submit an application is a violation of interim status and will result in revocation of a facility's interim status designation. Once revoked the facility will be treated as an unpermitted facility and appropriate legal action will be taken.

B. Except as provided in LAC 33:V.4719, the standards of this Chapter and of LAC 33:V.Chapter 26 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 LAC 33:V.501 until either a permit is issued under Section 3005 of RCRA or until applicable LAC 33:V.Chapter 43 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 LAC 33:V.303.K and 501.C. 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 Chapter or LAC 33:V.Chapter 49.

[Comment: As stated in Section 3005(a) of RCRA, after the effective date of regulations under that Section (i.e., LAC 33:V.Chapters 3, 5, and 7), 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 Chapter 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 LAC 33:V.Chapter 43 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 Subsection B of this Section.]

2. 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 and 2 of this Section is subject to the requirements of LAC 33:V.Chapters 11, 15, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 31, 32, 33, 35, and-37 to the extent they are included in a permit by rule granted to such a person under 40 CFR 122 and by 144.14.]

3. 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 40 CFR Part 271, except that the requirements of this Chapter will continue to apply:

a. if the authorized state RCRA program does not cover disposal of hazardous waste by means of underground injection; or

b. to a person who treats, stores, or disposes of hazardous waste in a state authorized under Subpart A or B of 40 CFR Part 271 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 in accordance with 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 40 CFR 271.1.j;

4. the owner or operator of a facility permitted, licensed, or registered by the state to manage municipal or industrial solid waste, if the only hazardous waste the facility treats, stores, or disposes of is excluded from regulation by LAC 33:V.Subpart 1;

5. the owner and operator of a facility managing recyclable materials described in LAC 33:V.4105.A.1-3, except to the extent they are referred to in LAC 33:V.Chapter 40 or LAC 33:V.4139, 4141, 4143, or 4145;

6. a generator accumulating waste on-site in compliance with LAC 33:V.1109.E, except to the extent the requirements are included in LAC 33:V.1109.E;

7. a farmer disposing of waste pesticides from his own use in compliance with LAC 33:V.1101.D;

8. the owner or operator of a *totally enclosed treatment facility* (as defined in LAC 33:V.109);

9. the owner or operator of an *elementary neutralization unit* or *wastewater treatment unit* (as defined in LAC 33:V.109), provided that if the owner or operator is diluting hazardous ignitable (D001) wastes (other than the D001 High TOC Subcategory defined in LAC 33:V.2299.Appendix, Table 2, 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 LAC 33:V.4321.B;

10.a. except as provided in Subparagraph C.10.b of this Section, a person engaged in treatment or containment

activities during immediate response to any of the following situations:

i. a discharge of a hazardous waste;

ii. an imminent and substantial threat of a discharge of hazardous waste;

iii. a discharge of a material that, when discharged, becomes a hazardous waste; or

iv. 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 *explosives or munitions emergency response specialist* as defined in LAC 33:V.109;

b. an owner or operator of a facility otherwise regulated by this Chapter must comply with all applicable requirements of LAC 33:V.Chapter 43.Subchapters C and D;

c. any person who is covered by Subparagraph C.10.b 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 Chapter and 40 CFR 122-124 for those activities; and

d. 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;

11. a transporter storing manifested shipments of hazardous waste in containers meeting the requirements of LAC 33:V.1109.A at a transfer facility for a period of 10 days or less;

12. the addition of absorbent material to waste in a *container* (as defined in LAC 33:V.109) 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 LAC 33:V.4321.B.1 and LAC 33:V.Chapter 43.Subchapter H are complied with;

13. universal waste handlers and universal waste transporters (as defined in LAC 33:V.3813) handling the wastes listed below. These handlers are subject to regulation under LAC 33:V.Chapter 38, when handling the following universal wastes:

a. batteries as described in LAC 33:V.3803;

b. pesticides as described in LAC 33:V.3805;

c. mercury-containing equipment as described in LAC 33:V.3807;

d. lamps as described in LAC 33:V.3809;

e. electronics as described in LAC 33:V.3810; and

f. antifreeze as described in LAC 33:V.3811;

14. LAC 33:V.5309 identifies when the requirements of this Chapter apply to the storage of military munitions classified as solid waste under LAC 33:V.5303. The treatment and disposal of hazardous waste military munitions are subject to the applicable permitting, procedural, and technical standards in LAC 33:V.Subpart 1.

D. Facilities having interim status are subject to all applicable federal and state laws and regulations, including these regulations.

E. The requirements of this Chapter apply to owners or operators of all facilities which treat, store, or dispose of hazardous waste referred to in LAC 33:V.Chapter 22, and Chapter 22 standards are material conditions or requirements of the LAC 33:V.Chapter 43 interim status standards.

F. Interim status is not available to any facility that has been previously denied a permit for the treatment, storage or disposal of hazardous waste or for which authority to operate has been previously terminated.

G. EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, or F027 must not be managed at facilities subject to regulation under LAC 33:V.4301-4547 unless:

1. the wastewater treatment sludge is generated in a surface impoundment as part of the plant's wastewater treatment system;

2. the waste is stored in tanks or containers;

3. the waste is stored or treated in waste piles that meet the requirements of LAC 33:V.2301.C as well as all other applicable requirements of LAC 33:V.Chapter 43.Subchapter K;

4. the waste is burned in incinerators that are certified pursuant to the standards and procedures in LAC 33:V.4522; or

5. 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 LAC 33:V.4534.

H. Failure to Qualify for Interim Status. If the department has reason to believe upon examination of a Part I application that it fails to meet the requirements of these regulations, it shall notify the owner or operator in writing of the apparent deficiency. Such notice shall specify the grounds for the department's belief that the application is deficient. The owner or operator shall have 30 days from receipt to respond to such a notification and to explain or cure the alleged deficiency in his Part I application. If, after such notification and opportunity for response, the department determines that the application is deficient, it may take appropriate enforcement action.

I. LAC 33:V.5309 identifies when the requirements of this Chapter apply to the storage of military munitions classified as solid waste under LAC 33:V.5303. The treatment and disposal of hazardous waste military munitions are subject to the applicable permitting, procedural, and technical standards in LAC 33:V.Chapters 1-37, 41-49, and 53.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 10:496 (July 1984), LR 13:84 (February 1987), LR 16:220 (March 1990), LR 17:362 (April 1991), LR 18:1256 (November 1992), LR 20:1000 (September 1994), LR 21:266 (March 1995), amended by the Office of Waste Services, Hazardous Waste Division, LR 24:1743 (September 1998), LR 25:482 (March 1999), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 25:1466 (August 1999), LR 26:2498 (November 2000), LR 27:713 (May 2001), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2474 (October 2005), LR 31:3121 (December 2005), LR 32:612 (April 2006), LR 33:2126 (October 2007), LR 34:632 (April 2008).

§4302. Operation during Interim Status

A. During the interim status period the facility shall not:

1. treat, store, or dispose of hazardous waste not specified in Part I of the permit application;

2. employ processes not specified in Part I of the permit application; or

3. exceed the design capacities specified in Part I of the permit application.

B. Interim Status Standards. During interim status, owners or operators shall comply with the interim status standards at LAC 33:V.Chapter 43.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 20:1000 (September 1994).

§4303. Changes during Interim Status

A. Except as provided in LAC 33:V.4303.B, the owner or operator of an interim status facility may make the following changes at the facility:

1. treatment, storage, or disposal of new hazardous wastes not previously identified in Part I of the permit application (and, in the case of newly listed or identified wastes, addition of the units being used to treat, store, or dispose of the hazardous wastes on the effective date of the listing or identification) if the owner or operator submits a revised Part I permit application prior to such treatment, storage, or disposal;

2. increases in the design capacity of processes used at the facility if the owner or operator submits a revised Part I permit application prior to such a change (along with a justification explaining the need for the change) and the administrative authority approves the changes because:

a. there is a lack of available treatment, storage, or disposal capacity at other hazardous waste management facilities; or

b. the change is necessary to comply with a federal, state, or local requirement;

3. changes in the processes for the treatment, storage, or disposal of hazardous waste or addition of processes if the owner or operator submits a revised Part I permit application prior to such change (along with a justification explaining the need for the change) and the administrative authority approves:

a. the change is necessary to prevent a threat to human health and the environment because of an emergency situation; or

b. the change is necessary to comply with a federal, state, or local requirement;

4. changes in the ownership or operational control of a facility, which shall be done in accordance with LAC 33:I.Chapter 19;

5. changes made in accordance with an interim status corrective action order issued by EPA under Section 3008(h) of RCRA or other federal authority, or by a court in a judicial action brought by EPA. Changes under this Paragraph are limited to the treatment, storage, or disposal of solid waste from releases that originate within the boundary of the facility;

6. addition of newly regulated units for the treatment, storage, or disposal of hazardous waste if the owner or operator submits a revised Part I permit application on or before the date on which the unit becomes subject to the new requirements.

B. Except as specifically allowed under this Section, changes listed under LAC 33:V.4303.A may not be made if they amount to reconstruction of the hazardous waste management facility. Reconstruction occurs when the capital investment in the changes to the facility exceeds 50 percent of the capital cost of a comparable entirely new hazardous waste management facility. If all other requirements are met, the following changes may be made even if they amount to a reconstruction:

1. changes made solely for the purposes of complying with the requirements of LAC 33:V.4437 for tanks and ancillary equipment;

2. if necessary to comply with federal, state, or local requirements, changes to an existing unit, changes solely involving tanks or containers, or addition of replacement surface impoundments that satisfy the standards of LAC 33:V.Chapters 15, 19, 21, or 29;

3. changes that are necessary to allow owners or operators to continue handling newly listed or identified hazardous wastes that have been treated, stored, or disposed of at the facility prior to the effective date of the rule establishing the new listing or identification;

4. changes during closure of a facility or of a unit within a facility made in accordance with an approved closure plan;

5. changes necessary to comply with an interim status corrective action order issued by EPA under Section 3008(h) of RCRA or other federal authority, or by a court in a judicial proceeding brought by EPA, provided that such changes are limited to the treatment, storage, or disposal of solid waste from releases that originate within the boundary of the facility;

6. changes to treat or store, in tanks, containers, or containment buildings, hazardous wastes subject to land disposal prohibitions imposed by LAC 33:V.Chapter 22, provided that such changes are made solely for the purpose of complying with LAC 33:V.Chapter 22;

7. addition of newly regulated units under LAC 33:V.4303.A.6;

8. changes necessary to comply with standards under 40 CFR Part 63, Subpart EEE–National Emission Standards for Hazardous Air Pollutants From Hazardous Waste Combustors.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 10:496 (July 1984), LR 13:433 (August 1987), LR 15:378 (May 1989), LR 16:220 (March 1990), LR 16:614 (July 1990), LR 17:658 (July 1991), LR 18:1375 (December 1992), LR 21:266 (March 1995), amended by the Office of Waste Services, Hazardous Waste Division, LR 25:484 (March 1999), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2430 (October 2005).

§4305. Termination of Interim Status

A. Interim status terminates when:

1. for owners or operators of each land disposal facility which achieved interim status prior to November 8, 1984, on November 8, 1985, unless:

a. the owner or operator submits a Part II application for a permit for such facility prior to that date; and

b. the owner or operator certifies that such facility is in compliance with all applicable groundwater monitoring and financial responsibility requirements;

2. for owners or operators of each land disposal facility which is in existence on the effective date of statutory or regulatory amendments under the Act that render the facility subject to the requirement to have a RCRA permit and which is granted interim status, 12 months after the date on which the facility first becomes subject to such permit requirement unless the owner or operator of such facility:

a. submits a Part II application for a RCRA permit for such facility before the date 12 months after the date on which the facility first becomes subject to such permit requirement; and

b. certifies that such facility is in compliance with all applicable ground-water monitoring and financial responsibility requirements;

3. for owners and operators of each incinerator facility which has achieved interim status prior to November 8, 1984, interim status terminates on November 8, 1989, unless the owner or operator of the facility submits a Part II application for a RCRA permit for an incinerator facility by November 8, 1986;

4. for owners or operators of any facility (other that a land disposal or an incinerator facility) which achieved interim status prior to November 8, 1984, interim status terminates on November 8, 1992, unless the owner or operator of the facility submits a Part II application for a RCRA permit for the facility by November 8, 1988;

5. for owners or operators of any land disposal unit that is granted authority to operate under LAC 33:V.4303.A.1, 2, or 3, on the date 12 months after the effective date of such requirement, unless the owner or operator certifies that such unit is in compliance with all applicable groundwater monitoring and financial responsibility requirements;

6. one of the following occurs:

a. final administrative disposition of a permit application is made, except an application for a remedial action plan (RAP) under LAC 33:V.Chapter 43.Subchapter H; or

b. interim status is terminated as provided in LAC 33:V.303.E.4.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 16:220 (March 1990), LR 16:614 (July 1990), LR 20:1000 (September 1994), LR 20:1109 (October 1994), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:288 (February 2000).

§4306. Imminent Hazard Action

A. Notwithstanding any other provisions of these regulations, enforcement actions may be brought pursuant to R.S. 30:2050.8.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Environmental Assessment, Environmental Planning Division, LR 26:288 (February 2000).

Subchapter A. General Facility Standards

§4307. Applicability

A. The regulations of LAC 33:V.Chapter 43 apply to owners and operators of all hazardous waste facilities except as LAC 33:V.4301 provides otherwise.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 21:944 (September 1995), amended by the Office of Waste Services, Hazardous Waste Division, LR 24:1109 (June 1998), LR 25:484 (March 1999).

§4309. Identification Number

A. Every facility owner or operator must apply to EPA for an EPA identification number in accordance with the EPA notification procedures.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4311. Required Notices

A. Interim status facilities must comply with LAC 33:V.1531.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 10:496 (July 1984), amended by the Office of Waste Services, Hazardous Waste Division, LR 24:685 (April 1998).

§4313. General Waste Analysis

A. Before an owner or operator treats, stores, or disposes of any hazardous wastes or nonhazardous wastes, if applicable, under LAC 33:V.4383.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 LAC 33:V.Chapters 22 and 43.

B. The analysis may include data developed under LAC 33:V.Chapters 1, 31, 41, 49 and existing published or documented data about the hazardous waste or about 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 LAC 33:V.4313.A. 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 LAC 33:V.4313.A, except as otherwise specified in LAC 33:V.2247.A and G. 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.]

C. 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:

1. when the owner or operator is notified or has reason to believe that the process or operation generating the hazardous wastes or nonhazardous wastes, if applicable, under LAC 33:V.4383.D has changed; and

2. for off-site facilities, when the results of the inspection required in LAC 33:V.4313.D indicate that the hazardous waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

D. 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.

E. 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 LAC 33:V.4313.A-D. He must keep this plan at the facility. At a minimum, the plan must specify:

1. the parameters for which each hazardous waste or nonhazardous waste, if applicable, under LAC 33:V.4383.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 LAC 33:V.4313.A-D;

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:

a. one of the sampling methods described in LAC 33:V.4999.Appendix D; or

b. an equivalent sampling method;

[NOTE: See LAC 33:V.105.H 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;

6. where applicable, the methods that will be used to meet the additional waste analysis requirements for specific waste management methods as specified in LAC 33:V.2245, 2247, 4445, 4453, 4467, 4481, 4507, 4515, 4527, 4539, 4557, 4585, and 4727;

7. for surface impoundments exempted from land disposal restrictions under LAC 33:V.2237.A, the procedures and schedule for:

a. the sampling of impoundment contents;

b. the analysis of test data; and

c. the annual removal of residues which are not delisted under LAC 33:V.105.M or which exhibit a characteristic of hazardous waste and either:

i. do not meet applicable treatment standards of LAC 33:V.Chapter 22.Subchapter B; or

ii. where no treatment standards have been established:

(a). such residues are prohibited from land disposal under LAC 33:V.2213 or RCRA Section 3004(d); or

(b). such residues are prohibited from land disposal under LAC 33:V.Chapter 22; and

8. for owners and operators seeking an exemption to the air emission standards of Subchapter V of this Chapter in accordance with LAC 33:V.4725:

a. 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; and

b. 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.

F. For off-site facilities, the waste analysis plan required in LAC 33:V.4313.E 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;

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; and

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.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 16:1057 (December 1990), LR 21:266 (March 1995), amended by the Office of Waste Services, Hazardous Waste Division, LR 24:1743 (September 1998), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 27:714 (May 2001).

§4315. 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 LAC 33:V.4315.A.1 and 2, 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. a barrier and a means to control entry as follows:

a. 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 a facility; and

b. 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).

C. The requirements of LAC 33:V.4315.B 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 LAC 33:V.4315.B.1 or B.2.

D. Unless exempt under LAC 33:V.4315.A.1 and A.2, 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 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.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4317. 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 release of

hazardous waste constituents to the environment or 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. 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.

1. He must keep this schedule at the facility.

2. 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.).

3. 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 LAC 33:V.4425, 4437, 4440, 4455, 4470, 4485, 4502, 4519, 4529, 4541, 4555, 4565, 4567, 4577, and 4727-4739, 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.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 21:266 (March 1995), amended by the Office of Waste Services, Hazardous Waste Division, LR 24:1744 (September 1998), LR 25:484 (March 1999).

§4319. Personnel Training

A. Interim status facilities must comply with LAC 33:V.1515.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4320. 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 LAC 33:V.4462.A, 4476, and 4512.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:

a. foundations;

b. dikes;

c. low-permeability soil liners;

d. geomembranes (flexible membrane liners);

e. leachate collection and removal systems and leak detection systems; and

f. final cover systems.

B. Written CQA Plan. Before construction begins on a unit subject to the CQA program under LAC 33:V.4320.A, 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; and

3. a description of inspection and sampling activities for all unit components identified in LAC 33:V.4320.A.2, 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 LAC 33:V.4357.

C. Contents of Program

1. The CQA program must include observations, inspections, tests, and measurements sufficient to ensure:

a. structural stability and integrity of all components of the unit identified in LAC 33:V.4320.A.2;

b. 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; and

c. conformity of all materials used with design and other material specifications under LAC 33:V.2303, 2503, and 2903.

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 LAC 33:V.2303.C.1, 2503.L.1, and 2903.J.1 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 LAC 33:V.2303.C.1, 2503.L.1, and 2903.J.1 in the field.

D. Certification. The owner or operator of units subject to this Section must submit to the Office of Environmental Services, 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 LAC 33:V.4462.A, 4476, or 4512.A. The owner or operator may receive waste in the unit after 30 days from the administrative authority's receipt of the CQA certification unless the administrative authority 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 administrative authority upon request.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 21:266 (March 1995), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2499 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2475 (October 2005), LR 33:2126 (October 2007).

§4321. General Requirements for Ignitable, Reactive, or Incompatible Wastes

A. Interim status facilities must comply with LAC 33:V.1517.A, C, D, E, and F.

B. 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 any like methods threaten human health or the environment.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4322. Location Standards

A. The placement of any hazardous waste in a salt dome, salt bed formation, underground mine, or cave is prohibited.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 16:220 (March 1990).

Subchapter B. Preparedness and Prevention

§4323. Applicability

A. Interim status facilities must comply with LAC 33:V.1511.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4325. Maintenance and Operation of Facility

A. Facilities must be maintained and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or nonsudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4327. Required Equipment

A. Interim status facilities must comply with LAC 33:V.1511.C.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4329. Testing and Maintenance of Equipment

A. Interim status facilities must comply with LAC 33:V.1511.D.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4331. Access to Communications or Alarm Systems

A. Interim status facilities must comply with LAC 33:V.1511.E.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4333. Required Aisle Space

A. Interim status facilities must comply with LAC 33:V.1511.F.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4335. Arrangements with Local Authorities

A. Interim status facilities must comply with LAC 33:V.1511.G.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

Subchapter C. Contingency Plan and Emergency Procedures

§4337. Applicability

A. The regulations of this Subchapter apply to owners and operators of all hazardous waste facilities except as provided in LAC 33:V.4307.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended by the Office of Waste Services, Hazardous Waste Division, LR 24:1109 (June 1998).

§4339. Purpose and Implementation of Contingency Plan

A. Interim status facilities must comply with LAC 33:V.1513.A.1 and 3.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 10:496 (July 1984), amended by the Office of the Secretary, Legal Affairs Division, LR 33:1626 (August 2007).

§4341. Content of Contingency Plan

A. Interim status facilities must comply with LAC 33:V.1513.B.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quantity, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 10:496 (July 1984).

§4343. Copies of Contingency Plan

A. Interim status facilities must comply with LAC 33:V.1513.C.2.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 10:496 (July 1984).

§4345. Amendment of Contingency Plan

A. The contingency plan must be reviewed, and immediately amended, if necessary, whenever:

1. applicable regulations are revised;

2. the plan fails in an emergency;

3. 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;

4. the list of emergency coordinators changes; or

5. the list of emergency equipment changes.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4347. Emergency Coordinator

A. Interim status facilities must comply with LAC 33:V.1513.E.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4349. Emergency Procedures

A. Interim status facilities must comply with LAC 33:V.1513.F.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March, 1984).

Subchapter D. Manifest System, Recordkeeping, and Reporting

§4351. Applicability

A. The regulations in this Subchapter apply to owners and operators of both on-site and off-site facilities, except as

LAC 33:V.4307 provides otherwise. LAC 33:V.4353, 4355, and 4363 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources, nor to owners and operators of off-site facilities with respect to military munitions waste.

B. The revised manifest form and procedures in 40 CFR 260.10, 261.7, 265.70, 265.71, 265.72, and 265.76 shall be effective as of September 5, 2006. The manifest form and procedures in the July 1, 2004 CFR shall be applicable until September 5, 2006.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended by the Office of Waste Services, Hazardous Waste Division, LR 24:1109 (June 1998), amended by the Office of the Secretary, Legal Affairs Division, LR 32:830 (May 2006).

§4353. Use of the Manifest System

A. Interim status facilities must comply with LAC 33:V.1516.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 17:367 (April 1991), amended by the Office of the Secretary, Legal Affairs Division, LR 32:831 (May 2006).

§4355. Manifest Discrepancies

A. Interim status facilities must comply with LAC 33:V.1516.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 17:367 (April 1991), amended by the Office of the Secretary, Legal Affairs Division, LR 32:831 (May 2006).

§4356. Unmanifested Waste Report

A. Interim status facilities must comply with LAC 33:V.1516.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of the Secretary, Legal Affairs Division, LR 32:831 (May 2006).

§4357. Operating Record

A. The owner or operator must keep a written operating record at his facility.

B. Records of each hazardous waste received, treated, stored, or disposed of at the facility must be recorded, as they become available, and maintained in the operating record for three years, unless otherwise specified in Paragraphs B.1-17 of this Section. These records shall include the following information:

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 LAC 33:V.4999.Appendix F. This information must be maintained in the operating record until closure of the facility;

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 manifest document numbers, if the waste was accompanied by a manifest. This information must be maintained in the operating record until closure of the facility;

3. 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. Units for Reporting

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
British thermal units per Hour	I
Pounds	P
Short tons	T
Kilograms	K
Tons	M

[1] Single digit symbols are used here for data processing purposes.

4. the method(s) [by handling code(s) as specified in Table 2 of this Section] 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.
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)

Table 2. Handling Codes for Treatment, Storage, and Disposal Methods	
Treatment	
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)
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)
Physical Treatment	
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)
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)
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	Trickling filter
T76	Waste stabilization pond
T77	Other (specify)
T78	[Reserved]
T79	[Reserved]
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 LAC 33:V.109 (specify)
Other Treatment	
T94	Containment Building (Treatment)
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)
Miscellaneous	
X01	Open Burning/Open Detonation
X02	Mechanical Processing
X03	Thermal Unit
X04	Geologic Repository
X99	Other (specify)

5. records and results of waste analyses and trial tests performed as specified in LAC 33:V.2237.A, 2245, 4313, 4445, 4453, 4467, 4481, 4507, 4515, 4527, 4539, 4557, and 4727;

6. summary reports and details of all incidents that require implementing the contingency plan as specified in LAC 33:V.1513.F.9;

7. records and results of inspections as required by LAC 33:V.1509.D (except these data need be kept only three years);

8. monitoring, testing, or analytical data, and corrective action where required by LAC 33:V.4320, 4367, 4375, 4433, 4437, 4440, 4449, 4451, 4455, 4470, 4472, 4474, 4483, 4485, 4489.D.1, 4497, 4498, 4499, 4501, 4502, 4519, 4529, 4557, 4559, 4587, 4589, 4725, 4727, 4729, 4731, 4733, 4735, 4737, and 4739. Maintain this information in the operating record for three years, except for records and results pertaining to groundwater monitoring and

cleanup, and response action plans for surface impoundments, waste piles, and landfills, which must be maintained in the operating record until closure of the facility;

> [Comment: As required by LAC 33:V.4375, monitoring data at disposal facilities must be kept throughout the post-closure period.]

9. all closure cost estimates under LAC 33:V.4401 and, for disposal facilities, all post-closure cost estimates under LAC 33:V.4405. This information must be maintained in the operating record until closure of the facility;

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 prohibition granted in accordance with LAC 33:V.2239, monitoring data required in accordance with an exemption under LAC 33:V.2241 or 2271 or the applicable notice required of a generator under LAC 33:V.2245. All of this information must be maintained in the operating record until closure of the facility;

11. for an off-site treatment facility, a copy of the notice and the certification and demonstration, if applicable, required of the generator or the owner or operator under LAC 33:V.2245 or 2247;

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 LAC 33:V.2245 or 2247;

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 LAC 33:V.2245 or 2247;

14. 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 LAC 33:V.2245 or 2247;

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 LAC 33:V.2245 or 2247;

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 of a treatment facility under LAC 33:V.2245 or 2247;

17. monitoring, testing, or analytical data and corrective action data where required by LAC 33:V.4367, 4373.F, and 4373.I, and the certification as required by LAC 33:V.4441.F. This information must be maintained in the operating record until closure of the facility.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 10:496 (July 1984), LR 15:378 (May 1989), LR 16:220 (March 1990), LR 17:658 (July 1991), LR 18:723 (July 1992), LR 20:1000 (September 1994), LR 21:266 (March 1995), LR 22:837 (September 1996), amended by the Office of Waste Services, Hazardous Waste Division, LR 24:1744 (September 1998), LR 25:484 (March 1999), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 25:1803 (October 1999), amended by the Office of the Secretary, Legal Affairs Division, LR 33:1626 (August 2007), LR 34:633 (April 2008), LR 34:1018 (June 2008), LR 34:1899 (September 2008).

§4359. Availability, Retention, and Disposition of Records

A. Interim status facilities must comply with LAC 33:V.1529.C.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4361. Annual Report

A. Interim status facilities must comply with LAC 33:V.1529.D.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4363. Unmanifested Waste Report

A. Interim status facilities must comply with LAC 33:V.1516.D.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4365. Additional Reports

A. In addition to submitting the biennial report and unmanifested waste reports described in LAC 33:V.4361 and 4363, the owner or operator must also report to the administrative authority:

1. releases, fires, and explosions as specified in LAC 33:V.1513.F.9;

2. groundwater contamination and monitoring data as specified in LAC 33:V.4373 and 4375;

3. facility closure as specified in LAC 33:V.4387; and

4. as otherwise required by LAC 33:V.Chapter 43.Subchapters Q, R, and V.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 10:496 (July 1984), LR 17:658 (July 1991), amended by the Office

of Waste Services, Hazardous Waste Division, LR 24:1744 (September 1998), amended by the Office of the Secretary, Legal Affairs Division, LR 34:1002 (June 2008).

Subchapter E. Groundwater Monitoring

§4367. Applicability

Facilities that have interim status must comply with this Subchapter in lieu of LAC 33:V.Chapter 33.

A. The owner or operator of a surface impoundment, landfill, or land treatment facility, which is used to manage hazardous waste, must implement a groundwater monitoring program capable of determining the facility's impact on the quality of groundwater in the uppermost aquifer underlying the facility, except as LAC 33:V.4301 and Subsection C of this Section provide otherwise.

B. Except as LAC 33:V.4367.C and D provide otherwise, the owner or operator must install, operate, and maintain a groundwater monitoring system which meets the requirements of LAC 33:V.4369 and must comply with LAC 33:V.4371, 4373, and 4375. This groundwater 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. If an owner or operator assumes (or knows) that groundwater monitoring of indicator parameters, in accordance with LAC 33:V.4369 and 4371, would show statistically significant increases (or decreases in the case of pH) when evaluated under LAC 33:V.4373.B, he may install, operate, and maintain an alternate groundwater monitoring system (other than the one described in LAC 33:V.4371 and 4373). If the owner or operator decides to use an alternate groundwater monitoring system he must:

1. within one year after the effective date of these regulations, develop a specific plan, certified by a qualified geologist or geotechnical engineer, that satisfies the requirements of LAC 33:V.4373.G, for an alternate groundwater monitoring system. This plan is to be placed in the facility's operating record and maintained until closure of the facility;

2. not later than one year after the effective date of these regulations, initiate the determinations specified in LAC 33:V.4373.H;

3. prepare a report in accordance with LAC 33:V.4373.I and place it in the facility's operating record and maintain until closure of the facility;

4. continue to make the determinations specified in LAC 33:V.4373.H on a quarterly basis until final closure of the facility; and

5. comply with the recordkeeping and report requirements in LAC 33:V.4375.B.

D. The groundwater monitoring requirements of this Subchapter may be waived with respect to any surface impoundment that is used to neutralize wastes which are hazardous solely because they exhibit the corrosivity characteristic under LAC 33:V.4903.C or listed as hazardous wastes in LAC 33:V.4901 only for the reason that they are corrosive and the surface impoundment 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 and must be approved by the administrative authority.

E. The administrative authority may replace all or part of the requirements of this Chapter applying to a regulated unit (as defined in LAC 33:V.3301) with alternative requirements developed for groundwater monitoring set out in an approved closure or post-closure plan or in an enforceable document (as defined in LAC 33:V.305.H), where the administrative authority determines that:

1. a regulated unit is situated among solid waste management units (or areas of concern), a release has occurred, and both the regulated unit and one or more solid waste management unit(s) (or areas of concern) are likely to have contributed to the release; and

2. it is not necessary to apply the requirements of this Chapter because the alternative requirements will protect human health and the environment. The alternative standards for the regulated unit must meet the requirements of LAC 33:V.4379.A and B.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended by the Office of Waste Services, Hazardous Waste Division, LR 25:484 (March 1999), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2499 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 33:2126 (October 2007), LR 34:633 (April 2008), LR 34:1002 (June 2008), LR 34:1899 (September 2008).

§4369. Groundwater Monitoring System

A. A groundwater monitoring system must be capable of yielding groundwater 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 groundwater samples that are:

a. representative of background groundwater quality in the uppermost aquifer near the facility; and

b. 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 groundwater scientist and establish that:

a. an existing physical obstacle prevents monitoring well installation at the hydraulically downgradient limit of the waste management area;

b. the selected alternate downgradient location is as close to the limit of the waste management area as practical; and

c. 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;

d. 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 groundwater.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 21:266 (March 1995).

§4371. Sampling and Analysis

A. The owner or operator must obtain and analyze samples from the installed groundwater monitoring system. The owner or operator must develop and follow a groundwater sampling and analysis plan. He must keep this plan at the facility. The plan must be approved by the administrative authority and 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 Groundwater 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 groundwater samples in accordance with LAC 33:V.4371.C and D:

1. parameters characterizing the suitability of the groundwater as a drinking water supply, as follows:

Parameter	Maximum Level (mg/L unless otherwise stated)
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
2-4D	0.1
2,4,5-TP Silver	0.01
Radium	5 pCi/l
Gross Alpha	15 pCi/l
Gross Beta	4 millirem/yr
*Turbidity	1/TU
Coliform Bacteria	1/100 ml

* Turbidity is applicable only to surface water supplies.

2. the following parameters are to be used as a basis for comparison in the event a groundwater quality assessment is required under LAC 33:V.4373.D:

a. chloride;

b. iron;

c. manganese;

d. phenols;

e. sodium;

f. sulfate;

3. parameters used as indicators of groundwater contamination:

a. pH;

b. specific conductance;

c. total organic carbon; and

d. total organic halogen.

C. For all monitoring wells, the owner or operator must establish initial background concentrations or values of all parameters as specified in LAC 33:V.4371.B quarterly for one year.

D. For each of the indicator parameters specified in LAC 33:V.4371.B.3, 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.

E. After the first year, all monitoring wells must be sampled and the samples analyzed with the following frequencies:

1. at least annually, samples must be collected to establish groundwater quality and analyzed for the parameters specified in LAC 33:V.4371.B.2; and

2. at least semi-annually samples must be collected to indicate groundwater contamination and analyzed for the parameters specified in LAC 33:V.4371.B.3;

3. the administrative authority may require the owner or operator to analyze for specific indicator parameters on a more frequent schedule.

F. Elevation of the groundwater surface at each monitoring well must be determined each time a sample is obtained.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 10:496 (July 1984), LR 18:1256 (November 1992), LR 22:829 (September 1996).

§4373. Preparation, Evaluation, and Response

A. The owner or operator must have an outline of a groundwater quality assessment program. The outline must describe a more comprehensive groundwater monitoring program (than that described in LAC 33:V.4369 and 4371) capable of determining:

1. whether hazardous waste or hazardous waste constituents have entered the groundwater;

2. the rate and extent of migration of hazardous waste or hazardous waste constituents in the groundwater; and

3. the concentrations of hazardous waste or hazardous waste constituents in the groundwater.

B. For each indicator parameter specified in LAC 33:V.4371.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 LAC 33:V.4371.E.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 LAC 33:V.3309.A.3, Table 1) to determine statistically significant increases (and decreases in the case of pH) over initial background.

C. If the comparisons for the upgradient wells made under LAC 33:V.4373.B show a significant increase (or decrease in pH), the owner or operator must submit this information in accordance with LAC 33:V.4375.A.2.

D. If the comparison for downgradient wells made under LAC 33:V.4373.B shows a significant increase (or decrease in pH), the owner or operator must then immediately obtain additional groundwater 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.

E. If the analyses performed under LAC 33:V.4373 confirm the significant increase (or pH decrease), the owner or operator must provide written notice to the administrative authority, within seven days of the date of such confirmation, that the facility may be affecting groundwater quality.

F. Within 15 days after the notification required in Subsection E of this Section, the owner or operator must develop a specific plan, based on the outline required in Subsection A of this Section and certified by a qualified geologist or geotechnical engineer, for a groundwater quality assessment program at the facility. This plan must be placed in the facility operating record and be maintained until closure of the facility.

G. The plan to be submitted under LAC 33:V.4367.C.1 or 4373.F must specify:

1. the number, location, and depth of wells;

2. sampling and analytical methods for those hazardous wastes or hazardous waste constituents in the facility;

3. evaluation procedures, including any use of previously gathered groundwater quality information; and

4. a schedule of implementation.

H. The owner or operator must implement the groundwater quality assessment plan which satisfies the requirements of LAC 33:V.4373.G, and, at a minimum, determine:

1. the rate and extent of migration of the hazardous waste or hazardous waste constituents in the groundwater; and

2. the concentrations of the hazardous waste or hazardous waste constituents in the groundwater.

I. The owner or operator must make his first determination required in Subsection H of this Section as soon as technically feasible and prepare a report containing an assessment of the groundwater quality. This report must be placed in the facility operating record and be maintained until closure of the facility.

J. If the owner or operator determines, based on the results of the first determination under LAC 33:V.4373.H, that no hazardous waste or hazardous waste constituents from the facility have entered the groundwater, then he may reinstate the indicator evaluation program described in LAC 33:V.4371 and 4373.B. If the owner or operator reinstates the indicator evaluation program, he must notify the Office of Environmental Services, in the report submitted under LAC 33:V.4373.I.

K. Notwithstanding any other provision of this Chapter, the administrative authority may order such corrective action measures as may be necessary for groundwater protection. When it is determined, based on the groundwater quality assessment plan, that hazardous waste or hazardous waste constituents from the facility have entered the groundwater, the administrative authority shall establish a groundwater protection standard including:

1. a list of hazardous constituents, concentration limits, the compliance points and the compliance period. ~~The~~ administrative authority may establish alternative risk-assessment-based concentration limits. Any alternative risk-assessment-based concentration limit must be protective of human health and the environment, as demonstrated in ~~accordance with LAC 33:I.Chapter 13;~~

2. within 30 days or other schedule required by the administrative authority, after the establishment of the groundwater protection standard, the owner or operator shall submit to the Office of Environmental Services a corrective action and monitoring plan;

3. within a reasonable time set by the administrative authority, corrective action measures shall be instituted by the owner or operator 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;

4. if the owner or operator determines, based on the first determination under LAC 33:V.4373 that hazardous waste or hazardous waste constituents from the facility have entered the groundwater, he:

a. must continue to make the determinations required under LAC 33:V.4373 on a quarterly basis until final closure of the facility if the groundwater quality assessment plan was implemented prior to final closure of the facility; or

b. may cease to make the determination required under LAC 33:V.4373 if the groundwater quality assessment plan was implemented during the post-closure care period.

L. Notwithstanding any other provision of this Subchapter, any groundwater quality assessment to satisfy the requirements of LAC 33:V.4373.H, which is initiated prior to final closure of the facility, must be completed and reported in accordance with LAC 33:V.4373.I.

M. Unless the groundwater is monitored to satisfy the requirements of LAC 33:V.4373.H, the owner or operator must evaluate the data on groundwater surface elevations obtained under LAC 33:V.4371.F at least annually to determine whether the requirements under LAC 33:V.4369.A for locating the monitoring wells continue to be satisfied. If the evaluation shows that LAC 33:V.4369.A is no longer satisfied, the owner or operator must immediately modify the number, location, or depth of the monitoring wells to bring the groundwater monitoring system into compliance with this requirement.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 10:496 (July 1984), LR 14:791 (November 1988), LR 18:723 (July 1992), amended by the Office of the Secretary, LR 24:2248 (December 1998), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2499 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 33:2126 (October 2007), LR 34:1003 (June 2008).

§4375. Recordkeeping and Reporting

A. Unless the groundwater is monitored to satisfy the requirements of LAC 33:V.4373.H, the owner or operator must:

1. keep records throughout the active life of the facility of the analyses required in LAC 33:V.4371.C and E, the associated groundwater surface elevations required in LAC 33:V.4371.F, and the evaluations required in LAC 33:V.4373.B, and, for disposal facilities, throughout the post-closure care period as well; and

2. report the following groundwater monitoring information to the Office of Environmental Services:

a. during the first year when initial background concentrations are being established for the facility, concentrations or values of the parameters listed in LAC 33:V.4371.B.1 for each groundwater 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 LAC 33:V.4371.B.1;

b. concentrations or values of the parameters listed in LAC 33:V.4371.B.3 for each groundwater monitoring well, along with the required evaluations for these parameters under LAC 33:V.4373.B. The owner or operator must separately identify any significant differences from

initial background found in the upgradient wells, in accordance with LAC 33:V.4373.C. During the active life of the facility, this information must be submitted no later than March 1 following each calendar year; and

c. no later than March 1 following each calendar year, results of the evaluations of groundwater surface elevations under LAC 33:V.4373.M, and a description of the response to that evaluation, where applicable.

B. If the groundwater is monitored to satisfy the requirements of LAC 33:V.4373.H, the owner or operator must:

1. keep records of the analyses and evaluations specified in the plan, which satisfies the requirements of LAC 33:V.4373.G, 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 Office of Environmental Services a report containing the results of his or her groundwater 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 groundwater during the reporting period. This information must be submitted no later than March 1 following each calendar year.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 18:723 (July 1992), amended by the Office of Waste Services, Hazardous Waste Division, LR 23:1520 (November 1997), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2499 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 33:2126 (October 2007).

Subchapter F. Closure and Post-Closure

§4377. Applicability

Except as LAC 33:V.4307 provides otherwise:

A. LAC 33:V.4379-4387 (which concerns closure) apply to the owners and operators of all hazardous waste management facilities; and

B. LAC 33:V.4389-4395 (which concerns 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 LAC 33:V.4457 and 4475;

3. tank systems that are required under LAC 33:V.4442 to meet the requirements for landfills; and

4. containment buildings that are required under LAC 33:V.4705 to meet the requirements for landfills.

C. LAC 33:V.4396 applies to owners and operators of units that are subject to the requirements of LAC 33:V.305.H and are regulated under an enforceable document (as defined in LAC 33:V.305.H).

D. The administrative authority may replace all or part of the requirements of this Subchapter (and the unit-specific standards in LAC 33:V.4379.A.3) applying to a regulated unit (as defined in LAC 33:V.3301), with alternative requirements for closure set out in an approved closure or post-closure plan, or in an enforceable document (as defined in LAC 33:V.305.H), where the administrative authority determines that:

1. a regulated unit is situated among solid waste management units (or areas of concern), a release has occurred, and both the regulated unit and one or more solid waste management unit(s) (or areas of concern) are likely to have contributed to the release; and

2. it is not necessary to apply the closure requirements of this Chapter (and/or those referenced herein) because the alternative requirements will protect human health and the environment and will satisfy the closure performance standards of LAC 33:V.4379.A-A.2.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 13:433 (August 1987), LR 16:219 (March 1990), LR 16:614 (July 1990), LR 21:266 (March 1995), amended by the Office of Waste Services, Hazardous Waste Division, LR 24:1109 (June 1998), LR 25:485 (March 1999).

§4379. Closure Performance Standard

A. The owner or operator must close his facility in a manner that:

1. minimizes the need for further maintenance; and

2. 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 rainfall, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere; and

3. complies with the closure requirements of these regulations including, but not limited to, LAC 33:V.4442, 4457, 4475, 4489, 4501, 4521, 4531, 4543, and 4705.

~~B. As a means of satisfying the closure requirements of~~ Paragraph A.2 of this Section, ~~the owner or operator~~ may demonstrate an ~~alternative~~ risk-assessment-based closure in ~~accordance with LAC 33:I.Chapter 13.~~

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 13:433 (August 1987), LR 15:181 (March 1989), LR 21:266 (March 1995), amended by the Office of Waste Services, Hazardous Waste Division, LR 24:1744 (September 1998),

amended by the Office of the Secretary, LR 24:2248 (December 1998), amended by the Office of the Secretary, Legal Affairs Division, LR 34:633 (April 2008).

§4381. Closure Plan; Amendment of Plan

A. Written Plan. By the effective dates of these regulations, 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 LAC 33:V.4387, a copy of the most current plan must be furnished to the administrative authority 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 department who is duly designated by the administrative authority.

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 LAC 33:V.4379; and

2. a description of how final closure of the facility will be conducted in accordance with LAC 33:V.4379. The description must identify the maximum extent of the operation which will be unclosed during the active life of the facility; and

3. the maximum inventory of hazardous wastes ever on-site over the active life of the facility for a final closure, and/or an estimate of the maximum inventory for a partial closure, and a detailed description of the methods to be used during the partial and final closure, including, but not limited to methods for removing, transporting, treating, storing or disposing of all hazardous waste, identification of, and 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 periods to ensure that all partial closures and final closure satisfy the closure performance standards, including, but not limited to, groundwater 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 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 LAC 33:V.4403 or 4407 and whose remaining operating life is less than 20 years, and for facilities without approved closure plans; and

8. for facilities where the administrative authority has applied alternative requirements at a regulated unit under LAC 33:V.4367.E, 4377.D, and/or 4397.D, either the alternative requirements applying to the regulated unit or a reference to the enforceable document containing those alternative requirements.

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 Office of Environmental Services 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 administrative authority.

1. The owner or operator must amend the closure plan whenever:

a. changes in operating plans or facility design affect the closure plan; or

b. there is a change in the expected year of closure, if applicable; or

c. in conducting partial or final closure activities, unexpected events require a modification of the closure plan; or

d. the owner or operator requests the administrative authority to apply alternative requirements to a regulated unit under LAC 33:V.4367.E, 4377.D, and/or 4397.D.

2. The owner or operator must amend the closure plan at least 60 days prior to the proposed changes 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 LAC 33:V.4501.

3. An owner or operator with an approved closure plan must submit the modified plan to the Office of Environmental Services 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 that 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 LAC 33:V.4501. If the amendment to the plan is a Class 2 or 3 modification according to the criteria in LAC 33:V.321.C and 322, the modification to the plan will be approved according to the procedures in Paragraph D.4 of this Section.

4. The administrative authority 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 Office of Environmental Services, 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 LAC 33:V.321.C and 322, the modification to the plan will be approved in accordance with the procedures in Paragraph D.4 of this Section.

D. Notification of Partial Closure and Final Closure

1. The owner or operator must submit the closure plan to the Office of Environmental Services 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 administrative authority 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 administrative authority 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 administrative authority in writing at least 60 days prior to the date on which they expect 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 administrative authority in writing at least 45 days prior to the date on which they expect to begin partial or final closure of a boiler or industrial furnace. Owners or operators with approved closure plans must notify the administrative authority in writing at least 45 days prior to the date on which they expect to begin final closure of a facility with only tanks, container storage, or incinerator units.

2. The date when he or she "expects to begin closure" either:

a. 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 wastes. If the owner or operator of a hazardous waste management unit can demonstrate to the administrative authority that the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes and he or she 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 administrative authority may approve an extension to this one-year limit; or

b. for units meeting the requirements of LAC 33:V.4383.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 administrative authority 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 administrative authority may approve an extension to this one-year limit.

3. The owner or operator must submit his closure plan to the Office of Environmental Services no later than 15 days after:

a. termination of interim status except when a permit is issued simultaneously with termination of interim status; or

b. issuance of a judicial decree or final order under R.S. 30:2025 to cease receiving hazardous wastes or close.

4. The administrative authority 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 administrative authority 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 administrative authority will approve, modify, or disapprove the plan within 90 days of its receipt. If the administrative authority 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 administrative authority will approve or modify this plan in writing within 60 days. If the administrative authority modifies this plan, this modified plan becomes the approved closure plan. The administrative authority must assure that the approved plan is consistent with LAC 33:V.4377-4389 and the applicable requirements of LAC 33:V.Subchapter E, LAC 33:V.4441, 4457, 4475, 4489, 4501, 4521, 4531, 4543, and 4705. 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.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 10:496 (July 1984), LR 13:433 (August 1987), LR 16:614 (July 1990), LR 17:362 (April 1991), LR 17:478 (May 1991), LR 18:723 (July 1992), LR 18:1375 (December 1992), LR 21:266 (March 1995), amended by the Office of Waste Services, Hazardous Waste Division, LR 25:485 (March 1999), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2500 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2475 (October 2005), LR 33:2127 (October 2007), LR 34:633 (April 2008).

§4383. 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 LAC 33:V.4383.D and E, 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 administrative authority may approve a longer period if the owner or operator demonstrates that:

1. the activities required to comply with this Subsection will, of necessity, take him longer than 90 days to complete; or

2. the hazardous waste management unit or facility has the capacity to receive additional wastes, or has the capacity to receive non-hazardous wastes if the facility owner or operator receives administrative authority allowance pursuant to LAC 33:V.4383.D and complies with LAC 33:V.4383.D and E and:

a. there is a reasonable likelihood that he or a person other than the owner or operator will recommence operation of the hazardous waste management unit or the facility within one year; and

b. closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

3. he has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with 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 LAC 33:V.4383.D and E, at the hazardous waste management unit or facility or 180 days after approval of the closure plan, if that is later. The administrative authority may approve an extension to the closure period if the owner or operator demonstrates that:

1. either the closure activities will, of necessity, take him longer than 180 days to complete; or

2. the hazardous waste management unit has the capacity to receive additional hazardous wastes, or has the capacity to receive non-hazardous wastes if the facility owner or operator receives administrative authority allowance pursuant to LAC 33:V.4383.D and complies with LAC 33:V.4383.D and E and:

a. there is a reasonable likelihood that he or a person other than the owner or operator will recommence operation of the hazardous waste management unit or facility within one year; and

b. closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

3. 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 units including compliance with applicable interim status requirements.

C. The demonstrations referred to in LAC 33:V.4383.A and B must be made as follows:

1. the demonstrations in LAC 33:V.4383.A must be made at least 30 days prior to the expiration of the 90 day period in LAC 33:V.4383.A; and

2. the demonstrations in LAC 33:V.4383.B must be made at least 30 days prior to the expiration of the 180-day period in LAC 33:V.4383.B, unless the owner or operator is otherwise subject to the deadlines in LAC 33:V.4383.D.

D. The administrative authority 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 the following conditions are met.

1. The owner or operator submits an amended Part II application, or a Part II application if not previously required, and demonstrates that:

a. the unit has the existing design capacity as indicated on the Part I application to receive non-hazardous wastes;

b. 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;

c. 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 LAC 33:V.Chapter 43;

d. closure of the hazardous waste management unit would be incompatible with continued operation of the unit or facility; and

e. the owner or operator is operating and will continue to operate in compliance with all applicable interim status requirements.

2. The Part II application includes an amended waste analysis plan, groundwater monitoring and response program, human exposure assessment required under LAC 33:V.503.A.1, 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 LAC 33:V.4381.B.7, as a result of the receipt of non-hazardous wastes following the final receipt of hazardous wastes.

3. The Part II 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.

4. The Part II application and the demonstrations referred to in LAC 33:V.4383.D.1 and 2 are submitted to the administrative authority 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, whichever is later.

E. In addition to the requirements in LAC 33:V.4383.D, an owner or operator of a hazardous waste surface impoundment that is not in compliance with the liner and leachate collection system requirements in LAC 33:V.Chapter 29 must do the following.

1. Submit with the Part II application:

a. a contingent corrective measures plan; and

b. a plan for removing hazardous wastes in compliance with LAC 33:V.4383.E.2.

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 administrative authority 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 constituents over background levels is detected in accordance with the requirements in LAC 33:V.Chapter 43.Subchapter E, the owner or operator of the unit:

a. must implement corrective measures in accordance with the approved contingent corrective measures plan required by LAC 33:V.4383.E.1 no later than one year after detection of the release, or approval of the contingent corrective measures plan, whichever is later;

b. 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

c. may be required by the administrative authority 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 semiannual reports to the Office of Environmental Services that describe the progress of the corrective action program, compile all groundwater monitoring data, and evaluate the effect of the continued receipt of non-hazardous wastes on the effectiveness of the corrective action.

6. The administrative authority 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 LAC 33:V.4383.E.4, 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 LAC 33:V.4383.E.4 or if the administrative authority determines that substantial progress has not been made pursuant to LAC 33:V.4383.E.6, he or she shall do the following.

a. The administrative authority will notify the owner or operator in writing that the owner or operator must begin closure in accordance with the deadline in LAC 33:V.4383.A and B and provide a detailed statement of reasons for this determination.

b. The administrative authority will provide the owner or operator and the public, through a newspaper notice, with the opportunity to submit written comments on the decision no later than 20 days after the date of the notice.

c. If the administrative authority receives no written comments, the decision will become final five days after the close of the comment period. The administrative authority 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 LAC 33:V.4383.A and B.

d. If the administrative authority receives written comments on the decision, he or she 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 with a detailed statement of reasons for the final decision. If the administrative authority determines that substantial progress has not been made, closure must be initiated in accordance with the deadlines in LAC 33:V.4383.A and B.

e. The final determinations made by the administrative authority under LAC 33:V.4383.E.7.c and d are not subject to administrative appeal.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 10:496 (July 1984), LR 13:433 (August 1987), LR 14:791 (November 1988), LR 17:478 (May 1991), LR 18:1375 (December 1992), LR 20:1000 (September 1994), LR 21:266 (March 1995), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2500 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 33:2127 (October 2007).

§4385. Disposal or Decontamination of Equipment, Structures and Soils

A. During the partial and final closure periods, all contaminated equipment, structures, and soil must be properly disposed of, or decontaminated unless specified otherwise in LAC 33:V.4442, 4457, 4475, 4489, 4501, 4601, or 4705. 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 LAC 33:V.Chapter 11.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 13:433 (August 1987), LR 16:614 (July 1990), amended by the Office of the Secretary, LR 24:2248 (December 1998).

§4387. Certification of Closure

A. 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 Office of Environmental Services, 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, qualified professional engineer. Documentation supporting the independent professional engineer's certification must be furnished to the administrative authority upon request until he releases the owner or operator from the financial assurance requirements for closure under LAC 33:V.4403.H.

B. 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 Office of Environmental Services 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, that states the owner's or operator's obligation to restrict disturbance of the hazardous waste disposal unit in accordance with the applicable LAC 33:V.Chapter 35 or 43 regulations.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 13:433 (August 1987), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2501 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2475 (October 2005), LR 33:2128 (October 2007), LR 34:1003 (June 2008).

§4389. Post-Closure Care and Use of Property

A. Post-closure care for each hazardous waste management unit subject to the requirements of LAC 33:V.4389-4395 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:

1. monitoring and reporting in accordance with the requirements of LAC 33:V.Chapter 43.Subchapters E, J, K, L, and M; and

2. maintenance and monitoring of waste containment systems in accordance with the requirements of LAC 33:V.Chapter 43.Subchapters E, J, K, L, and M.

B. 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 administrative authority may:

1. 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 groundwater 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

2. 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).

~~C. The owner or operator may elect to demonstrate a shortened post-closure care period meets the requirements of Paragraph B.1 of this Section by using risk assessment methodology. The risk assessment must demonstrate that the shortened post-closure care period is protective of human health and the environment in accordance with LAC 33:I.Chapter 13.~~

D. The administrative authority may require, at partial and final closure, continuation of any of the security requirements of LAC 33:V.4315 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.

E. 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 administrative authority 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.

F. All post-closure care activities must be in accordance with the provisions of the approved post-closure plan as specified in LAC 33:V.4391.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 10:496 (July 1984), LR 13:433 (August 1987), LR 18:723 (July 1992), amended by the Office of the Secretary, LR 24:2248 (December 1998).

§4391. Post-Closure Plan; Amendment of Plan

A. Written Plan. By May 19, 1988, 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 Office of Environmental Services within 90 days of the date that the owner or operator or administrative authority determines that the hazardous waste management unit or facility must be closed as a landfill, subject to the requirements of LAC 33:V.4389-4395.

B. Until final closure of the facility, a copy of the most current post-closure plan must be furnished to the administrative authority upon request, including request by mail. In addition, for facilities without approved post-closure plan, 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 administrative authority. After final closure has been certified, the person or office specified in LAC 33:V.4381.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 Subchapter, 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 LAC 33:V.Chapter 43.Subchapters E, J, K, L, and M, 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:

a. the integrity of the cap and final cover or other containment systems in accordance with the requirements of LAC 33:V.Chapter 43.Subchapters J, K, L, and M; and

b. the function of the monitoring equipment in accordance with the requirements of LAC 33:V.Chapter 43.Subchapters J, K, L, and M; 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;

4. for facilities subject to LAC 33:V.4396, provisions that satisfy the requirements of LAC 33:V.4396.A and B; and

5. for facilities where the administrative authority has applied alternative requirements at a regulated unit under LAC 33:V.4367.E, 4377.D, and/or 4397.D, either the alternative requirements that apply to the regulated unit or a reference to the enforceable document containing those requirements.

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 Office of Environmental Services 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 administrative authority.

1. The owner or operator must amend the post-closure plan whenever:

a. changes in operating plans or facility design affect the post-closure plan;

b. events which occur during the active life of the facility, including partial and final closures, affect the post-closure plan; or

c. the owner or operator requests the administrative authority to apply alternative requirements to a regulated unit under LAC 33:V.3301.G, 3501.D, and/or 3707.D.

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 Office of Environmental Services 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 that 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 LAC 33:V.4457.B or 4475.A, is required to close as a landfill in accordance with LAC 33:V.4501, the owner or operator must submit a post-closure plan within 90 days of the determination by the owner or operator or administrative authority 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 LAC 33:V.321.C and 322, the modification to the plan will be approved according to the procedures in Subsection F of this Section.

4. The administrative authority 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 after the request from the administrative authority. If the amendment to the plan is considered a Class 2 or 3 modification according to the criteria in LAC 33:V.321.C and 322, the modifications to the post-closure plan will be approved in accordance with the procedures in Subsection F of this Section. If the administrative authority 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 Office of Environmental Services 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 administrative authority 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 Office of Environmental Services 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 Louisiana Environmental Quality Act to cease receiving wastes or close.

F. The administrative authority 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. The administrative authority will also, in response to a request or at the administrative authority's own discretion, hold a public hearing whenever such a hearing might clarify one or more issues concerning a post-closure plan. The administrative authority 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 administrative authority will approve, modify, or disapprove the plan within 90 days of its receipt. If the administrative authority does not approve the plan, he or she 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. If the administrative authority modifies the plan, this modified plan becomes the approved post-closure plan. The administrative authority must ensure that the approved post-closure plan is consistent with LAC 33:V.4389-4395. 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 administrative authority to extend or reduce the length or alter the requirements of the post-closure care period applicable to a hazardous waste management unit or facility based on cause.

a. The petition must include evidence demonstrating that:

i. 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 groundwater monitoring results, characteristics of the wastes, application of advanced technology, or alternative disposal, treatment, or reuse techniques indicate that the facility is secure); or

ii. 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 groundwater monitoring results indicate a potential for migration of hazardous wastes

at levels which may be harmful to human health and the environment).

b. A petition will be considered by the administrative authority only when it presents new and relevant information not previously considered by the administrative authority. Whenever the administrative authority is considering a petition, the administrative authority 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. The administrative authority will also, in response to a request or at the administrative authority's own discretion, hold a public hearing whenever a hearing might clarify one or more issues concerning the post-closure plan. The administrative authority 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, the administrative authority will issue a final determination, based upon the criteria set forth in LAC 33:V.4391.G.1.

c. If the administrative authority denies the petition, he will send the petitioner a brief written response giving a reason for the denial.

2. The administrative authority may tentatively decide to modify the post-closure plan if he or she decides that modification is necessary to prevent threats to human health and the environment. The administrative authority may propose to extend or reduce the length of or alter the requirements of 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.

a. The administrative authority 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 LAC 33:V.4391.G.1. After considering the comments, the administrative authority will issue a final determination.

b. The administrative authority will base his or her final determination upon the same criteria required for petitions under LAC 33:V.4391.G.1.a. Where appropriate, a modification of the post-closure plan may include 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 administrative authority would then determine whether the requirement(s) should be permanently discontinued or reinstated to prevent threats to human health and the environment.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 13:433 (August 1987), LR 14:791 (November 1988), LR 16:614 (July 1990), LR 18:723 (July 1992), amended by the Office of Waste Services, Hazardous Waste Division, LR 25:485 (March 1999), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2501 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2476 (October 2005), LR 33:2128 (October 2007).

§4393. 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 Office of Environmental Services 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:

a. the land has been used to manage hazardous wastes; and

b. its use is restricted under LAC 33:V.Chapter 43.Subchapter F; and

c. 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 LAC 33:V.4387 and 4393.A have been filed with the local zoning authority or the authority with jurisdiction over local land use and with the Office of Environmental Services; and

2. submit to the administrative authority a certification signed by the owner or operator that he has recorded the notation specified in LAC 33:V.4393.B.1 and a copy of the document in which the notation has been placed, to the administrative authority.

C. If the owner or operator or any subsequent 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 LAC 33:V.4391.G. The owner or operator must demonstrate that the removal of hazardous wastes will satisfy the criteria of LAC 33:V.4389.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 administrative authority 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.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 10:496 (July 1984), LR 13:433 (August 1987), LR 18:723 (July 1992), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2502 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2476 (October 2005), LR 33:2129 (October 2007).

§4395. Certification of Completion of Post-Closure Care

A. 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 Office of Environmental Services, 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, qualified professional engineer. Documentation supporting the independent professional engineer's certification must be furnished to the administrative authority upon request until he releases the owner or operator from the financial assurance requirements for post-closure care under LAC 33:V.4407.H.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 13:433 (August 1987), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2502 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2477 (October 2005), LR 33:2129 (October 2007), LR 34:1003 (June 2008).

§4396. Post-Closure Requirements for Facilities That Obtain Enforceable Documents in Lieu of Post-Closure Permits

A. Owners and operators who are subject to the requirement to obtain a post-closure permit under LAC 33:V.305, but who obtain enforceable documents in lieu of post-closure permits, as provided under LAC 33:V.305.H, must comply with the following requirements:

1. submit information about the facility in accordance with LAC 33:V.528;

2. facility-wide corrective action in accordance with LAC 33:V.3322; and

3. LAC 33:V.Chapter 33.

B.1. The administrative authority, in issuing enforceable documents under this Section in lieu of permits, will assure a meaningful opportunity for public involvement which, at a minimum, includes public notice and opportunity for public comment:

a. when the department becomes involved in a remediation at the facility as a regulatory or enforcement matter;

b. on the proposed preferred remedy and the assumptions upon which the remedy is based, in particular those related to land use and site characterization; and

c. at the time of a proposed decision that remedial action is complete at the facility. These requirements must be met before the administrative authority may consider that the facility has met the requirements of LAC 33:V.305.H, unless the facility qualifies for a modification to these public involvement procedures under Paragraph B.2 or 3 of this Section.

2. If the administrative authority determines that even a short delay in the implementation of a remedy would adversely affect human health or the environment, the administrative authority may delay compliance with the requirements of Paragraph B.1 of this Section and implement the remedy immediately. However, the administrative authority must assure involvement of the public at the earliest opportunity and, in all cases, upon making the decision that additional remedial action is not needed at the facility.

3. The administrative authority may allow a remediation initiated prior to October 22, 1998, to substitute for corrective action required under a post-closure permit even if the public involvement requirements of Paragraph B.1 of this Section have not been met, so long as the administrative authority assures that notice and comment on the decision that no further remediation is necessary to protect human health and the environment takes place at the earliest reasonable opportunity after October 22, 1998.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous Waste Division, LR 25:486 (March 1999).

Subchapter G. Financial Requirements

§4397. Applicability

A. The requirements of LAC 33:V.3719, 4401, 4403, 4411, and 4413 apply to owners and operators of all hazardous waste facilities, except as provided otherwise in this Section or in LAC 33:V.4307.

B. The requirements of LAC 33:V.4405 and 4407 apply only to owners and operators of:

1. disposal facilities;

2. tank systems that are required under LAC 33:V.4442 to meet the requirements for landfills; and

3. containment buildings that are required under LAC 33:V.4705 to meet the requirements for landfills.

C. States and the federal government are exempt from the requirements of this Subchapter.

D. The administrative authority may replace all or part of the requirements of this Chapter applying to a regulated unit with alternative requirements for financial assurance set out in the permit or in an enforceable document (as defined in LAC 33:V.305.H), where the administrative authority:

1. prescribes alternative requirements for the regulated unit under LAC 33:V.4367.E and/or 4377.D; and

2. determines that it is not necessary to apply the requirements of this Subchapter because the alternative financial assurance requirements will protect human health and the environment.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 13:433 (August 1987), LR 13:651 (November 1987), LR 21:266 (March 1995), amended by the Office of Waste Services, Hazardous Waste Division, LR 24:1109 (June 1998), LR 25:486 (March 1999), amended by the Office of the Secretary, Legal Affairs Division, LR 34:73 (January 2008).

§4399. Definitions of Terms as Used in This Subpart

A. General Terms

1. *Closure Plan*—the plan for closure prepared in accordance with the requirements of LAC 33:V.4381.

2. *Current Closure Cost Estimate*—the most recent of the estimates prepared in accordance with LAC 33:V.4401.

3. *Current Post-Closure Cost Estimate*—the most recent of the estimates prepared in accordance with LAC 33:V.4405.

4. *Parent Corporation*—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.

5. *Post-Closure Plan*—the plan for post-closure care prepared in accordance with the requirements of LAC 33:V.4389-4395.

6. 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.

a. *Assets*—all existing and all probable future economic benefits obtained or controlled by a particular entity.

b. *Current Assets*—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.

c. *Current Liabilities*—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.

d. *Independently Audited*—an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.

e. *Liabilities*—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.

f. *Net Working Capital*—current assets minus current liabilities.

g. *Net Worth*—total assets minus total liabilities and is equivalent to owner's equity.

h. *Tangible Net Worth*—the tangible assets that remain after deducting liabilities; such assets would not include intangibles such as goodwill and rights to patents or royalties.

~~i. *Current Plugging and Abandonment Cost Estimate*—the most recent of the estimates prepared in accordance with the applicable Louisiana Department of Natural Resources (LDNR) regulations.~~

7. *Current Plugging and Abandonment Costs*—the most recent of the cost estimates prepared in accordance with 40 CFR 144.62, Office of Conservation financial assurance regulations, or other substantially equivalent state programs.

8. *Substantial Business Relationship*—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 administrative authority.

B. Insurance-Related Terms. 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 department intends the meanings of other terms used in the liability insurance requirements are to be consistent with their common meanings within the insurance industry. The definitions of several of the terms given below 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.

1. *Accidental Occurrence*—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.

2. *Legal Defense Costs*—any expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

3. *Nonsudden Accidental Occurrence*—an occurrence which takes place over time and involves continuous or repeated exposure.

4. *Sudden Accidental Occurrence*—an occurrence which is not continuous or repeated in nature.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 13:433 (August 1987), LR 16:219 (March 1990), LR 18:723 (July 1992).

§4401. 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 LAC 33:V.4379, 4381, 4383, 4385, and 4387 and applicable closure requirements in LAC 33:V.4442, 4457, 4475, 4489, 4501, 4521, 4531, 4543, and 4705.

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 LAC 33:V.4399); 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 or the owner or operator. (See definition of *Parent Corporation* in LAC 33:V.4399.) 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 by the sale of hazardous wastes, or non-hazardous wastes if applicable under LAC 33:V.4383.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 LAC 33:V.4383.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 instruments used to comply with LAC 33:V.4403. For an owner or operator 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 administrative authority as specified in LAC 33:V.4403.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 LAC 33:V.4401.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 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 that increases the cost of a closure has been made to the closure plan. If the owner or operator has an approved closure plan, the closure cost estimate must be revised no later than 30 days after the administrative authority 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 LAC 33:V.4401.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 LAC 33:V.4401.A and C and, when this estimate has been adjusted in accordance with LAC 33:V.4401.B, the latest adjusted closure estimate.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 13:433 (August 1987), LR 17:478 (May 1991), LR 18:723 (July 1992), LR 21:266 (March 1995), amended by the Office of the Secretary, Legal Affairs Division, LR 34:634 (April 2008).

§4403. 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 Subsections A-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 that conforms to the requirements of this Paragraph, and submitting an originally signed duplicate of the trust agreement to the Office of Environmental Services. The trustee must be an entity that 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 LAC 33:V.3719.A, and the trust agreement must be accompanied by a formal certification of acknowledgement (for example, see LAC 33:V.3719.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.

a. The first payment must be made by the effective date of these regulations except as provided in LAC 33:V.4403.A.5. The first payment must be at least equal to the current closure cost estimate, except as provided in LAC 33:V.4403.F, divided by the number of years in the pay-in period.

b. 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.

$$Next\ Payment = \frac{CE - CV}{Y}$$

where:

CE = current closure cost estimate

CV = current value of the trust fund

Y = 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 LAC 33:V.4403.A.3.

5. If the owner or operator establishes a closure trust fund after having used one or more alternate mechanisms specified in LAC 33:V.4403, 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 LAC 33:V.4403.A.3.

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 Office of Environmental Services 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 Office of Environmental Services 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 LAC 33:V.4403.A.7 or 8 the administrative authority will instruct the trustee to release to the owner or operator such funds as the administrative authority 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 Office of Environmental Services. The owner or operator may request reimbursement 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 administrative authority will instruct the trustees to make reimbursements in those amounts as the administrative authority specifies in writing, if the administrative authority determines that the partial or final closure expenditures are in accordance with the approved closure plan, or otherwise justified. If the administrative authority 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 LAC 33:V.4407.H that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the administrative authority 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 administrative authority will agree to termination of the trust when:

a. an owner or operator substitutes alternate financial assurance as specified in LAC 33:V.4403; or

b. the administrative authority releases the owner or operator from the requirements of LAC 33:V.4403 in accordance with LAC 33:V.4403.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 that conforms to

the requirements of this Paragraph and submitting the bond to the Office of Environmental Services. 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 LAC 33:V.3719.B.

3. The owner or operator who uses a surety bond to satisfy the requirements of LAC 33:V.4403 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 administrative authority. This standby trust fund must meet the requirements specified in LAC 33:V.4403.A except that:

a. an originally signed duplicate of the trust agreement must be submitted to the administrative authority with the surety bond; and

b. until the standby trust fund is funded pursuant to the requirements of LAC 33:V.4403, the following are not required by these regulations:

i. payments into the trust fund as specified in LAC 33:V.4403.A;

ii. updating of Schedule A of the trust agreement to show current closure cost estimates;

iii. annual valuations as required by the trust agreement; and

iv. notices of nonpayment as required by the trust agreement.

4. The bond must guarantee that the owner or operator will:

a. 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

b. fund the standby trust fund in an amount equal to the penal sum within 15 days after an order to begin final closure is issued by the administrative authority or a U.S. district court or other court of competent jurisdiction; or

c. provide alternate financial assurance as specified in LAC 33:V.4403 and obtain the administrative authority's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the administrative authority 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 LAC 33:V.4403.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 Office of Environmental Services 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 administrative authority.

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 Office of Environmental Services. 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 administrative authority, as evidenced by the return receipts.

9. The owner or operator may cancel the bond if the administrative authority has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in LAC 33:V.4403.

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 that conforms to the requirements of this Paragraph and submitting the letter to the Office of Environmental Services. The issuing institution 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.

2. The wording of the letter of credit must be identical to the wording specified in LAC 33:V.3719.D.

3. An owner or operator who uses a letter of credit to satisfy the requirements of LAC 33:V.4403 must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the administrative authority will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the administrative authority. This standby trust fund must meet the requirements of the trust fund specified in LAC 33:V.4403.A, except that:

a. an originally signed duplicate of the trust agreement must be submitted to the administrative authority with the letter of credit; and

b. unless the standby trust fund is funded pursuant to the requirements of LAC 33:V.4403, the following are not required by these regulations:

i. payments into the trust fund as specified in LAC 33:V.4403.A;

ii. updating of Schedule A of the trust agreement (see LAC 33:V.3719.A) to show current closure cost estimates;

iii. annual valuation as required by the trust agreement; and

iv. 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 hazardous waste facility 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 one year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least one year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the administrative authority 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 administrative authority 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 LAC 33:V.4403.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 Office of Environmental Services 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 administrative authority.

8. Following a determination that the owner or operator has failed to perform final closure in accordance with the approved closure plan and other interim status requirements when required to do so, the administrative authority 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 administrative authority within 90 days after receipt by both the owner or operator and the Office of Environmental Services of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the administrative authority 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 administrative authority 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 administrative authority.

10. The administrative authority will return the letter of credit to the issuing institution for termination when:

a. an owner or operator substitutes alternate financial assurance as specified in LAC 33:V.4403; or

b. the administrative authority releases the owner or operator from the requirements of LAC 33:V.4403 in accordance with LAC 33:V.4403.H.

D. Closure Insurance

1. An owner or operator may satisfy the requirements of this Section by obtaining closure insurance that conforms to the requirements of this Paragraph and submitting a certificate of such insurance to the administrative authority. By the effective date of these regulations the owner or operator must submit to the Office of Environmental Services 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 Office of Environmental Services 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 be eligible to provide insurance as an excess or surplus lines insurer, in one or more states, and authorized to transact business in Louisiana.

2. The wording of the certificate of insurance must be identical to the wording specified in LAC 33:V.3719.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 LAC 33:V.4403.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 administrative authority to such party or parties as the administrative authority specifies.

5. After beginning final closure, an owner or operator, or any other person authorized to perform closure may request reimbursement for closure expenditures by submitting itemized bills to the administrative authority. 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 administrative authority will determine whether the closure expenditures are in accordance with the closure plan or otherwise justified, and if so, he will instruct the insurer to make reimbursement in such amounts as the administrative authority specifies in writing. If the administrative authority has reason to believe

that the cost of closure 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 LAC 33:V.4403.H, that the owner or operator is no longer required to maintain financial assurance for closure of the facility. If the administrative authority 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 administrative authority 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 administrative authority deems necessary. Such violation will be deemed to begin upon receipt by the Office of Environmental Services 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 in 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 Office of Environmental Services. 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 administrative authority 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:

a. the administrative authority deems the facility abandoned; or

b. interim status is terminated or revoked;

c. closure is ordered by the administrative authority or a U.S. district court or other courts of competent jurisdiction; or

d. the owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

e. 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 Office of Environmental Services 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 administrative authority.

10. The administrative authority will give written consent to the owner or operator that he may terminate the insurance policy when:

a. an owner or operator substitutes alternate financial assurance as specified in LAC 33:V.4403; or

b. the administrative authority releases the owner or operator from the requirements of LAC 33:V.4403 in accordance with LAC 33:V.4403.H.

E. Financial Test and Corporate Guarantee for Closure

1. An owner or operator may satisfy the requirements of LAC 33:V.4403 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 LAC 33:V.4403.E.1.a or b.

a. The owner or operator must have:

i. 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 0.10; and a ratio of current assets to current liabilities greater than 1.5; and

ii. 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

iii. tangible net worth of at least $10 million; and

iv. 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.

b. The owner or operator must have:

i. 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

ii. 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

iii. tangible net worth of at least $10 million; and

iv. 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 (see LAC 33:V.3719.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 [40 CFR 144.70(f)].

3. To demonstrate that he meets this test, the owner or operator must submit the following items to the Office of Environmental Services:

a. a letter signed by the owner's or operator's chief financial officer and worded as specified in LAC 33:V.3719.F; and

b. 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

c. a special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

i. 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

ii. 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 items specified in LAC 33:V.4403.E.3 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 chief financial officer of the owner or operator must send, by the effective date of these regulations, a letter to the administrative authority. This letter from the chief financial officer must:

a. request the extension;

b. certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

c. specify for each facility to be covered by the test the Hazardous Waste Facility Identification Number, name, address, and current closure and post-closure cost estimates to be covered by the test;

d. specify the date ending the owner's or operator's last complete fiscal year before the effective date of these regulations;

e. specify the date, no later than 90 days after the end of such fiscal year, when he will submit the documents specified in LAC 33:V.4403.E.3; and

f. certify that the year-end financial statement 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 Office of Environmental Services 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 Office of Environmental Services 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 administrative authority may, based on a reasonable belief that the owner or operator may no longer meet the requirements of LAC 33:V.4403.E.1, require reports of financial condition at any time from the owner or operator in addition to those specified in LAC 33:V.4403.E.3. If the administrative authority finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of LAC 33:V.4403.E.1, the owner or operator must provide alternate financial assurance as specified in LAC 33:V.4403 within 30 days after notification of such a finding.

8. The administrative authority 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 LAC 33:V.4403.E.3). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The administrative authority will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in LAC 33:V.4403 within 30 days after notification of the disallowance.

9. The owner or operator is no longer required to submit the items specified in LAC 33:V.4403.E.3 when:

a. an owner or operator substitutes alternate financial assurance as specified in LAC 33:V.4403; or

b. the administrative authority releases the owner or operator from the requirements of LAC 33:V.4403 in accordance with LAC 33:V.4403.H.

10. An owner or operator may meet the requirements of LAC 33:V.4403 by obtaining a written guarantee.

a. 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 LAC 33:V.4403.E.1-8 and must comply with the terms of the guarantee. The wording of the guarantee must be identical to the wording specified in LAC 33:V.3719.H. A certified copy of the guarantee must accompany the items sent to the administrative authority as specified in LAC 33:V.4403.E.3. 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 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 LAC 33:V.4403.A in the name of the owner or operator;

ii. the guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the administrative authority. 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 administrative authority, as evidenced by the return receipts;

iii. if the owner or operator fails to provide alternate financial assurance as specified in LAC 33:V.4403 and obtain the written approval of such alternate assurance from the administrative authority within 90 days after receipt by administrative authority 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.

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 guaranteeing payment into a trust fund, letters of credit, and insurance. The mechanisms must be as specified in Subsections A-F of this Section, respectively, 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 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 administrative authority 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 Office of Environmental Services 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. 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 the funds available through the mechanism for closure of any of the facilities covered by the mechanism, the administrative authority may direct only the amount of funds designated for that particular 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, qualified professional engineer that closure has been completed in accordance with the approved closure plan and after receiving the certification required under LAC 33:V.4393.B.2 for facilities subject to LAC 33:V.4393, the administrative authority 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 particular facility, unless the administrative authority has reason to believe that the final closure has not been in accordance with the approved closure plan or that the owner or operator has failed to comply with the applicable requirements of LAC 33:V.4393. The administrative authority 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 or that the owner or operator has failed to comply with the applicable requirements of LAC 33:V.4393.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 13:433 (August 1987), LR 14:791 (November 1988), LR 16:219 (March 1990), LR 18:723 (July 1992), amended by the Office of Waste Services, Hazardous Waste Division, LR 23:1520 (November 1997), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2502 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2477 (October 2005), LR 33:2129 (October 2007), LR 34:1003 (June 2008).

§4405. 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 LAC 33:V.4389-4395, LAC 33:V.4457, 4475, 4489, and 4501.

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 LAC 33:V.4399.)

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 LAC 33:V.4389.

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 LAC 33:V.4407. 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 administrative authority as specified in LAC 33:V.4407.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 LAC 33:V.4405.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 latest adjusted post-closure cost estimate by the inflator 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 administrative authority 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 LAC 33:V.4405.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 LAC 33:V.4405.A and C and, when this estimate has been adjusted in accordance with LAC 33:V.4405.B, the latest adjusted post-closure cost estimate.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 13:433 (August 1987), LR 18:723 (July 1992).

§4407. Financial Assurance for Post-Closure Care

An owner or operator of each hazardous waste disposal unit must establish financial assurance for post-closure care of the facility. He must choose from the options as specified in Subsections A-E of this Section.

A. Post-Closure Trust Fund

1. An owner or operator may satisfy the requirements of this Subsection by establishing a post-closure trust fund that conforms to the requirements of this Paragraph and submitting an originally signed duplicate of the trust agreement to the Office of Environmental Services. The trustee must be an entity that 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 LAC 33:V.3719.A.1, and the trust agreement must be accompanied by a formal certification of acknowledgement (for example, see LAC 33:V.3719.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 in to the post-closure trust fund must be made as follows.

a. The first payment must be made by the effective date of these regulations, except as provided in LAC 33:V.4407.A.5. The first payment must be at least equal to the current post-closure cost estimate, except as provided in LAC 33:V.4407.F, divided by the number of years in the pay-in period.

b. 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.

$$Next\ Payment = \frac{CE - CV}{Y}$$

where:

CE = current post-closure cost estimate

CV = current value of the trust fund

Y = 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 LAC 33:V.4407.A.3.

5. If the owner or operator establishes a post-closure trust fund after having used one or more alternate mechanisms specified in LAC 33:V.4407, 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 LAC 33:V.4407.A.3.

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 LAC 33:V.4407 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 Office of Environmental Services 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 Office of Environmental Services 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 LAC 33:V.3711.G or H, the administrative authority will instruct the trustee to release to the owner or operator such funds as the administrative authority specifies in writing.

10. During the period of post-closure care, the administrative authority may approve a release of funds if the owner or operator demonstrates to the administrative authority 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 perform post-closure care, may request reimbursement for the post-closure expenditures by submitting itemized bills to the Office of Environmental Services. Within 60 days after receiving bills for post-closure activities, the administrative authority will instruct the trustee to make reimbursements in those amounts as the administrative authority specifies in writing, if the administrative authority determines that the post-closure expenditures are in accordance with the approved post-closure plan or otherwise justified. If the administrative authority does not instruct the trustee to make such reimbursements, he will provide the owner or operator with a detailed statement of reasons.

12. The administrative authority releases the owner or operator from the requirements of LAC 33:V.4407.A in accordance with LAC 33:V.4407.H.

B. Surety Bond Guaranteeing Payment into a Post-Closure Trust Fund

1. An owner or operator may satisfy the requirements of this Subsection by obtaining a surety bond that conforms to the requirements of this Paragraph and submitting the bond to the Office of Environmental Services. 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 LAC 33:V.3719.B.

3. The owner or operator who uses a surety bond to satisfy the requirements of LAC 33:V.4407.B 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 administrative authority. This standby trust fund must meet the requirements specified in LAC 33:V.4407.A, except that:

a. an originally signed duplicate of the trust agreement must be submitted to the administrative authority with the surety bond; and

b. until the standby trust fund is funded pursuant to the requirements of LAC 33:V.4407.B, the following are not required by these regulations:

i. payments into the trust fund as specified in LAC 33:V.4407.A.3;

ii. updating of Schedule A of the trust agreement (LAC 33:V.3719.A) to show current post-closure cost estimates;

iii. annual valuations as required by the trust agreement; and

iv. notices of nonpayment as required by the trust agreement.

4. The bond must guarantee that the owner or operator will:

a. 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

b. fund the standby trust fund in an amount equal to the penal sum within 15 days after an order to begin final closure is issued by the administrative authority becomes final, or within 15 days after an order to begin final closure is issued by a court of competent jurisdiction; or

c. provide alternate financial assurance as specified in LAC 33:V.4407.B and obtain the administrative authority's written approval of the assurance provided within days after receipt by both the owner or operator and the administrative authority 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 LAC 33:V.4407.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 Office of Environmental Services or obtain other financial assurance as specified in this Subsection 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 administrative authority.

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 Office of Environmental Services. 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 administrative authority, as evidenced by the return receipts.

9. The owner or operator may cancel the bond if the administrative authority has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in LAC 33:V.4407.B.

C. Post-Closure Letter of Credit

1. An owner or operator may satisfy the requirements of this Subsection by obtaining an irrevocable standby letter of credit that conforms to the requirements of this Paragraph and by submitting the letter to the Office of Environmental Services. The issuing institution 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.

2. The wording of the letter of credit must be identical to the wording specified in LAC 33:V.3719.D.

3. An owner or operator who uses a letter of credit to satisfy the requirements of LAC 33:V.4407.C must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the administrative authority will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the administrative authority. This standby trust fund must meet the requirements of the trust fund specified in LAC 33:V.4407.A, except that:

a. an originally signed duplicate of the trust agreement must be submitted to the administrative authority with the letter of credit; and

b. unless the standby trust fund is funded pursuant to the requirements of LAC 33:V.4407.C, the following are not required by these regulations:

i. payments into the trust fund as specified in LAC 33:V.4407.A;

ii. updating of Schedule A of the trust agreement (see LAC 33:V.3719.A) to show current post-closure cost estimates;

iii. annual valuations as required by the trust agreement; and

iv. 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 hazardous waste facility 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 one year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least one year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the Office of Environmental Services, 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 administrative authority 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 LAC 33:V.4407.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 Office of Environmental Services 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 administrative authority.

8. During the period of post-closure care, the administrative authority may approve a decrease in the amount of the letter of credit if the owner or operator demonstrates to the administrative authority that the amount exceeds the remaining cost of post-closure care.

9. Following a final administrative determination by the administrative authority 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 administrative authority 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 administrative authority within 90 days after receipt by both

the owner or operator and the Office of Environmental Services of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the administrative authority will draw on the letter of credit. The administrative authority 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 administrative authority 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 administrative authority.

11. The administrative authority will return the letter of credit to the issuing institution for termination when:

a. an owner or operator substitutes alternate financial assurance as specified in LAC 33:V.4407; or

b. the administrative authority releases the owner or operator from the requirements of LAC 33:V.4407 in accordance with LAC 33:V.4407.H.

D. Post-Closure Insurance

1. An owner or operator may satisfy the requirements of this Subsection by obtaining post-closure insurance that conforms to the requirements of this Paragraph and submitting a certificate of such insurance to the Office of Environmental Services. The owner or operator must submit to the administrative authority 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 administrative authority 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 be eligible to provide insurance as an excess or surplus lines insurer in one or more states, and authorized to transact insurance business in Louisiana.

2. The wording of the certificate of insurance must be identical to the wording specified in LAC 33:V.3719.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 LAC 33:V.4407.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 administrative authority, to such party or parties as the administrative authority specifies.

5. An owner or operator or any other person authorized to perform post-closure care may request reimbursement for post-closure expenditures by submitting itemized bills to the Office of Environmental Services. Within 60 days after receiving bills for post-closure activities, the administrative authority will instruct the insurer to make reimbursements in those amounts as the administrative authority specifies in writing, if the administrative authority determines that the post-closure expenditures are in accordance with the approved post-closure plan or otherwise justified. If the administrative authority 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 administrative authority consents to termination of the policy by the owner or operator as specified in LAC 33:V.4407.D.11. Failure to pay the premium, without substitution of alternate financial assurance as specified in LAC 33:V.4407, will constitute a significant violation of these regulations, warranting such remedy as the administrative authority deems necessary. Such violation will be deemed to begin upon receipt by the administrative authority 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 Office of Environmental Services. 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 administrative authority 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:

a. the administrative authority deems the facility abandoned; or

b. interim status is terminated or revoked;

c. closure is ordered by the administrative authority, or a U.S. District Court; or

d. the owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

e. 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 Office of Environmental Services 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 administrative authority.

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 rates or of the equivalent coupon-issue yield announced by the U.S. Treasury for 26 week treasury securities.

11. The administrative authority will give written consent to the owner or operator that he may terminate the insurance policy when:

a. an owner or operator substitutes alternate financial assurance as specified in LAC 33:V.4407; or

b. the administrative authority releases the owner or operator from the requirements of LAC 33:V.4407 in accordance with LAC 33:V.4407.H.

E. Financial Test and Guarantees for Post-Closure Care

1. An owner or operator may satisfy the requirements of LAC 33:V.4407.E 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 LAC 33:V.4407.E.1.a or b.

a. The owner or operator must have:

i. 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 0.10; and a ratio of current assets to current liabilities greater than 1.5; and

ii. net working capital and tangible net worth each at least six times the sum of the current closure and post-closure costs estimates and the current plugging and abandonment cost estimates; and

iii. tangible net worth of at least $10 million; and

iv. 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.

b. The owner or operator must have:

i. 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

ii. 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

iii. tangible net worth of at least $10 million; and

iv. 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 (see LAC 33:V.3719.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 [40 CFR 144.70(f)].

3. To demonstrate that he meets this test, the owner or operator must submit the following items to the Office of Environmental Services:

a. a letter signed by the owner's or operator's chief financial officer and worded as specified in LAC 33:V.3719.F; and

b. 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

c. a special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

i. 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

ii. 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 Office of Environmental Services. This letter from the chief financial officer must:

a. request the extension;

b. certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

c. 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;

d. specify the date ending the owner's or operator's latest complete fiscal year before the effective date of these regulations;

e. specify the date, no later than 90 days after the end of such fiscal year, when he will submit the documents specified in LAC 33:V.4407.E.3; and

f. certify that the year-end financial statement 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 Office of Environmental Services 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 Office of Environmental Services 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 administrative authority may, based on a reasonable belief that the owner or operator may no longer meet the requirements of LAC 33:V.4407.E.1, require reports of financial condition at any time from the owner or operator in addition to those specified in LAC 33:V.4407.E.3. If the administrative authority finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of LAC 33:V.4407.E.1, the owner or operator must provide alternate financial assurance as specified in LAC 33:V.4407 within 30 days after notification of such a finding.

8. The administrative authority 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 LAC 33:V.4407.E.3). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The administrative authority will evaluate other qualifications on an individual basis. Based on the application, the circumstances, and the accessibility of the applicant's assets, the administrative authority may disallow the use of this test. The owner or operator must provide alternate financial assurance as specified in LAC 33:V.4407 within 30 days after notification of the disallowance.

9. During the period of post-closure care, the administrative authority 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 administrative authority 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 LAC 33:V.4407.E.3 when:

a. an owner or operator substitutes alternate financial assurance as specified in LAC 33:V.4407; or

b. the administrative authority releases the owner or operator from the requirements of LAC 33:V.4407 in accordance with LAC 33:V.4407.H.

11. An owner or operator may meet the requirements of LAC 33:V.4407.E 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 an owner or operator in LAC 33:V.4407.E.1-9 and must comply with the terms of the guarantee. The wording of the guarantee must be identical to the wording specified in LAC 33:V.3719.H. A certified copy of the guarantee must accompany the items sent to the administrative authority specified in LAC 33:V.4407.E.3. 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:

a. 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 LAC 33:V.4407.A in the name of the owner or operator;

b. 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 Office of Environmental Services. 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 administrative authority, as evidenced by the return receipts; and

c. if the owner or operator fails to provide alternate financial assurance as specified in LAC 33:V.4407 and obtain the written approval of such alternate assurance from the administrative authority within 90 days after receipt by

both the owner or operator and the administrative authority 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 Subsection 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 Subsections A, B, C, and D of this Section, respectively, 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 administrative authority 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 Subsection to meet the requirements of this Subsection for more than one facility. Evidence of financial assurance submitted to the Office of Environmental Services must include a list showing, for each facility, the EPA identification number, name, address, and the amount of funds for post-closure assured by the mechanism. 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 administrative authority may direct only the amount of funds designated for that particular 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, qualified professional engineer that the post-closure care period has been completed in accordance with the approved post-closure plan, the administrative authority 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 administrative authority has reason to believe that post-closure care has not been in accordance with the approved post-closure plan. The administrative authority 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.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 10:496 (July 1984), LR 13:433 (August 1987), LR 18:723 (July 1992), amended by the Office of Waste Services, Hazardous Waste Division, LR 23:1521 (November 1997), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2504 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2479 (October 2005), LR 33:2131 (October 2007), LR 34:1003 (June 2008).

§4409. Use of a Mechanism for Financial Assurance of Both Closure and Post-Closure Care

A. 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 LAC 33:V.4403 and 4407. 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 has been established and maintained for financial assurance of closure and post-closure care.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4411. 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 LAC 33:V.4411.A.1-6.

1. An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this Paragraph.

a. 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 LAC 33:V.3719.I. The wording of the certificate of insurance must be identical to the wording specified in LAC 33:V.3719.J. The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Office of Environmental Services. If requested by the administrative authority, the owner or operator must provide a signed duplicate original of the insurance policy.

b. Each insurance policy must be issued by an insurer which, at a minimum, is authorized to transact business in Louisiana and in one or more states and is licensed to transact the business of insurance or is eligible to provide insurance as an excess or surplus lines insurer, in

one or more states, and authorized to transact business in Louisiana.

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 LAC 33:V.4411.F-G.

3. An owner or operator may meet the requirements of this Section by obtaining a letter of credit for liability coverage as specified in LAC 33:V.4411.H.

4. An owner or operator may meet the requirements of this Section by obtaining a surety bond for liability coverage as specified in LAC 33:V.4411.I.

5. An owner or operator may meet the requirements of this Section by obtaining a trust fund for liability coverage as specified in LAC 33:V.4411.J.

6. An owner or operator may demonstrate the required liability coverage through the use of combinations of financial test, insurance, 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 Office of Environmental Services in writing within 30 days whenever:

a. a claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in LAC 33:V.4411.A.1-6; or

b. 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 LAC 33:V.4411.A.1-6; or

c. 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 LAC 33:V.4411.A.1-6.

B. Coverage for Non-Sudden 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 non-sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for non-sudden 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 non-sudden accidental occurrences into a single per-occurrence level, and combine the required annual aggregate coverage levels for sudden and non-sudden accidental occurrences into a single annual aggregate level. Owners or operators who combine coverage levels for sudden and non-sudden 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 LAC 33:V.4411.B.1-6.

1. An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this Paragraph.

a. 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 LAC 33:V.3719.I. The wording of the certificate of insurance must be identical to the wording specified in LAC 33:V.3719.J. The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Office of Environmental Services. If requested by the administrative authority, the owner or operator must provide a signed duplicate original of the insurance policy.

b. 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, and authorized to transact business in Louisiana.

2. An owner or operator may meet the requirements of LAC 33:V.4411.B by passing a financial test or using the corporate guarantee for liability coverage as specified in LAC 33:V.4411.F and G.

3. An owner or operator may meet the requirements of this Section by obtaining a letter of credit for liability coverage as specified in LAC 33:V.4411.H.

4. An owner or operator may meet the requirements of this Section by obtaining a surety bond for liability coverage as specified in LAC 33:4411.I.

5. An owner or operator may meet the requirements of this Section by obtaining a trust fund for liability coverage as specified in LAC 33:V.4411.J.

6. An owner or operator may demonstrate the required liability coverage through use of combinations of the financial test, insurance, 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 Office of Environmental Services in writing within 30 days whenever:

a. a claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in LAC 33:V.4411.B.1-6; or

b. 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 LAC 33:V.4411.B.1-6; or

c. 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 LAC 33:V.4411.B.1-6.

C. Request for Variance. If an owner or operator can demonstrate to the satisfaction of the administrative authority that the levels of financial responsibility required by LAC 33:V.4411.A or B 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 administrative authority. The request for a variance must be submitted in writing to the administrative authority. If granted, the variance will take the form of an adjusted level of required liability coverage, such level to be based on the administrative authority's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. The administrative authority may require an owner or operator who requests a variance to provide such technical and engineering information as is deemed necessary by the administrative authority to determine a level of financial responsibility other than that required by LAC 33:V.4411.A or B. The administrative authority will process a variance request as if it were a permit modification request. Notwithstanding any other provision, the administrative authority 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 grant a variance.

D. Adjustments by the Administrative Authority. If the administrative authority determines that the levels of financial responsibility required by LAC 33:V.4411.A or B are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the administrative authority may adjust the level of financial responsibility required by LAC 33:V.4411.A or B as may be necessary to protect human health and the environment. This adjusted level will be based on the administrative authority'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 administrative authority 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 LAC 33:V.4411.B. An owner or operator must furnish to the administrative authority, within a reasonable time, any information which the administrative authority requests to determine whether cause exists for such adjustments of level or type of coverage. The administrative authority will process an adjustment of the level of required coverage as if it were a permit modification. Notwithstanding any other provision, the administrative authority 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, qualified professional engineer that final closure has been completed in accordance with the approved closure plan, the administrative authority 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 administrative authority 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 LAC 33:V.4411.F. To pass this test the owner or operator must meet the criteria of LAC 33:V.4411.F.1.a or b.

a. The owner or operator must have:

i. net working capital and tangible net worth at least six times the amount of liability coverage to be demonstrated by this test; and

ii. tangible net worth of at least $10 million; and

iii. assets located in the United States amounting to either at least 90 percent of his total assets or at least six times the amount of liability coverage to be demonstrated by this test.

b. The owner or operator must have:

i. 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

ii. tangible net worth of at least $10 million; and

iii. tangible net worth at least six times the amount of liability coverage to be demonstrated by this test ; and

iv. assets located in the United States amounting to either at least 90 percent of his total assets or 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 LAC 33:V.4411.F.1 refers to the annual aggregate amounts for which coverage is required under LAC 33:V.4411.A and B.

3. To demonstrate that he meets this test, the owner or operator must submit the following three items to the Office of Environmental Services.

a. A letter signed by the owner's or operator's chief financial officer and worded as specified in LAC 33:V.3719.G. If an owner or operator is using the financial test to demonstrate both assurance for closure or post-closure care, as specified by LAC 33:V.3707.F, 3711.F, 4403.E, and 4407.E, and liability coverage, he must submit the letter specified in LAC 33:V.3719.G to cover both forms of financial responsibility; a separate letter as specified in LAC 33:V.3719.F is not required.

b. 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.

c. A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

i. 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

ii. 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 chief financial officer for the owner or operator must send a letter to the Office of Environmental Services. This letter from the chief financial officer must:

a. request the extension;

b. certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

c. 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;

d. specify the date ending the owner's or operator's last complete fiscal year before the effective date of these regulations;

e. specify the date, no later than 90 days after the end of such fiscal year, when he will submit the documents specified in LAC 33:V.4411.F.3; and

f. certify that the year-end financial statement 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 Office of Environmental Services 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 Office of Environmental Services 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 administrative authority 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 LAC 33:V.4411.F.3). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The administrative authority 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 LAC 33:V.4411 within 30 days after notification of disallowance.

G. Guarantee for Liability Coverage

1. Subject to LAC 33:V.4411.G.2, 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 LAC 33:V.4411.F.1-6. The wording of the guarantee must be identical to the wording specified in LAC 33:V.3719.H.2. A certified copy of the guarantee must accompany the items sent to the administrative authority as specified in LAC 33:V.4411.F.3. 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.

a. 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 non-sudden accidental occurrences or both, arising from the operation of facilities covered by this corporate guarantee or fails to pay an amount agreed upon 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.

b. Reserved.

2. 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 attorney general or insurance commissioner of the state in which the guarantor is incorporated and the attorney general or insurance commissioner of Louisiana have submitted written statements to the department that a guarantee executed as described in this Section and LAC 33:V.3719.H.2 is a legally valid and enforceable obligation in that state.

3. In the case of corporations incorporated outside the United States, a guarantee may be used to satisfy the requirements of this Section only if the non-U.S. corporation has identified a registered agent for service of process in Louisiana and in the state in which it has its principal place of business, and if the attorney general or insurance commissioner of Louisiana and the state in which the guarantor corporation has its principal place of business have submitted written statements to the department that a guarantee executed as described in this Section and LAC 33:V.3719.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 Subsection and submitting a copy of the letter of credit to the Office of Environmental Services.

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 LAC 33:V.3719.K.

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 that 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 LAC 33:V.3719.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 Subsection and submitting a copy of the bond to the Office of Environmental Services.

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 LAC 33:V.3719.L.

4. A surety bond may be used to satisfy the requirements of this Section only if the attorney general or insurance commissioners of the state in which the surety is incorporated and the attorney general or insurance commissioner of Louisiana have submitted written statements to the department that a surety bond executed as described in this Section and LAC 33:V.3719.L 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 Subsection and submitting an originally signed duplicate of the trust agreement to the Office of Environmental Services.

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 non-sudden 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 LAC 33:V.3719.M.

K. Notwithstanding any other provision of LAC 33:V.Chapter 43, 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.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 13:433 (August 1987), LR 16:399 (May 1990), LR 18:723 (July 1992), repromulgated LR 19:627 (May 1993), amended by the Office of Waste Services, Hazardous Waste Division, LR 23:1521 (November 1997), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2506 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2481 (October 2005), LR 33:2133 (October 2007), LR 34:1004 (June 2008).

§4413. Incapacity of Owners or Operators, Guarantors, or Financial Institutions

A. An owner or operator must notify the Office of Environmental Services 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 LAC 33:V.4403.E and 4407.E must make such a notification if he is named as debtor, as required under the terms of the corporate guarantee (see LAC 33:V.3719.H).

B. An owner or operator who fulfills the requirements of LAC 33:V.4403, 4407, or 4411 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.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2507 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2482 (October 2005), LR 33:2134 (October 2007).

Subchapter H. Containers

§4417. Applicability

A. Owners and operators of all hazardous waste facilities with interim status that store hazardous wastes in containers are subject to the requirements of this Chapter and LAC 33:V.Chapter 21 as indicated below.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4419. Condition of Containers

A. Interim status facilities are subject to the requirements of LAC 33:V.2103.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4421. Compatibility of Waste with Containers

A. Interim status facilities are subject to the requirements of LAC 33:V.2105.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4423. Management of Containers

A. Interim status facilities are subject to the requirements of LAC 33:V.2107.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4425. Inspections

A. Interim status facilities are subject to the requirements of LAC 33:V.2109.A.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4427. Special Requirements for Ignitable or Reactive Waste

A. Interim status facilities are subject to the requirements of LAC 33:V.2113.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4429. Special Requirements for Incompatible Wastes

A. Interim status facilities are subject to the requirements of LAC 33:V.2115.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4430. Air Emission Standards

A. The owner or operator shall manage all hazardous waste placed in a container in accordance with the applicable requirements of Subchapters Q, R, and V of this Chapter.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous Waste Division, LR 24:1745 (September 1998).

Subchapter I. Tanks

§4431. Applicability

A. The regulations of this Subchapter apply to owners or operators of facilities that use tank systems for storing or treating hazardous waste, except as otherwise provided in this Section and in LAC 33:V.4433 or in 4301 and 105.F.

1. Tank systems that are used to store or treat hazardous waste that contains no free liquids and that are situated inside a building with an impermeable floor are exempted from the requirements of LAC 33:V.4437. To demonstrate the absence or presence of free liquids in the stored/treated waste, the following test must be used: Method 9095B (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 LAC 33:V.110.

2. *Tank systems*, including *sumps*, as defined in LAC 33:V.109, that serve as part of a secondary containment system to collect or contain releases of hazardous wastes are exempted from the requirements in LAC 33:V.4437.A.

3. *Tanks*, *sumps* and other collection devices used in conjunction with *drip pads*, as defined in LAC 33:V.109 and regulated under LAC 33:V.Chapter 43.Subchapter S, must meet the requirements of this Subchapter.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 13:651 (November 1987), LR 16:614 (July 1990), LR 18:1375 (December 1992), LR 22:829 (September 1996), amended by the Office of the Secretary, Legal Affairs Division, LR 34:1019 (June 2008).

§4433. Assessment of Existing Tank System's Integrity

A. For each existing tank system that does not have secondary containment meeting the requirements of these regulations, the owner or operator must determine that the tank system is not leaking or unfit for use. Except as provided in Subsection 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 professional engineer in accordance with LAC 33:V.513 that attests to the tank system's integrity by November 20, 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:

a. 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;

b. for other than non-enterable underground tanks and for ancillary equipment, this assessment must be either a leak test, as described in Subparagraph B.5.a of this Section, or an internal inspection and/or other tank integrity examination certified by an independent, qualified professional engineer in accordance with LAC 33:V.513 that addresses cracks, leaks, corrosion, and erosion.

C. Tank systems that store or treat materials that became hazardous wastes subsequent to July 14, 1986 must conduct this assessment within 12 months after the date that the waste became a hazardous waste.

D. If, as a result of the assessment conducted in accordance with LAC 33:V.4431, a tank system is found to be leaking or unfit for use, the owner or operator must comply with the requirements of LAC 33:V.4441.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 13:651 (November 1987), LR 18:723 (July 1992), amended by the Office of the Secretary, Legal Affairs Division, LR 34:1004 (June 2008).

§4435. 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 professional engineer in accordance with LAC 33:V.513 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 systems is or will be in contact with the soil or with the water, a determination by a corrosion expert of:

a. factors affecting the potential for corrosion, including but not limited to:

i. soil moisture content;

ii. soil pH;

iii. soil sulfides level;

iv. soil resistivity;

v. structure to soil potential;

vi. influence of nearby underground metal structures (e.g., piping);

vii. stray electric current; and

viii. existing corrosion-protection measures (e.g., coating, cathodic protection); and

b. 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:

i. corrosion-resistant materials of construction such as special alloys, fiberglass-reinforced plastic;

ii. corrosion-resistant coating (such as epoxy or fiberglass) with cathodic protection (e.g., impressed current or sacrificial anodes); and

iii. electrical isolation devices such as insulating joints and flanges;

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 consideration to ensure that:

a. tank foundations will maintain the load of a full tank;

b. 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

c. 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 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.

F. The owner or operator must provide the type and degree of corrosion protection necessary, based on the information provided under LAC 33:V.4435.A.3, 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 LAC 33:V.4435.B-F to attest that the tank was properly designed and installed and that repairs, pursuant to LAC 33:V.4435.B and D were performed. These written statements must also include the certification statement as required in this Chapter.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 13:651 (November 1987), LR 18:723 (July 1992), amended by the Office of the Secretary, Legal Affairs Division, LR 34:1004 (June 2008).

§4437. 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 Subsections F and G of this Section):

1. for all new and existing tank systems or components, prior to their being put into service;

2. for tank systems that store or treat materials that become hazardous wastes, within two years of the hazardous waste listing, or when the tank system has reached 15 years of age, whichever comes later.

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, groundwater, 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 Subsection 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 to be placed in the tank systems 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 systems and resistance to pressure gradients above and below the system and capable of preventing failure due to settlement, compression, or uplift;

3. provide 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.

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 administrative authority.

E. In addition to the requirements of Subsections B-D of this Section, secondary containment systems must satisfy the following requirements.

1. External liner systems must be:

a. designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

b. 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;

c. free of cracks or gaps; and

d. designed and installed to completely surround the tank and 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:

a. designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

b. 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;

c. constructed with chemical-resistant water stops in place at all joints (if any);

d. 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;

e. provided with a means to protect against the formation of and ignition of vapors within the vault, if the waste being stored or treated:

i. meets the characteristics of ignitable waste under LAC 33:V.4903.B; or

ii. meets the characteristics of reactive waste under LAC 33:V.4903.D and may form an ignitable or explosive vapor; and

iii. 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:

a. 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;

b. protected, if constructed of metal, from both corrosion of the primary tank interior and external surface of the outer shell; and

c. 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 administrative authority and the administrative authority concurs, that the existing leak detection technology or site conditions will not allow detection of a release within 24 hours.

F. Ancillary equipment must be provided with full secondary containment (e.g., trench, jacketing, double-walled piping) that meets the requirements of Subsections 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 administrative authority 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 groundwater or surface water at least as effectively as a secondary containment during the active life of the tank system or that in the event of a release that does migrate to groundwater 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 this Subsection, be exempted from the secondary containment requirements of this Section. Application for a variance as allowed in this Subsection does not waive compliance with the requirements of this Chapter for new tank systems.

1. In deciding whether to grant a variance based on a demonstration of equivalent protection of groundwater and surface water, the administrative authority will consider:

a. the nature and quantity of the waste;

b. the proposed alternate design and operation;

c. the hydrogeologic setting of the facility, including the thickness of soils between the tank system and groundwater; and

d. all other factors that would influence the quality and mobility of the hazardous constituents and the potential for them to migrate to groundwater or surface water.

2. In deciding whether to grant a variance, based on a demonstration of no substantial present or potential hazard, the administrative authority will consider:

a. the potential adverse effects on groundwater, surface water, and land quality taking into account:

i. the physical and chemical characteristics of the waste in the tank system, including its potential for migration;

ii. the hydrogeological characteristics of the facility and surrounding land;

iii. the potential for health risks caused by human exposure to waste constituents;

iv. the potential for damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and

v. the persistence and permanence of the potential adverse effects;

b. the potential adverse effects of a release on groundwater quality, taking into account:

i. the quantity and quality of groundwater and the direction of groundwater flow;

ii. the proximity and withdrawal rates of water in the area;

iii. the current and future uses of groundwater in the area; and

iv. the existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality;

c. the potential adverse effects of a release on surface water quality, taking into account:

i. the quantity and quality of groundwater and the direction of groundwater flow;

ii. the patterns of rainfall in the region;

iii. the proximity of the tank system to surface waters;

iv. the current and future uses of surface waters in the area and any water quality standards established for those surface waters; and

v. the existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality; and

d. the potential adverse effects of a release on the land surrounding the tank system, taking into account:

i. the patterns of rainfall in the region; and

ii. 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 has been granted in accordance with the requirements of Paragraph G.1 of this Section, at which a release of a 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:

a. comply with the requirements of LAC 33:V.4441, except LAC 33:V.4441.D; and

b. decontaminate or remove contaminated soil to the extent necessary to:

i. 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

ii. prevent the migration of hazardous waste or hazardous constituents to groundwater or surface water; or

c. if contaminated soil cannot be removed or decontaminated in accordance with Subparagraph G.3.b of this Section, comply with the requirements of LAC 33:V.1915.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:

a. comply with the requirements of LAC 33:V.4441.B-D; and

b. prevent the migration of hazardous waste or hazardous constituents to groundwater or surface water, if possible, and decontaminate or remove contaminated soil. If contaminated soil cannot be decontaminated or removed, or if groundwater has been contaminated, the owner or operator must comply with the requirements of LAC 33:V.4442;

c. if repairing, replacing, or reinstalling the tank system, provide secondary containment in accordance with the requirements of Subsections A-F of this Section or reapply for a variance from secondary containment and meet the requirements for new tank systems in LAC 33:V.4435 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 groundwater 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 Office of Environmental Services 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 Subsection G of this Section according to the following schedule:

a. for existing tank systems, at least 24 months prior to the date that secondary containment must be provided in accordance with Subsection A of this Section; and

b. 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 Office of Environmental Services 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 2 of this Section.

3. The demonstration for a variance must be completed and submitted to the Office of Environmental Services within 180 days after notifying the administrative authority of intent to conduct the demonstration.

4. The administrative authority 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 administrative authority 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 administrative authority 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 administrative authority 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 LAC 33:V.4433 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 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.

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.1-2 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.1-2 of this Section, the owner or operator must comply with the requirements of LAC 33:V.4441.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 13:651 (November 1987), LR 14:790 (November 1988), LR 16:614 (July 1990), LR 18:723 (July 1992), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2507 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2482 (October 2005), LR 33:2134 (October 2007), LR 34:1004 (June 2008), LR 34:1899 (September 2008).

§4438. Special Requirements for Generators of between 100 and 1,000 kg/month 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/month hazardous waste must comply with the following general operating requirements:

1. treatment or storage of hazardous waste in tanks must comply with LAC 33:V.4321.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; and

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. Except as noted in Subsection D of this Section, generators who accumulate between 100 and 1,000 kg/month of 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 Paragraph B.3 of this Section;

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 LAC 33:V.4317.C, the owner or operator must remedy any deterioration or malfunction he finds.]

D. Generators who accumulate between 100 and 1,000 kg/month of hazardous waste in tanks or tank systems that have full secondary containment and that either use leak detection equipment to alert facility personnel to leaks, or implement established workplace practices to ensure that leaks are promptly identified, must inspect at least weekly, where applicable, the areas identified in Paragraphs C.1-5 of this Section. Use of the alternate inspection schedule must be documented in the facility's operating record. This documentation must include a description of the established workplace practices at the facility.

E. Generators of between 100 and 1,000 kg/month 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 LAC 33:V.109.*Hazardous Waste*.4 or 5, that any solid waste removed from the 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 LAC 33:V.Chapters 11, 13, and 43.]

F. Generators of between 100 and 1,000 kg/month 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:

a. the waste is treated, rendered, or mixed before or immediately after placement in a tank so that the resulting waste, mixture, or dissolution of material no longer meets

the definition of ignitable or reactive waste under LAC 33:V.4903.B or D, and LAC 33:V.4321.B is complied with; or

b. 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

c. the tank is used solely for emergencies.

2. the owner or operator of a facility that 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 LAC 33:V.110).

G. Generators of between 100 and 1,000 kg/month must comply with the following special requirements for incompatible wastes:

1. incompatible wastes, or incompatible wastes and materials, must not be placed in the same tank, unless LAC 33:V.4321.B is complied with; and

2. hazardous waste must not be placed in an unwashed tank that previously held an incompatible waste or material, unless LAC 33:V.4321.B is complied with.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Environmental Assessment, Environmental Planning Division, LR 27:714 (May 2001), amended by the Office of the Secretary, Legal Affairs Division, LR 34:1005 (June 2008).

§4439. 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 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 LAC 33:V.4441 if a leak or spill occurs in the tank system.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 13:651 (November 1987), amended by the Office of the Secretary, Legal Affairs Division, LR 34:634 (April 2008).

§4440. Inspections

A. The owner or operator must inspect, where present, at least once each operating day 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.

B. Except as noted under Subsection C of this Section, the owner or operator must inspect 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; and

3. the construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment structure (e.g., dikes) to detect erosion or signs of releases of hazardous waste (e.g., wet spots, dead vegetation).

C. Owners or operators of tank systems that either use leak detection equipment to alert facility personnel to leaks, or implement established workplace practices to ensure that leaks are promptly identified, must inspect at least weekly those areas described in Paragraphs B.1-3 of this Section. Use of the alternate inspection schedule must be documented in the facility's operating record. This documentation must include a description of the established workplace practices at the facility.

D. Ancillary equipment that is not provided with secondary containment, as described in LAC 33:V.4437.F.1-4, must be inspected at least once each operating day.

E. 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).

F. The owner or operator must document in the operating record of the facility an inspection of those items in Subsections A and B of this Section.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR

13:651 (November 1987), LR 18:723 (July 1992), amended by the Office of the Secretary, Legal Affairs Division, LR 34:1005 (June 2008).

§4441. 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 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 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. Notification, Reports

1. Any release to the environment, except as provided in LAC 33:V.4441.D.2, must be reported to the administrative authority within 24 hours of detection. If the release has been reported pursuant to LAC 33:V.105.A, that report will satisfy this requirement.

2. A leak or spill of hazardous waste that is:

a. less than or equal to a quantity of one pound; and

b. immediately contained and cleaned up is exempted from the requirements of this Subsection.

3. Within 30 days of detection of a release to the environment, a report containing the following information must be submitted to the administrative authority:

a. likely route of migration of the release;

b. characteristics of the surrounding soil (soil composition, geology, hydrogeology, climate);

c. 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 dates must be submitted to the administrative authority as soon as they become available;

d. proximity to downgradient drinking water, surface water, and population areas; and

e. 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 LAC 33:V.4441.E.2-4, the tank system must be closed in accordance with LAC 33:V.4442.

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 LAC 33:V.4437 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 LAC 33:V.4441.F are satisfied. If a component is replaced to comply with the requirements of this Subsection, that component must satisfy the requirements for new tank systems or components in LAC 33:V.4435 and 4437. 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 LAC 33:V.4437 prior to being returned to use.

F. Certification of Major Repairs. If the owner or operator has repaired a tank system in accordance with Subsection 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 professional engineer in accordance with LAC 33:V.513 that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. This certification is to be placed in the operating record and maintained until closure of the facility.

[NOTE: The administrative authority 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 requiring corrective action or such other response as deemed necessary to protect human health or the environment.]

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 13:651 (November 1987), LR 16:614 (July 1990), LR 18:723 (July 1992), amended by the Office of the Secretary, Legal Affairs Division, LR 34:1006 (June 2008).

§4442. Closure and Post-Closure Care

A. Interim status facilities are subject to the requirements of LAC 33:V.1915.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 13:651 (November 1987), LR 15:182 (March 1989).

§4443. Special Requirements for Ignitable or Reactive Wastes

A. Interim status facilities are subject to the requirements of LAC 33:V.1917.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 13:651 (November 1987), LR 15:182 (March 1989).

§4444. Special Requirements for Incompatible Wastes

A. Interim status facilities are subject to requirements of LAC 33:V.1919.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 13:651 (November 1987), LR 14:790 (November 1988), LR 15:182 (March 1989).

§4445. Waste Analysis and Trial Tests

A. In addition to performing the waste analysis required by LAC 33:V.4313, 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:

1. conduct waste analysis and trial treatment or storage test (e.g., benchscale or pilot-plant scale tests); or

2. obtain written, documented information on similar waste under similar operating conditions to show that the proposed treatment or storage will meet the requirements of LAC 33:V.4439.A.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 13:651 (November 1987), LR 15:182 (March 1989).

§4446. Air Emission Standards

A. The owner or operator shall manage all hazardous waste placed in a tank in accordance with the applicable requirements of Subchapters Q, R, and V of this Chapter.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous Waste Division, LR 24:1745 (September 1998).

Subchapter J. Surface Impoundments

§4447. Applicability

A. The regulations in this Subchapter apply to owners and operators of facilities that use surface impoundments to treat, store, or dispose of hazardous waste, except as LAC 33:V.4307 provides otherwise.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended by the Office of Waste Services, Hazardous Waste Division, LR 24:1109 (June 1998).

§4449. Action Leakage Rate

A. The owner or operator of surface impoundment units subject to LAC 33:V.4462.A must submit a proposed action leakage rate to the Office of Environmental Services when submitting the notice required under LAC 33:V.4462.B. Within 60 days of receipt of the notification, the administrative authority 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 administrative authority before the original 60- or the extended 90-day review periods, the action leakage rate will be approved as proposed by the owner or operator.

B. The administrative authority shall approve an action leakage rate for surface impoundment units subject to LAC 33:V.4462.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 LAC 33:V.4455.B to an average daily flow rate (gallons per acre per day) for each sump. Unless the administrative authority 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 LAC 33:V.4457.A.2, monthly during the post-closure care period when monthly monitoring is required under LAC 33:V.4455.B.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 21:266 (March 1995), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2508 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2482 (October 2005), LR 33:2134 (October 2007).

§4452. Response Actions

[Formerly §4451]

A. The owner or operator of surface impoundment units subject to LAC 33:V.4462.A must develop and keep on-site until closure of the facility a response action plan. 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 Subsection 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 administrative authority in writing of the exceedence within seven days of the determination;

2. submit a preliminary written assessment to the administrative authority 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 administrative authority the results of the analyses specified in Paragraphs B.3-5 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 administrative authority 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.3-5 of this Section, the owner or operator must:

1. assess the sources of liquids and amounts of liquids by source;

2. conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the sources of liquids and possible location of any leaks, and the hazard and mobility of the liquids; and

3. assess the seriousness of any leaks in terms of potential for escaping into the environment; or

4. document why such assessments are not needed.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 21:266 (March 1995), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2508 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2483 (October 2005), LR 33:2135 (October 2007), LR 34:1006 (June 2008).

§4453. Waste Analysis and Trial Tests

A. In addition to the waste analyses required by LAC 33:V.1519, 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.

B. The owner or operator must, before treating the different waste or using the different process:

1. conduct waste analyses and trial treatment tests (e.g., bench scale or pilot-plant scale tests); or

2. obtain written, documented information on similar treatment of similar waste under similar operating conditions; to show that this treatment will comply with LAC 33:V.4321.B.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 10:496 (July 1984).

§4455. Monitoring and Inspection

A. The owner or operator must inspect:

1. the freeboard level at least once each operating day to ensure compliance with LAC 33:V.4449; and

2. the surface impoundment, including dikes and vegetation surrounding the them, at least once a week to

detect any leaks, deterioration, or failures in the impoundment.

B. An owner or operator required to have a leak detection system under LAC 33:V.4462.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.

1. 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.

2. *Pump Operating Level*—a liquid level proposed by the owner or operator and approved by the administrative authority 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 LAC 33:V.4449.A.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 21:266 (March 1995).

§4456. Air Emission Standards

A. The owner or operator shall manage all hazardous waste placed in a surface impoundment in accordance with the applicable requirements of Subchapters R and V of this Chapter.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous Waste Division, LR 24:1745 (September 1998).

§4457. Closure and Post-Closure

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 LAC 33:V.4905.A.4 applies; or

~~2. if some waste residues or contaminated materials~~ are left in place at final closure, ~~the~~ owner or operator must ~~either:~~

~~a. perform a risk assessment to demonstrate that~~ closure with the remaining contaminant levels is protective of human health and the environment in accordance with LAC 33:I.Chapter 13. Any such risk assessment is subject to approval by the administrative authority and must demonstrate that post-closure care is not necessary to adequately protect human health and the environment; or

~~b.~~ close the impoundment and provide post-closure ~~care in accordance with Subsection B of this Section.~~

~~B. If the owner or operator elects to comply with Subparagraph A.2.b of this Section, he must~~ close the impoundment and provide post-closure care for a landfill under LAC 33:V.4501, including the following:

1. eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues;

2. stabilize remaining wastes to a bearing capacity sufficient to support the final cover; and

3. 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. 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.

C. In addition to the requirements of LAC 33:V.4501, 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 Subparagraph A.2.b 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 LAC 33:V.2903.J.3.d and 4 and 4455.B and comply with all other applicable leak detection system requirements of this Chapter;

3. maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of LAC 33:V.4367; and

4. prevent run-on and run-off from eroding or otherwise damaging the final cover.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste,

Hazardous Waste Division, LR 10:200 (March 1984), amended LR 15:470 (June 1989), LR 18:723 (July 1992), LR 21:266 (March 1995), amended by the Office of the Secretary, LR 24:2249 (December 1998), amended by the Office of the Secretary, Legal Affairs Division, LR 34:634 (April 2008).

§4459. Special Requirements for Ignitable or Reactive Waste

A. Ignitable or reactive waste must not be placed in a surface impoundment, unless the waste and impoundment satisfy all applicable requirements of LAC 33:V.Chapter 22 and:

1. the waste is treated, rendered, or mixed before or immediately after placement in the impoundment so that the resulting waste, mixture, or dissolution of material no longer meets the characteristics of ignitable or reactive waste under LAC 33:V.4903.B and D, and 4321.B is complied with; or

2. the surface impoundment is used solely for emergencies.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 16:1057 (December 1990), amended by the Office of the Secretary, Legal Affairs Division, LR 34:1900 (September 2008).

§4461. Special Requirements for Incompatible Wastes

A. Incompatible wastes or incompatible wastes and materials must not be placed in the same surface impoundment, unless LAC 33:V.4321.B is complied with.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 18:723 (July 1992).

§4462. Design Requirements

A. The owner or operator of each new surface impoundment unit, each lateral expansion of a surface impoundment unit, and each replacement of an existing surface impoundment unit must install two or more liners and a leachate collection and removal system between the liners and operate the leachate collection and removal system in accordance with LAC 33:V.2903.J, unless exempted under LAC 33:V.2903.C, K, or L.

B. The owner or operator of each unit referred to in Subsection A of this Section must notify the Office of Environmental Services at least 60 days prior to receiving waste. The owner or operator of each facility submitting notice must file a Part II application within six months of the receipt of such notice.

C. The owner or operator of any replacement surface impoundment unit is exempt from LAC 33:V.4462.A 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 LAC 33:V.4462.A may be waived by the administrative authority 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 LAC 33:V.4903.E (Hazardous Waste Numbers D004-D017 only); and

2. the monofill meets the requirements of LAC 33:V.4462.D.2.a or b:

a. the monofill meets the following criteria:

i. the monofill has at least one liner for which there is no evidence that such liner is leaking. For the purposes of this Section 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 or hazardous constituents from migrating beyond the liner to adjacent subsurface soil, groundwater, 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 LAC 33:V.4462.A on the basis of a liner designed, constructed, installed, and operated to prevent hazardous waste or hazardous constituents 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 must comply with appropriate post-closure requirements, including but not limited to groundwater monitoring and corrective action;

ii. the monofill is located more than 1/4 mile from an *underground source of drinking water* (as that term is defined in LAC 33:V.109);

iii. the monofill is in compliance with generally applicable groundwater monitoring requirements for facilities with permits;

b. 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 waste or hazardous constituents into groundwater 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 LAC 33:V.4462.A and in good faith compliance with LAC 33:V.4462.A and with guidance documents governing liners and leachate collection systems under LAC 33:V.4462.A, no liner or leachate collection system which is different from that which was so installed pursuant to LAC 33:V.4462.A will be required for such unit

by the administrative authority when issuing the first permit to such facility, except that the administrative authority will not be precluded from requiring installation of a new liner when the administrative authority has reason to believe that any liner installed pursuant to the requirements of LAC 33:V.4462.A 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 LAC 33:V.4462.B, there must be at least 2 feet (60 cm) of freeboard.

G. A freeboard level less than 2 feet (60 cm) 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 these alternate design features or operating plans which prevent 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 LAC 33:V.4462.A, C, and D 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 LAC 33:V.Chapter 22 or the granting of an extension to the effective date of a prohibition in accordance with LAC 33:V.2239, within this 48-month period.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 16:220 (March 1990), amended LR 17:368 (April 1991), LR 18:723 (July 1992), LR 20:1000 (September 1994), LR 21:266 (March 1995), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2508 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2483 (October 2005), LR 33:2135 (October 2007), LR 34:1006 (June 2008).

Subchapter K. Waste Piles

§4463. Applicability

A. The regulations in this Subchapter apply to owners and operators of facilities that treat or store hazardous waste in piles, except as LAC 33:V.4307 provides otherwise. Alternatively, a pile of hazardous waste may be managed as a landfill under LAC 33:V.Chapter 43.Subchapter M.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended by the Office of Waste Services, Hazardous Waste Division, LR 24:1109 (June 1998).

§4465. Protection from Wind

A. 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.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4467. Waste Analysis

A. In addition to the waste analyses required by LAC 33:V.1519, 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.

B. The analysis conducted must differentiate between the types of hazardous waste the owner or operator places in piles, so that the mixing of incompatible waste does not inadvertently occur. The analysis must include a visual comparison of color and texture.

C. As required by LAC 33:V.1519, the waste analysis plan must include analyses needed to comply with LAC 33:V.2311 and 2313.

D. As required by LAC 33:V.1529, the owner or operator must place the results of this analysis in the operating record of the facility.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4469. Containment

A. 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. If a leachate or run-off from a pile is a hazardous waste, then either:

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. empty, or otherwise expeditiously manage, collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems to maintain design capacity of the system; or

5. the pile must be protected from precipitation and run-on by some other means and no liquids or waste containing free liquids may be placed in the pile.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4470. Monitoring and Inspection

A. An owner or operator required to have a leak detection system under LAC 33:V.4476 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.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 21:266 (March 1995).

§4471. Special Requirements for Ignitable or Reactive Waste

A. Ignitable or reactive wastes must not be placed in a pile unless the waste and pile satisfy all applicable requirements of LAC 33:V.Chapter 22, and:

1. addition of the waste to an existing pile results in the waste or mixture no longer meeting the definition of *ignitable* or *reactive waste* under LAC 33:V.109 and complies with LAC 33:V.4321.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.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 16:1057 (December 1990).

§4472. Response Actions

A. The owner or operator of waste pile units subject to LAC 33:V.4476 must develop and keep on-site until closure of the facility a response action plan. 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 Subsection 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 administrative authority in writing of the exceedence within seven days of the determination;

2. submit a preliminary written assessment to the administrative authority 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 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 administrative authority the results of the analyses specified in LAC 33:V.4472.B.3-5, 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 administrative authority a report summarizing the results of any remedial actions taken and actions planned.

C. To make the leak and/or remediation determinations in LAC 33:V.4472.B.3-5, the owner or operator must:

1. assess the sources of liquids and amounts of liquids by source;

2. conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the sources of liquids and possible location of any leaks, and the hazard and mobility of the liquids; and

3. assess the seriousness of any leaks in terms of potential for escaping into the environment; or

4. document why such assessments are not needed.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 21:266 (March 1995), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2508 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2483 (October 2005), LR 33:2135 (October 2007), LR 34:1006 (June 2008).

§4473. Special Requirements for Incompatible Wastes

A. Owners or operators having interim status for waste piles used to manage incompatible wastes must comply with the requirements of LAC 33:V.2313.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4474. Action Leakage Rates

A. The owner or operator of waste pile units subject to LAC 33:V.4476 must submit a proposed action leakage rate

to the Office of Environmental Services when submitting the notice required under LAC 33:V.4476. Within 60 days of receipt of the notification, the administrative authority 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 administrative authority before the original 60- or the extended 90-day review periods, the action leakage rate will be approved as proposed by the owner or operator.

B. The administrative authority shall approve an action leakage rate for waste pile units subject to LAC 33:V.4476. 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 LAC 33:V.4470, to an average daily flow rate (gallons per acre per day) for each sump. Unless the administrative authority approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 21:266 (March 1995), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2508 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2483 (October 2005), LR 33:2135 (October 2007).

§4475. 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 if they are identified as such in LAC 33:V.Chapter 49; 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 Subsection A of this Section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must ~~either:~~

1. close the facility and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills. (LAC 33:V.Chapter 43.Subchapter M); ~~or~~

~~2. perform a risk assessment to demonstrate that~~ closure with the remaining contaminant levels is ~~protective~~ of human health and the environment ~~in accordance with~~ LAC 33:I.Chapter 13. Any ~~such risk~~ assessment is subject to approval by the ~~administrative~~ authority and must demonstrate ~~that~~ post-closure care is not necessary to ~~adequately protect human health and the environment.~~

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 18:723 (July 1992), amended by the Office of the Secretary, LR 24:2249 (December 1998).

§4476. Design and Operating Requirements

A. 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 LAC 33:V.2303.C, unless exempted under LAC 33:V.2303.D-F, and must comply with the procedures of LAC 33:V.4462.B. *Construction commences* is as defined in LAC 33:V.109.*Existing Facilities*.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 16:220 (March 1990), amended LR 21:266 (March 1995).

Subchapter L. Land Treatment

§4477. Applicability

A. The regulations in this Subchapter apply to owners and operators of hazardous waste land treatment facilities with interim status, except as LAC 33:V.4307 provides otherwise.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 18:723 (July 1992), amended by the Office of Waste Services, Hazardous Waste Division, LR 24:1109 (June 1998).

§4479. 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 non-hazardous by biological degradation or chemical reactions 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.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 10:496 (July 1984), LR 18:723 (July 1992).

§4481. Waste Analysis

A. In addition to the waste analyses required by LAC 33:V.1519, before placing a hazardous waste in or on a land treatment facility, the owner or operator must:

1. determine the concentration in the waste of any substances which equal or exceed the maximum concentrations listed in LAC 33:V.4903, Table 5, that cause the waste to exhibit the Toxicity Characteristic;

2. determine the concentrations of any substances which cause the waste to be listed in LAC 33:V.4901 as a hazardous waste.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 17:369 (April 1991).

§4483. Food-Chain Crops

A. No produce may be allowed to grow on a landfarm. Additionally, grasses and other cover plants may not be used for grazing or hay production for domestic livestock.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4485. 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 in 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:

a. the hazardous waste constituents as identified in LAC 33:V.4481.A.1 and 2, in the waste and in the soil; and

b. 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 groundwater, 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 LAC 33:V.4481.A.1 and 2.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4487. Recordkeeping

A. Interim status facilities are subject to the requirements of LAC 33:V.2713.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4489. Closure and Post-Closure

A. In the closure plan under LAC 33:V.4381.A and the post-closure plan under LAC 33:V.4391, 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 land treatment area into the groundwater;

2. control of the release of contaminated run-off from the facility into surface water; and

3. control of the release of airborne particulate contaminants caused by wind erosion;

4. complies with food-chain crops, LAC 33:V.4483.

B. The owner or operator must consider at least the following factors in addressing the closure and post-closure care objectives of LAC 33:V.4489.A:

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 groundwater, 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 LAC 33:V.4485; 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 LAC 33:V.4489.A:

1. removal of contaminated soils;

2. placement of a final cover, considering:

a. functions of the cover (e.g., infiltration control, erosion, and run-off control, and wind erosion control);

b. 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. groundwater monitoring.

D. In addition to the requirements of LAC 33:V.Chapter 43.Subchapter F, 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 LAC 33:V.2703.C;

3. maintain the run-off management system required under LAC 33:V.2703.D; and

4. control particulate matter which may be subject to wind dispersal.

E. For the purpose of complying with LAC 33:V.4387, when closure is completed the owner or operator may submit to the Office of Environmental Services certification both by the owner or operator and by an independent, qualified soil scientist in lieu of an independent, qualified 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 LAC 33:V.4389, during the post-closure care period the owner or operator of a land treatment unit must:

1. continue soil-pore 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 LAC 33:V.2709; and

4. control wind dispersal of hazardous waste.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 10:496 (July 1984), LR 18:723 (July 1992), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2509 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2483 (October 2005), LR 33:2135 (October 2007), LR 34:1006 (June 2008).

§4491. Special Requirements for Ignitable or Reactive Waste

A. Interim status facilities are subject to the requirements of LAC 33:V.2715.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4493. Special Requirements for Incompatible Wastes

A. Interim status facilities are subject to the requirements of LAC 33:V.2717.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

Subchapter M. Landfills

§4495. Applicability

A. The regulations in this Subchapter apply to owners and operators of facilities that dispose of hazardous waste in landfills, except as LAC 33:V.4307 provides otherwise. A waste pile used as a disposal facility is a landfill and is governed by this Subchapter.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended by the Office of Waste Services, Hazardous Waste Division, LR 24:1109 (June 1998).

§4497. Action Leakage Rate

A. The owner or operator of landfill units subject to LAC 33:V.4512.A must submit a proposed action leakage rate to the administrative authority when submitting the notice required under LAC 33:V.4512.B. Within 60 days of receipt of the notification, the administrative authority 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 administrative authority before the original 60- or the extended 90-day review periods, the action leakage rate will be approved as proposed by the owner or operator.

B. The administrative authority shall approve an action leakage rate for landfill units subject to LAC 33:V.4512.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 LAC 33:V.4502 to an average daily flow rate (gallons per acre per day) for each sump. Unless the administrative authority 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 LAC 33:V.4502.B.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 21:266 (March 1995), amended by the Office of the Secretary, Legal Affairs Division, LR 34:634 (April 2008).

§4498. Response Actions

A. The owner or operator of landfill units subject to LAC 33:V.4512.A must develop and keep on-site until closure of the facility a response action plan. 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 Subsection 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 administrative authority in writing of the exceedence within seven days of the determination;

2. submit a preliminary written assessment to the administrative authority 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 administrative authority the results of the analyses specified in LAC 33:V.4498.B.3-5, 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 administrative authority a report summarizing the results of any remedial actions taken and actions planned.

C. To make the leak and/or remediation determinations in LAC 33:V.4498.B.3-5, the owner or operator must:

1. assess the sources of liquids and amounts of liquids by source;

2. conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the sources of liquids and possible location of any leaks, and the hazard and mobility of the liquids; and

3. assess the seriousness of any leaks in terms of potential for escaping into the environment; or

4. document why such assessments are not needed.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 21:266 (March 1995), amended by

the Office of the Secretary, Legal Affairs Division, LR 34:1007 (June 2008).

§4499. Surveying and Recordkeeping

A. Interim status facilities must comply with LAC 33:V.2509.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4501. Closure and Post-Closure

A. At final closure of the landfill or upon closure of any cell, the owner or operator must place a final cover over the landfill or cell, and the closure plan under LAC 33:V.4381 must specify the function and design of the cover. In the post-closure plan under LAC 33:V.4391, the owner or operator must include the post-closure care requirements of LAC 33:V.4501.D.

B. In the closure and post-closure plans, the owner or operator must address the following objectives and indicate how they will be achieved:

1. control pollutant migration from the facility via groundwater, surface water, and air;

2. control surface water infiltration, including prevention of pooling;

3. provide long-term minimization of migration of liquids through the closed landfill;

4. function with minimum maintenance;

5. promote drainage and minimize erosion or abrasion of the cover;

6. accommodate settling and subsidence so that the cover's integrity is maintained; and

7. have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

C. The owner or operator must consider at least the following factors in addressing the closure and post-closure care objectives of LAC 33:V.4501.B:

1. type and amount of hazardous waste and hazardous waste constituents in the landfill;

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 groundwater, surface water, and drinking water sources);

4. climate, including amount, frequency, and pH of precipitation;

5. 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

6. geological and soil profiles and surface and subsurface hydrology of the site.

D. In addition to the requirements of LAC 33:V.4389, during the post-closure care period, the owner or operator of a hazardous waste landfill 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 leachate collection, removal, and treatment system (if there is one present in the landfill) to prevent excess accumulation of leachate in the system. If the collected leachate is a hazardous waste under LAC 33:V.Chapter 49, it must be managed as a hazardous waste in accordance with all applicable requirements of LAC 33:V.Chapters 11, 13 and 43. If the collected leachate 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;

~~3. maintain and monitor the leak detection system in~~ accordance with LAC 33:V.2503.K.4.d, ~~K.5,~~ and 4502.B and comply with ~~all other~~ applicable leak detection system ~~requirements of LAC 33:V.Chapter 43;~~

4. maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of LAC 33:V.4367;

5. prevent run-on and run-off from eroding or otherwise damaging the final cover;

6. maintain and monitor the gas collection and control system (if there is one present in the landfill) to control the vertical and horizontal escape of gases;

7. protect and maintain surveyed benchmarks used in complying with LAC 33:V.2509 subject to authority of LAC 33:V.4499; and

8. restrict access to the landfill as appropriate for its post-closure use.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 21:266 (March 1995), amended by the Office of the Secretary, Legal Affairs Division, LR 33:1627 (August 2007).

§4502. Monitoring and Inspection

A. An owner or operator required to have a leak detection system under LAC 33:V.4512.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*—a liquid level proposed by the owner or operator and approved by the administrative authority 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 LAC 33:V.4497.A.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 21:266 (March 1995).

§4503. Special Requirements for Ignitable or Reactive Waste

A. Except as provided in LAC 33:V.4503.B and in LAC 33:V.4511, ignitable or reactive waste must not be placed in a landfill, unless the waste and landfill meet all applicable requirements of LAC 33:V.Chapter 22, and the waste is treated, rendered, or mixed before or immediately after placement in a landfill so that:

1. the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste in LAC 33:V.4903.B or D; and

2. LAC 33:V.4321.B is complied with.

B. Except for prohibited wastes subject to treatment standards in LAC 33:V.Chapter 22, ignitable wastes in containers may be landfilled without meeting the requirements of LAC 33:V.4503.A, 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:

1. 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;

2. must be covered daily with soil or other non-combustible material to minimize the potential for ignition of the wastes; and

3. 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.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 16:1057 (December 1990), LR 18:723 (July 1992), LR 20:1000 (September 1994).

§4505. Special Requirements for Incompatible Wastes

A. Incompatible wastes, or incompatible wastes and materials, must not be placed in the same landfill cell, unless LAC 33:V.4321.B is complied with.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4507. Special Requirements for Liquid Waste

A. The placement of bulk or noncontainerized liquid hazardous waste or hazardous waste containing free liquids (whether or not sorbents have been added) in any landfill is prohibited.

B. Containers holding free liquids must not be placed in a landfill unless:

1. all free-standing liquid:

a. has been removed by decanting or other methods;

b. has been mixed with sorbent or solidified so that free-standing liquid is no longer observed; or

c. 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 LAC 33:V.4511 and is disposed of in accordance with LAC 33:V.4511.

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 9095B (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 LAC 33:V.110.

D. The date for compliance with Subsection A of this Section is November 19, 1981. The date for compliance with Subsection B of this Section is March 22, 1982.

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 petition process in LAC 33:V.105.

1. Nonbiodegradable Sorbents. The following materials are nonbiodegradable sorbents:

a. 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, and activated charcoal/activated carbon); or

b. 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

c. mixtures of these nonbiodegradable materials.

2. Tests for Nonbiodegradable Sorbents

a. 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

b. the sorbent material is determined to be nonbiodegradable under ASTM Method G22-76 (1984b)-Standard Practice for Determining Resistance of Plastics to Bacteria; or

c. the sorbent material is determined to be nonbiodegradable under OECD test 301B: [CO_2 Evolution (Modified Sturm Test)].

F. The placement of any liquid that is not a hazardous waste in a landfill is prohibited unless the owner or operator of such landfill demonstrates to the administrative authority or the administrative authority 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's or operator's landfill will not present a risk of contamination of any *underground source of drinking water*, as defined in LAC 33:V.109.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), LR 21:266 (March 1995), LR 22:829 (September 1996), amended by the Office of Waste Services, Hazardous Waste Division, LR 24:686 (April 1998), amended by the Office of the Secretary, Legal Affairs Division, LR 34:634 (April 2008), LR 34:1007 (June 2008).

§4509. Special Requirements for Containers

A. Interim status facilities must comply with LAC 33:V.2517.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4511. Disposal of Small Containers of Hazardous Waste in Overpacked Drums (Lab Packs)

A. Lab packs may be placed in a landfill if the following requirements are met.

1. Hazardous waste must be packaged in non-leaking inside containers. The inside containers must be designed 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 Louisiana Department of Public Safety (LDPS) hazardous materials/hazardous waste regulations (LAC 33:V.Subpart 2.Chapter 101), if those regulations specify a particular inside container for the waste.

2. The inside containers must be overpacked in an open head LDPS specification metal shipping container (LAC 33:V.Subpart 2.Chapter 101) of no more than 416-liter (110-gallon) capacity and surrounded by, at a minimum, a sufficient quantity of sorbent material to completely sorb all of the liquid contents of the inside containers. The metal outer container must be full after packing with inside containers and sorbent material.

3. 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 LAC 33:V.4321.B.

4. *Incompatible wastes*, as defined in LAC 33:V.109, must not be placed in the same outside container.

5. *Reactive wastes*, other than cyanide- or sulfide-bearing waste, as defined in LAC 33:V.109, must be treated or rendered nonreactive prior to packaging in accordance with Paragraphs A.1, 2, 3, 4, and 6 of this Section. Cyanide- and sulfide-bearing reactive waste may be packed in accordance with Paragraphs A.1, 2, 3, 4, and 6 of this Section without first being treated or rendered nonreactive.

6. Such disposal is in compliance with the requirements of LAC 33:V.Chapter 22. Persons who incinerate lab packs according to the requirements in LAC 33:V.2227.C.1 may use fiber drums in place of metal outer containers. Such fiber drums must meet the specifications of the Louisiana Department of Public Safety and Corrections or its successor agency in LAC 33:V.Subpart 2.Chapter 101, the DOT specifications in 49 CFR 173.12, and be overpacked according to the requirements in Paragraph A.2 of this Section.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 16:1057 (December 1990), LR 18:723 (July 1992), LR 21:266 (March 1995), amended by the Office of Waste Services, Hazardous Waste Division, LR 24:1745 (September 1998).

§4512. Design and Operating Requirements

A. The owner or operator of each new landfill unit, each lateral expansion of a landfill unit, and each replacement of an existing landfill unit, 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 LAC 33:V.2503.L, unless exempted by Subsection C, D, or E of this Section.

B. The owner or operator of each unit referred to in Subsection A of this Section must notify the Office of Environmental Services at least 60 days prior to receiving waste. The owner or operator of each facility submitting notice must file a Part II application within six months of the receipt of such notice.

C. The owner or operator of any replacement landfill unit is exempt from LAC 33:V.4512.A 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 Subsection A of this Section may be waived by the administrative authority for any monofill, if it meets the requirements specified in Paragraphs D.1 and 2 of this Section.

1. The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents that would render the wastes hazardous for reasons other than the toxicity characteristics in LAC 33:V.4903.E, with EPA Hazardous Waste Numbers D004-D017.

2. The monofill meets the criteria of either LAC 33:V.4512.D.2.a or b below.

a. The monofill:

i. has at least one liner for which there is no evidence that such liner is leaking;

ii. is located more than 1/4 mile from an *underground source of drinking water* (as that term is defined in LAC 33:V.109); and

iii. is in compliance with generally applicable groundwater monitoring requirements for facilities with permits.

b. 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 waste or hazardous waste constituents into groundwater or surface water at any future time.

E. In the case of any unit in which the liner and leachate collection system have been installed pursuant to the requirements of LAC 33:V.4512.A and in good faith compliance with LAC 33:V.4512.A and with guidance documents governing liners and leachate collection systems under LAC 33:V.4512.A, no liner or leachate collection system which is different from that which was so installed pursuant to LAC 33:V.4512.A will be required for such unit by the administrative authority when issuing the first permit to such facility, except that the administrative authority will not be precluded from requiring installation of a new liner when the administrative authority has reason to believe that any liner installed pursuant to the requirements of LAC 33:V.4512.A 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.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 16:220 (March 1990), amended LR 18:723 (July 1992), LR 20:1000 (September 1994), LR 21:266 (March 1995), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2509 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2483 (October 2005), LR 33:2135 (October 2007), LR 34:634 (April 2008), LR 34:1007 (June 2008).

Subchapter N. Incinerators

§4513. Applicability

A. The regulations in this Section apply to owners or operators of hazardous waste *incinerators* (as defined in LAC 33:V.109) except as LAC 33:V.4307 provides otherwise.

B. Integration of the MACT Standards

1. Except as provided by Paragraphs B.2 and 3 of this Section, the standards of this Chapter no longer apply when an owner or operator demonstrates compliance with the maximum achievable control technology (MACT) requirements of 40 CFR Part 63, Subpart EEE, as incorporated by reference at LAC 33:III.5122, by conducting a comprehensive performance test and submitting to the administrative authority a notification of compliance under 40 CFR 63.1207(j) and 63.1210(d) documenting compliance with the requirements of 40 CFR Part 63, Subpart EEE.

2. The following requirements continue to apply even where the owner or operator has demonstrated compliance with the MACT requirements of 40 CFR Part 63, Subpart

EEE, LAC 33:V.4521 (closure), and the applicable requirements of LAC 33:V.4301.A-C, G, and I, 4306, and Chapter 43 (Subchapters A-G, R, and V).

3. LAC 33:V.4517.A, generally prohibiting burning of hazardous waste during startup and shutdown, remains in effect if the owner or operator elects to comply with LAC 33:V.2001.B.1.a to minimize emissions of toxic compounds from startup and shutdown.

C. Owners or operators of incinerators burning hazardous waste are exempt from all of the requirements of this Section, except LAC 33:V.4521 (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 LAC 33:V.3105, Table 1, and such documentation is retained at the facility, if the waste to be burned is:

1. listed as a hazardous waste in LAC 33:V.4901, solely because it is ignitable (Hazard Code I), corrosive (Hazard Code C), or both; or

2. listed as a hazardous waste in LAC 33:V.4901, solely because it is reactive (Hazard Code R) for characteristics other than those listed in LAC 33:V.4903.D.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 LAC 33:V.4903; or

4. a hazardous waste solely because it possesses the reactivity characteristics described by LAC 33:V.4903.D.1-3 and 6-8, and will not be burned when other hazardous wastes are present in the combustion zone.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 15:737 (September 1989), amended LR 16:220 (March 1990), LR 18:1375 (December 1992), LR 20:1000 (September 1994), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 27:303 (March 2001), LR 29:324 (March 2003), amended by the Office of the Secretary, Legal Affairs Division, LR 34:635 (April 2008).

§4515. Waste Analysis

A. In addition to the waste analyses required by LAC 33:V.1519, the owner or operator must sufficiently analyze any waste which has not previously been burned in his incinerator 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:

1. heating value of the waste;

2. halogen and sulfur content in the waste; and

3. 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.

B. The owner or operator must place the results from each waste analysis, or the documented information, in the operating record of the facility, as required by LAC 33:V.1529.B.6.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4517. General Operating Requirements

A. During start-up and shutdown 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.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4519. Monitoring and Inspections

A. The owner or operator must conduct, as a minimum, the following monitoring and inspections when incinerating hazardous waste:

1. monitoring of instruments which relate to combustion and emission control (e.g., those instruments measuring waste feed, auxiliary fuel feed, air flow, incinerator temperature, scrubber flow, scrubber pH, and relevant level controls) at least every 15 minutes. Appropriate corrections to maintain steady state combustion conditions must be made immediately either automatically or by the operator; and

2. daily inspection of the complete incinerator and associated equipment (e.g., pumps, valves, conveyors, pipes, etc.) for leaks, spills, and fugitive emissions. Also, all emergency shutdown controls and system alarms must be inspected daily to assure proper operation.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4521. Closure

A. 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. Unless the owner or operator can demonstrate, in accordance with LAC 33:V.Chapter 49 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 these regulations.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4522. Interim Status Incinerators Burning Particular Hazardous Wastes

A. Owners or operators of incinerators subject to LAC 33:V.Chapter 43.Subchapter N may burn EPA Hazardous Wastes F020, F021, F022, F023, F026, or F027 if they receive a certification from the administrative authority that they can meet the performance standards of LAC 33:V.Chapter 31 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 Office of Environmental Services containing applicable information in LAC 33:V.529 and 3115 demonstrating that the incinerator can meet the performance standards in LAC 33:V.Chapter 31 when they burn these wastes.

2. The administrative authority will issue a tentative decision as to whether the incinerator can meet the performance standards in LAC 33:V.Chapter 31. Notification of this tentative decision will be provided by newspaper advertisement and radio broadcast in the jurisdiction where the incinerator is located. The administrative authority will accept comment on the tentative decision for 60 days. The administrative authority also may hold a public hearing upon request or at his discretion.

3. After the close of the public comment period, the administrative authority will issue a decision whether or not to certify the incinerator.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 16:220 (March 1990), amended LR 20:1000 (September 1994), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2509 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2484 (October 2005), LR 33:2136 (October 2007).

Subchapter O. Thermal Treatment

§4523. Applicability

A. 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 LAC 33:V.4307 provides otherwise. Thermal treatment in enclosed devices using controlled flame combustion is subject to the requirements of LAC 33:V.Chapter 31 and Subchapter N of LAC 33:V.Chapter 43 if the unit is an incinerator, and LAC 33:V.Chapter 30, if the unit is a *boiler* or an *industrial furnace* as defined in LAC 33:V.109.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 11:1139 (December 1985), LR 21:266 (March 1995), amended by the Office of Waste Services, Hazardous Waste Division, LR 24:1110 (June 1998).

§4525. General Operating Requirements

A. 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.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4527. Waste Analysis

A. In addition to the waste analyses required by LAC 33:V.1519, 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. As required by LAC 33:V.1529, the owner or operator must place the results from each waste analysis, or the documented information, in the operating record of the facility. At a minimum, the analysis must determine:

1. heating value of the waste;

2. halogen content and sulfur content in the waste; and

3. 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.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4529. 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. visual observation of the stack plume (emissions), where present, 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; and

3. inspection of the complete thermal treatment process and associated equipment (pumps, valves, conveyors, pipes, etc.) at least daily for leaks, spills, and fugitive emissions, and all emergency shutdown controls and system alarms must be checked to assure proper operation.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4531. Closure

A. 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.

B. At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with LAC 33:V.Chapter 49, 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 these regulations.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4533. Open Burning; Waste Explosives

A. 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)
10,001 to 30,000	680 meters	(2,260 feet)

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4534. Interim Status Thermal Treatment Devices Burning Particular Hazardous Waste

A. Owners or operators of thermal treatment devices subject to this Subchapter may burn EPA Hazardous Wastes F020, F021, F022, F023, F026, or F027 if they receive a certification from the administrative authority that they can meet the performance standards of LAC 33:V.Chapter 31 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 Office of Environmental Services containing the applicable information in LAC 33:V.529 and 3115 demonstrating that the thermal treatment unit can meet the performance standard in LAC 33:V.Chapter 31 when they burn these wastes.

2. The administrative authority will issue a tentative decision as to whether the thermal treatment unit can meet the performance standards in LAC 33:V.Chapter 31. 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 administrative authority will accept comment on the tentative decision for 60 days. The administrative authority also may hold a public hearing upon request or at his discretion.

3. After the close of the public comment period, the administrative authority will issue a decision whether or not to certify the thermal treatment unit.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 16:220 (March 1990), amended LR 20:1000 (September 1994), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2509 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2484 (October 2005), LR 33:2136 (October 2007).

Subchapter P. Chemical, Physical, and Biological Treatment

§4535. Applicability

A. The regulations in this Subchapter 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 LAC 33:V.4307 provides otherwise. Chemical, physical, and biological treatment of hazardous waste in tanks, surface impoundments, and land treatment facilities must comply with the requirements of LAC 33:V.Chapter 43.Subchapters I, J, and L, respectively.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR

10:496 (July 1984), LR 18:723 (July 1992), amended by the Office of Waste Services, Hazardous Waste Division, LR 24:1110 (June 1998).

§4537. General Operating Requirements

A. Chemical, physical, or biological treatment of hazardous waste must comply with LAC 33:V.4321.

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). These systems are intended to be used in the event of a malfunction in the treatment process or equipment.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4539. Waste Analysis and Trial Tests

A. As required by LAC 33:V.1519.A.1, the waste analysis plan must include analyses needed to comply with LAC 33:V.4545 and 4547. As required by LAC 33:V.1529, 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. In addition to the waste analysis required by LAC 33:V.1519.A.1, the owner or operator must conduct waste analyses and trial treatment tests (e.g., bench scale or pilot plant scale tests), or 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 LAC 33:V.4537.A and B, before treating the different waste or using the different method, 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.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4541. 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 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. As required by LAC 33:V.1509.C, the owner or operator must remedy any deterioration or malfunction he finds.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4543. Closure

A. At closure, all hazardous waste and hazardous waste residues must be removed from treatment processes or equipment, discharge control equipment, and discharge confinement structures. At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with LAC 33:V.Chapter 49, that any solid waste removed from this 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 these regulations.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984).

§4545. 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 the resulting waste, mixture, or dissolution of material no longer meets the characteristics of ignitable or reactive waste under LAC 33:V.4903.B and D, and 4321.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.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste,

Hazardous Waste Division, LR 10:200 (March 1984), amended by the Office of the Secretary, Legal Affairs Division, LR 34:1900 (September 2008).

§4547. Special Requirements for Incompatible Wastes

A. Incompatible wastes, or incompatible wastes and materials must not be placed in the same treatment process or equipment, unless LAC 33:V.4321 is complied with.

B. Hazardous waste must not be placed in unwashed treatment equipment which previously held an incompatible waste or material, unless LAC 33:V.4321 is complied with.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 18:723 (July 1992).

Subchapter Q. Air Emission Standards for Process Vents

§4549. Applicability

A. The regulations in this Subchapter apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes (except as provided in LAC 33:V.4301).

B. Except for LAC 33:V.1711.D and E, as referenced in LAC 33:V.4557, this Subchapter 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 LAC 33:V.Chapters 3, 5, 7, 27, 31, and 43;

2. a unit (including a hazardous waste recycling unit) that is not exempt from permitting under LAC 33:V.1109.E.1 (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 LAC 33:V.Chapters 3, 5, 7, 27, 31, and 43; or

3. a unit that is exempt from permitting under the provisions of LAC 33:V.1109.E.1 (i.e., a 90-day tank or container) and is not a recycling unit under the requirements of LAC 33:V.4105.

> [NOTE: The requirements of LAC 33:V.4553-4559 apply to process vents on hazardous waste recycling units previously exempt under LAC 33:V.4115.A. Other exemptions under LAC 33:V.105.D and 4307 are not affected by these requirements.]

C. The requirements of this Subchapter do not apply to the process vents at a facility where the facility owner or operator certifies that all of the process vents that would otherwise be subject to this Subchapter are equipped with and operating air emission controls in accordance with the process vent requirements of an applicable Clean Air Act regulation codified under 40 CFR Part 60, Part 61, or Part 63. The documentation of compliance under regulations at 40 CFR Part 60, Part 61, or Part 63 shall be kept with, or made readily available with, the facility operating record.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 17:658 (July 1991), amended LR 18:723 (July 1992), LR 20:1000 (September 1994), amended by the Office of Waste Services, Hazardous Waste Division, LR 24:1745 (September 1998), LR 25:486 (March 1999).

§4551. Definitions

A. As used in this Subchapter, all terms shall have the meanings given them in LAC 33:V.1703.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 17:658 (July 1991).

§4553. Standards: Process Vents

A. Interim status facilities are subject to the requirements of LAC 33:V.1707.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 17:658 (July 1991).

§4555. Standards: Closed-Vent Systems and Control Devices

A. Interim status facilities are subject to the requirements of LAC 33:V.1709.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 17:658 (July 1991).

§4557. Test Methods and Procedures

A. Interim status facilities are subject to the requirements of LAC 33:V.1711.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 17:658 (July 1991).

§4559. Recordkeeping Requirements

A. Interim status facilities are subject to the requirements of LAC 33:V.1713.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 17:658 (July 1991).

Subchapter R. Air Emission Standards for Equipment Leaks

§4561. Applicability

A. The regulations in this Subchapter apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes (except as provided in LAC 33:V.4307).

B. Except as provided in LAC 33:V.1743.K, as referenced in LAC 33:V.4509, this Subchapter 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 LAC 33:V.Chapters 3, 5, 7, 27, 31, and 43;

2. a unit (including a hazardous waste recycling unit) that is not exempt from permitting under the provisions of LAC 33:V.1109.E.1 (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 LAC 33:V.Chapters 3, 5, 7, 27, 31, and 43; or

3. a unit that is exempt from permitting under the provisions of LAC 33:V.1109.E.1 (i.e., a 90-day tank or container) and is not a recycling unit under the provisions of LAC 33:V.4105.

C. Each piece of equipment to which this Subchapter 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 LAC 33:V.4565 through 4581 if it is identified as required in LAC 33:V.1743.G.5, as referenced in LAC 33:V.4589.

E. Equipment that contains or contacts hazardous waste with an organic concentration of at least 10 percent by weight for less than 300 hours per calendar year is excluded from the requirements of LAC 33:V.4565-4581 if it identified, as required in LAC 33:V.4589.

F. Purged coatings and solvents from surface coating operations subject to the national emission standards for hazardous air pollutants (NESHAP) for the surface coating of automobiles and light-duty trucks at LAC 33:III.5122 (40 CFR Part 63, Subpart IIII), are not subject to the requirements of this Subchapter.

> [NOTE: The requirements of LAC 33:V.4565-4589 apply to equipment associated with hazardous waste recycling units previously exempt under LAC 33:V.4115.A. Other exemptions under LAC 33:V.105.D and 4307 are not affected by these requirements.]

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 17:658 (July 1991), amended LR 20:1000 (September 1994), amended by the Office of Waste Services, Hazardous Waste Division, LR 24:1745 (September 1998), LR 25:486 (March 1999), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2541 (October 2005).

§4563. Definitions

A. As used in this Subchapter, all terms shall have the meanings given them in LAC 33:V.1703.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 17:658 (July 1991).

§4565. Standard: Pumps in Light Liquid Service

A. Interim status facilities are subject to the requirements of LAC 33:V.1719.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 17:658 (July 1991).

§4567. Standard: Compressors

A. Interim status facilities are subject to the requirements of LAC 33:V.1721.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 17:658 (July 1991).

§4569. Standards: Pressure Relief Devices in Gas/Vapor Service

A. Interim status facilities are subject to the requirements of LAC 33:V.1723.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 17:658 (July 1991).

§4571. Standards: Sampling Connection Systems

A. Interim status facilities are subject to the requirements of LAC 33:V.1725.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 17:658 (July 1991).

§4573. Standards: Open-Ended Valves or Lines

A. Interim status facilities are subject to the requirements of LAC 33:V.1727.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 17:658 (July 1991).

§4575. Standards: Valves in Gas/Vapor Service or in Light Liquid Service

A. Interim status facilities are subject to the requirements of LAC 33:V.1729.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 17:658 (July 1991).

§4577. Standards: Pumps and Valves in Heavy Liquid Service, Pressure Relief Devices in Light Liquid or Heavy Liquid Service, and Flanges and Other Connectors

A. Interim status facilities are subject to the requirements of LAC 33:V.1731.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 17:658 (July 1991).

§4579. Standards: Delay of Repair

A. Interim status facilities are subject to the requirements of LAC 33:V.1733.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 17:658 (July 1991).

§4581. Standards: Closed-Vent Systems and Control Devices

A. Interim status facilities are subject to the requirements of LAC 33:V.1735.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 17:658 (July 1991).

§4583. Alternative Standards for Valves in Gas/Vapor Service or in Light Liquid Service: Percentage of Valves Allowed to Leak

A. Interim status facilities are subject to the requirements of LAC 33:V.1737.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 17:658 (July 1991).

§4585. Alternative Standards for Valves in Gas/Vapor Service or in Light Liquid Service: Skip Period Leak Detection and Repair

A. Interim status facilities are subject to the requirements of LAC 33:V.1739.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 17:658 (July 1991).

§4587. Test Methods and Procedures

A. Interim status facilities are subject to the requirements of LAC 33:V.1741.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 17:658 (July 1991).

§4589. Recordkeeping Requirements

A. Interim status facilities are subject to the requirements of LAC 33:V.1743.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 17:658 (July 1991).

Subchapter S. Drip Pads

§4591. Applicability

A. Interim status facilities are subject to the requirements of LAC 33:V.2801.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 18:1375 (December 1992).

§4593. Assessment of Existing Drip Pad Integrity

A. Interim status facilities are subject to the requirements of LAC 33:V.2803.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 18:1375 (December 1992).

§4595. Design and Installation of New Drip Pads

A. Interim status facilities are subject to the requirements of LAC 33:V.2811.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 18:1375 (December 1992).

§4597. Design and Operating Requirements

A. Interim status facilities are subject to the requirements of LAC 33:V.2805.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 18:1375 (December 1992).

§4599. Inspections

A. Interim status facilities are subject to the requirements of LAC 33:V.2807.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 18:1375 (December 1992).

§4601. Closure

A. Interim status facilities are subject to the requirements of LAC 33:V.2809.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 18:1375 (December 1992).

Subchapter T. Containment Buildings

§4701. Applicability

A. The requirements of this Subchapter apply to owners or operators who store or treat hazardous waste in units designed and operated under LAC 33:V.4703. The owner or operator is not subject to the definition of land disposal in RCRA Section 3004(k) provided that the unit:

1. 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, 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;

2. has a primary barrier that is designed to be sufficiently durable to withstand the movement of personnel and handling equipment within the unit;

3. if it is used to manage liquids, has:

a. a primary barrier designed and constructed of materials to prevent migration of hazardous constituents into the barrier;

b. a liquid collection system designed and constructed of materials to minimize the accumulation of liquid on the primary barrier; and

c. 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 LAC 33:V.4703.B.4;

4. has controls as needed to prevent fugitive dust emissions; and

5. is designed and operated to ensure containment and prevent the tracking of materials out of the unit by personnel or equipment.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 21:266 (March 1995), amended LR 21:944 (September 1995), amended by the Office of the Secretary, Legal Affairs Division, LR 34:635 (April 2008), LR 34:1008 (June 2008).

§4703. 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 ensure containment of managed wastes;

2. the floor and containment walls of the unit, including the secondary containment system if required under LAC 33:V.4703.B, 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, 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. The administrative authority will consider standards established by professional organizations which are 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 LAC 33:V.4703.A. 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:

a. they provide an effective barrier against fugitive dust emissions under LAC 33:V.4703.C.1.d; and

b. the unit is designed and operated in a fashion that ensures 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; and

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:

a. the primary barrier must be sloped to drain liquids to the associated collection system; and

b. 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:

a. the requirements of the leak detection component of the secondary containment system are satisfied by installation of a system that is, at a minimum:

i. constructed with a bottom slope of 1 percent or more; and

ii. 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;

b. 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;

c. 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 LAC 33:V.4437.E.1. In addition, the containment building must meet the requirements of LAC 33:V.4437.B and C to be considered an acceptable secondary containment system for a tank.); and

4. for existing units other than 90-day generator units, the administrative authority 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 Subchapter. In making this demonstration, the owner or operator must:

a. provide written notice to the administrative authority 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;

b. respond to any comments from the administrative authority on these plans within 30 days; and

c. fulfill the terms of the revised plans, if such plans are approved by the administrative authority.

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:

a. 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;

b. 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;

c. take measures to prevent the tracking of hazardous waste out of the unit by personnel or equipment used in handling the waste. An area must be designated to decontaminate equipment and any rinsate must be collected and properly managed; and

d. 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 and keep on-site a certification by a qualified professional engineer that the containment building design meets the requirements of Subsections A-C of this Section;

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, repair the condition promptly, in accordance with the following procedures:

a. 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:

i. enter a record of the discovery in the facility operating record;

ii. immediately remove the portion of the containment building affected by the condition from service;

iii. 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

iv. within seven days after the discovery of the condition, notify the Office of Environmental Services of the condition and, within 14 working days, provide a written notice to the administrative authority with a description of the steps taken to repair the containment building and the schedule for accomplishing the work;

b. the administrative authority 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; and

c. upon completing all repairs and cleanup, the owner or operator must notify the Office of Environmental Services 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 LAC 33:V.4703.C.3.a.iv; and

4. inspect and record in the facility's operating record, at least once every seven days, data gathered from monitoring equipment, leak detection equipment, and containment building and the area immediately surrounding it to detect signs of releases of hazardous waste.

D. For containment buildings having areas both with and without secondary containment, the owner or operator must:

1. design and operate each area in accordance with the requirements in LAC 33:V.4703.A-C;

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 Subchapter, the administrative authority 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 ensured without a secondary containment system.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 21:266 (March 1995), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2509 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 33:2136 (October 2007), LR 34:635 (April 2008), LR 34:1008 (June 2008).

§4705. 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 LAC 33:V.109.*Hazardous Waste*.6 applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for containment buildings must meet all of the requirements specified in LAC 33:V.Chapter 43.Subchapters F and G.

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 LAC 33:V.4705.A, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must ~~either:~~

1. close the facility and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills (LAC 33:V.4501). 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 LAC 33:V.Chapter 43.Subchapters F and G; ~~or~~

~~2. perform a risk assessment to demonstrate that~~ closure with the remaining contaminant levels is ~~protective~~ of human health and the environment ~~in~~ accordance with LAC 33:I.Chapter 13. Any ~~such~~ risk assessment is subject to approval by the ~~administrative~~ authority and must demonstrate that post-closure care is not necessary to ~~adequately protect human health and the environment.~~

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 21:266 (March 1995), amended by the Office of the Secretary, LR 24:2250 (December 1998).

Subchapter U. Hazardous Waste Munitions and Explosives Storage

§4707. Applicability

A. The requirements of this Subchapter apply to owners or operators who store munitions and explosive hazardous wastes, except as LAC 33:V.4301 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 (Subchapter T of this Chapter), tanks (Subchapter I of this Chapter), or containers (Subchapter H of this Chapter). See LAC 33:V.5311 for storage of waste military munitions].

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous Waste Division, LR 24:1746 (September 1998).

§4709. 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 runoff to the soil, groundwater, 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 Subchapter may be stored in one of the following:

1. earth-covered magazines that must be:

a. constructed of waterproofed, reinforced concrete, or structural steel arches, with steel doors that are kept closed when not being accessed;

b. designed and constructed:

i. to be of sufficient strength and thickness to support the weight of any explosives or munitions stored and any equipment used in the unit;

ii. to provide working space for personnel and equipment in the unit; and

iii. to withstand movement activities that occur in the unit; and

c. 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 that 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; or

3. outdoor or open storage areas that 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 LAC 33:V.4315, the preparedness and prevention procedures of Subchapter B of this Chapter, and the contingency plan and emergency procedures requirements of Subchapter C of this Chapter, 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.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous Waste Division, LR 24:1746 (September 1998).

§4711. Closure and Post-Closure Care

A. At closure of a magazine or unit that stored hazardous waste under this Subchapter, 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 LAC 33:V.109.*Hazardous Waste*.6 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 Subchapters F and G of this Chapter, 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 Subsection 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 (LAC 33:V.2521).

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous Waste Division, LR 24:1746 (September 1998).

Subchapter V. Air Emission Standards for Tanks, Surface Impoundments, and Containers

§4719. Applicability

A. Interim status facilities are subject to the requirements of LAC 33:V.1747.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous Waste Division, LR 24:1747 (September 1998).

§4721. Definitions

A. As used in this Subchapter, all terms shall have the meanings given to them in LAC 33:V.1703.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous Waste Division, LR 24:1747 (September 1998).

§4723. Schedule for Implementation of Air Emission Standards

A. Owners or operators of facilities existing on December 6, 1996, and subject to Subchapters H, I, and J of this Chapter shall meet the following requirements.

1. Install and begin operation of control equipment or waste management units required to comply with this Subchapter and complete modifications of production or treatment processes to satisfy exemption criteria in accordance with LAC 33:V.4725 by December 6, 1996, except as provided for in Paragraph A.2 of this Section.

2. When control equipment or waste management units required to comply with this Subchapter cannot be installed and in operation, or modifications of production or treatment processes to satisfy exemption criteria in accordance with LAC 33:V.4725, by December 6, 1996, the owner or operator shall:

a. install and begin operation of the control equipment and waste management units, and complete modifications of production or treatment processes as soon as possible, but no later than December 6, 1997;

b. prepare an implementation schedule that includes the following information: specific calendar dates for award of contracts or issuance of purchase orders for control equipment waste management units and production or treatment process modifications; initiation of on-site installation of control equipment, or waste management units, and modifications of production or treatment processes; completion of the control equipment or waste management unit installation, and production or treatment process modifications; and performance of testing to demonstrate that the installed equipment or waste management units and modified production or treatment processes meet the applicable standards of this Subchapter;

c. for facilities subject to the recordkeeping requirements of LAC 33:V.4357, the owner or operator shall enter the implementation schedule specified in Subparagraph A.2.b of this Section in the operating record no later than December 6, 1996; and

d. for facilities not subject to LAC 33:V.4357, the owner or operator shall enter the implementation schedule specified in Subparagraph A.2.b of this Section in a permanent, readily available file located at the facility no later than December 6, 1996.

B. Owners or operators of facilities and units in existence on the effective date of the statutory or regulatory amendment that renders the facility subject to Subchapters H, I, or J of this Chapter shall meet the following requirements.

1. Install and begin operation of all control equipment or waste management units required to comply with this Subchapter, and complete modifications of production or treatment processes to satisfy exemption criteria in accordance with LAC 33:V.4725, by the effective date of the amendment except as provided for in Paragraph B.2 of this Section.

2. When control equipment or waste management units required to comply with this Subchapter cannot be installed and begin operation, or when modifications of production or treatment processes to satisfy exemption criteria in accordance with LAC 33:V.4725 cannot be completed, by the effective date of the amendment, the owner or operator shall:

a. install and begin operation of the control equipment or waste management units, and complete modification of production or treatment processes as soon as possible, but no later than 30 months after the effective date of the amendment;

b. for facilities subject to the recordkeeping requirements of LAC 33:V.4357, enter and maintain the implementation schedule specified in Subparagraph A.2.b of this Section in the operating record no later than the effective date of the amendment; or

c. for facilities not subject to LAC 33:V.4357, the owner or operator shall enter and maintain the implementation schedule specified in Subparagraph A.2.b of this Section in a permanent, readily available file located at the facility site no later than the effective date of the amendment.

C. Owners and operators of facilities and units that become newly subject to the requirements of this Subchapter after December 8, 1997, due to an action other than those described in Subsection B of this Section must comply with all applicable requirements immediately (i.e., must have control devices installed and operating on the date the

facility or unit becomes subject to this Subchapter; the 30-month implementation schedule does not apply).

D. The administrative authority 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 Subchapter.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous Waste Division, LR 24:1747 (September 1998), LR 25:487 (March 1999), repromulgated LR 25:856 (May 1999).

§4725. Standards: General

A. Interim status facilities are subject to the requirements of LAC 33:V.1751.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous Waste Division, LR 24:1747 (September 1998).

§4727. Waste Determination Procedures

A. Waste Determination Procedures 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 LAC 33:V.4725 from using air emission controls in accordance with standards specified in LAC 33:V.4729-4735, as applicable to the waste management unit.

a. An initial determination of the average VO concentration of the waste stream shall be made before the first time any portion of the material in the hazardous waste stream is placed in a waste management unit exempted under the provisions of LAC 33:V.4725 from using air emission controls, and thereafter, an initial determination of the average VO concentration of the waste stream shall be made for each averaging period that a hazardous waste is managed in the unit.

b. Perform a new waste determination whenever changes to the source generating the waste stream are reasonably likely to cause the average VO concentration of the hazardous waste to increase to a level that is equal to or greater than the VO concentration limit specified in LAC 33:V.4725.

2. For a waste determination that is required by Paragraph A.1 of this Section, 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

a. Identification. The owner or operator shall identify and record the point of waste origination for the hazardous waste.

b. 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.

i. 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 one year.

ii. A sufficient number of samples, but no less than four samples, shall be collected and analyzed for a hazardous waste determination. All of the samples for a given waste determination shall be collected within a one-hour period. The average of the four or more sample results constitutes a waste determination for the waste stream. One or more waste determinations may be required to represent the complete range of waste 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.

iii. 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 acceptable sample collection and handling procedures for a total volatile organic constituent concentration may be found in Method 25D in 40 CFR Part 60, Appendix A.

iv. Sufficient information, as specified in the site sampling plan required under Clause A.3.b.iii of this Section shall be prepared and recorded to document the waste quantity represented by the samples and, as applicable, the operating conditions for the source or process generating the hazardous waste represented by the samples.

c. Analysis. Each collected sample shall be prepared and analyzed in accordance with Method 25D in 40 CFR Part 60, Appendix A for the total concentration of volatile organic constituents, or by using one or more appropriate methods when the individual organic compound

concentrations are identified and summed and the summed waste concentration 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 x 10^{-6} atmospheres/gram-mole/m^3) at 25°C. At the owner's or operator's discretion, the owner or operator may adjust test data obtained by any appropriate method to discount any contribution to the total volatile organic concentration that is a result of including a compound with a Henry's law constant value of less than 0.1 Y/X at 25ºC. To adjust these data, the measured concentration of each individual chemical constituent contained in the waste is multiplied by the appropriate constituent-specific adjustment factor (f_{m25D}). If the owner or operator elects to adjust test data, the adjustment must be made to all individual chemical constituents with a Henry's law constant value greater than or equal to 0.1 Y/X at 25ºC that are contained in the waste. 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. Other test methods may be used if they meet one of the following requirements in Clause A.3.c.i or ii of this Section and provided that the requirement to reflect all organic compounds in the waste with Henry's law constant values greater than or equal to 0.1 Y/X (which can also be expressed as 1.8 x 10^{-6} atmospheres/gram-mole/m^3) at 25°C is met:

i. any 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; or

ii. 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.

d. Calculations

i. The average VO concentration ($\overline{C}$) on a mass-weighted basis shall be calculated by using the results for all waste determinations conducted in accordance with Subparagraphs A.3.b and c of this Section and the following equation.

$$\overline{C} = \frac{1}{Q_T} \times \sum_{i=1}^{n} Q_i \times C_i$$

where:

$\overline{C}$ = average VO concentration of the hazardous waste at the point of waste origination on a mass-weighted basis, ppmw

i = individual waste determination "i" of the hazardous waste

n = total number of waste determinations of the hazardous waste conducted for the averaging period (not to exceed one 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 waste determination "i" as determined in accordance with the requirements of Subparagraph A.3.c of this Section (i.e., the average of the four or more samples specified in Clause A.3.b.ii of this Section), ppmw

ii. For the purpose of determining C_i, for individual waste samples analyzed in accordance with Subparagraph A.3.c 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 at Section 4.4 of Method 25D in 40 CFR Part 60, Appendix A;

(b). if any other analytical method is used, one-half the sum of the limits of detection established for each organic constituent in the waste that has a Henry's law constant value 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 x 10^{-6} atmospheres/gram-mole/m^3) at 25°C.

e. Provided that the test method is appropriate for the waste as required under Subparagraph A.3.c of this Section, the department will determine compliance based on the test method used by the owner or operator as recorded in accordance with LAC 33:V.4735.

4. Use of Owner or Operator Knowledge to Determine Average VO Concentration of a Hazardous Waste at the Point of Waste Origination

a. 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.

b. 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 is validated in accordance with Method 301 in 40 CFR Part 63, Appendix A as the basis for knowledge of the waste.

c. 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 that 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}).

d. In the event that the administrative authority 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 administrative authority may perform or request that the owner or operator perform this determination using direct measurement. The owner or operator may choose one or more appropriate methods to analyze each collected sample in accordance with the requirements of Subparagraph A.3.c of this Section.

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 LAC 33:V.4725 from using air emission controls in accordance with standards specified in LAC 33:V.4729-4735, as applicable to the waste management unit.

a. An initial determination of the average VO concentration of the waste stream shall be made before the first time any portion of the material in the treated waste stream is placed in a waste management unit exempted under the provisions of LAC 33:V.4725 from using air emission controls, and thereafter, update the information used for the waste determination at least once every 12 months following the date of the initial waste determination.

b. Perform a new waste determination whenever changes to the process generating or treating the waste stream are reasonably likely to cause the average VO concentration of the hazardous waste to increase to a level such that the applicable treatment conditions specified in LAC 33:V.4725 are not achieved.

2. The owner or operator shall designate and record the specific provision in LAC 33:V.4725 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.3-9 of this Section.

3. Procedure to Determine the Average VO Concentration of a Hazardous Waste at the Point of Waste Treatment

a. Identification. The owner or operator shall identify and record the point of waste treatment for the hazardous waste.

b. 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.

i. 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 one year.

ii. A sufficient number of samples, but no less than four samples, shall be collected and analyzed for a hazardous waste determination. All of the samples for a given waste determination shall be collected within a one-hour period. The average of the four or more sample results constitutes a waste determination for the waste stream. One or more waste determinations may be required to represent the complete range of waste 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.

iii. 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 acceptable sample collection and handling procedures for a total volatile organic constituent concentration may be found in Method 25D in 40 CFR Part 60, Appendix A.

iv. Sufficient information, as specified in the *site sampling plan* required under Clause B.3.b.iii of this Section, shall be prepared and recorded to document the waste quantity represented by the samples and, as applicable, the operating conditions for the process treating the hazardous waste represented by the samples.

c. Analysis. Each collected sample shall be prepared and analyzed in accordance with Method 25D in 40 CFR Part 60, Appendix A for the total concentration of

volatile organic constituents, or by using one or more appropriate methods when the individual organic compound concentrations are identified and summed and the summed waste concentration 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 x 10^{-6} atmospheres/gram-mole/m^3) at 25°C. When the owner or operator is making a waste determination for a treated hazardous waste that is to be compared to an average VO concentration at the point of waste origination or the point of waste entry to the treatment system, to determine if the conditions of LAC 33:V.4723 or 4725 are met, then the waste samples shall be prepared and analyzed using the same method or methods as were used in making the initial waste determinations at the point of waste origination or at the point of entry to the treatment system. At the owner's or operator's discretion, the owner or operator may adjust test data obtained by any appropriate method to discount any contribution to the total VO concentration that is a result of including a compound with a Henry's law constant value less than 0.1 Y/X at 25°C. To adjust these data, the measured concentration of each individual chemical constituent contained in the waste is multiplied by the appropriate constituent-specific adjustment factor (f_{m25D}). If the owner or operator elects to adjust test data, the adjustment must be made to all individual chemical constituents with a Henry's law constant value greater than or equal to 0.1 Y/X at 25°C that are contained in the waste. 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. Other test methods may be used if they meet one of the following requirements in Clause B.3.c.i or ii of this Section and provided that the requirement to reflect all organic compounds in the waste with Henry's law constant values greater than or equal to 0.1 Y/X (which can also be expressed as 1.8 x 10^{-6} atmospheres/gram-mole/m^3) at 25°C is met:

i. any 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; or

ii. 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.

d. Calculations. The average VO concentration ($\overline{C}$) on a mass-weighted basis shall be calculated by using the results for all waste determinations conducted in accordance with Subparagraphs B.3.b and c 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 waste determination "i" of the hazardous waste

n = total number of waste determinations of the hazardous waste conducted for the averaging period (not to exceed one 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 waste determination "i" as determined in accordance with the requirements of Subparagraph B.3.c of this Section (i.e., the average of the four or more samples specified in Clause B.3.b.ii of this Section), ppmw

e. Provided that the test method is appropriate for the waste as required under Subparagraph B.3.c of this Section, compliance shall be determined based on the test method used by the owner or operator as recorded in accordance with LAC 33:V.4739.

4. Procedure to Determine the Exit Concentration Limit (C_t) for a Treated Hazardous Waste

a. The point of waste origination for each hazardous waste treated by the process at the same time shall be identified.

b. If a single hazardous waste stream is identified in Subparagraph B.4.a of this Section, then the exit concentration limit (C_t) shall be 500 ppmw.

c. If more than one hazardous waste stream is identified in Subparagraph B.4.a 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 Subsection 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.

$$C_t = \frac{\sum_{x=1}^{m} \left(Q_x \times \overline{C}_x \right) + \sum_{y=1}^{n} \left(Q_y \times 500\, ppmw \right)}{\sum_{x=1}^{m} Q_x + \sum_{y=1}^{n} Q_y}$$

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 Subsection A of this Section

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 Subsection A of this Section

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 Subsection A of this Section, ppmw

5. Procedure to Determine the Organic Reduction Efficiency (R) for a Treated Hazardous Waste

a. The organic reduction efficiency (R) for a treatment process shall be determined based on results for a minimum of three consecutive runs.

b. 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.

c. For each run, information shall be determined for each hazardous waste stream identified in Subparagraph B.5.b of this Section using the following procedures:

i. 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;

ii. 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.

d. 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 Subparagraph B.5.c 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 Paragraph B.3 of this Section, ppmw

$\overline{C}_b$ = average VO concentration of hazardous waste entering process during run "j" as determined in accordance with the requirements of Paragraph A.3 of this Section, ppmw

e. The organic reduction efficiency of the process shall be calculated by using the results determined in accordance with Subparagraph B.5.d 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 Subparagraph B.5.d of this Section, kg/hr

E_a = waste volatile organic mass flow exiting process as determined in accordance with the requirements of Subparagraph B.5.d of this Section, kg/hr

6. Procedure to Determine the Organic Biodegradation Efficiency (R_{bio}) for a Treated Hazardous Waste

a. The fraction of organics biodegraded (F_{bio}) shall be determined using the procedure specified in 40 CFR Part 63, Appendix C.

b. 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 Subparagraph B.6.a of this Section

7. Procedure to Determine the Required Organic Mass Removal Rate (RMR) for a Treated Hazardous Waste

a. All of the hazardous waste streams entering the treatment process shall be identified.

b. The average VO concentration of each hazardous waste stream at the point of waste origination shall be determined in accordance with the requirements of Subsection A of this Section.

c. 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.

d. 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.

$$RMR = \sum_{y=1}^{n} \left[V_y \times k_y \times \frac{(\overline{C}_y - 500\ ppmw)}{10^6} \right]$$

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 Subsection A of this Section

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/m3

$\overline{C}_y$ = average VO concentration of hazardous waste stream "y" at the point of waste origination as determined in accordance with the requirements of Subsection A of this Section, ppmw

8. Procedure to Determine the Actual Organic Mass Removal Rate (MR) for a Treated Hazardous Waste

a. The MR shall be determined based on results for a minimum of three consecutive runs. The sampling time for each run shall be one hour.

b. 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 Subparagraph B.5.d of this Section.

c. The MR shall be calculated by using the mass flow rate determined in accordance with the requirements of Subparagraph B.8.b of this Section and the following equation.

$$MR = E_b - E_a$$

where:

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 Subparagraph B.5.d of this Section, kg/hr

E_a = waste volatile organic mass flow exiting process as determined in accordance with the requirements of Subparagraph B.5.d of this Section, kg/hr

9. Procedure to Determine the Actual Organic Mass Biodegradation Rate (MR_{bio}) for a Treated Hazardous Waste

a. The MR_{bio} shall be determined based on results for a minimum of three consecutive runs. The sampling time for each run shall be one hour.

b. The waste organic mass flow entering the process (E_b) shall be determined in accordance with the requirements of Subparagraph B.5.d of this Section.

c. The fraction of organic biodegraded (F_{bio}) shall be determined using the procedure specified in 40 CFR Part 63, Appendix C.

d. The MR_{bio} shall be calculated by using the mass flow rates and fraction of organic biodegraded determined in accordance with the requirements of Subparagraphs B.9.b and c of this Section, respectively, and the following equation.

$$MR_{bio} = E_b \times F_{bio}$$

where:

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 Subparagraph B.5.d of this Section, kg/hr

F_{bio} = fraction of organic biodegraded as determined in accordance with the requirements of Subparagraph B.9.c 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 LAC 33:V.4729.

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

a. 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 acceptable sample collection and handling procedures may be found in Method 25D in 40 CFR Part 60, Appendix A.

b. 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:

i. Method 25E in 40 CFR Part 60, Appendix A;

ii. methods described in American Petroleum Institute Publication 2517, Third Edition, February 1989, *Evaporative Loss from External Floating-Roof Tanks*, incorporated by reference in LAC 33:V.110.A;

iii. methods obtained from standard reference texts;

iv. ASTM Method 2879-92, incorporated by reference in LAC 33:V.110.A; and

v. any other method approved by the administrative authority.

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 LAC 33:V.4729 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:

a. zero air (less than 10 ppmv hydrocarbon in air); and

b. a mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppmv methane or n-hexane.

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.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous

Waste Division, LR 24:1747 (September 1998), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:288 (February 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 34:1019 (June 2008).

§4729. Standards: Tanks

A. Interim status facilities are subject to the requirements of LAC 33:V.1755.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous Waste Division, LR 24:1754 (September 1998).

§4731. Standards: Surface Impoundments

A. Interim status facilities are subject to the requirements of LAC 33:V.1757.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous Waste Division, LR 24:1754 (September 1998).

§4733. Standards: Containers

A. Interim status facilities are subject to the requirements of LAC 33:V.1759.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous Waste Division, LR 24:1754 (September 1998).

§4735. Standards: Closed-Vent Systems and Control Devices

A. Interim status facilities are subject to the requirements of LAC 33:V.1761.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous Waste Division, LR 24:1754 (September 1998).

§4737. Inspection and Monitoring Requirements

A. Interim status facilities are subject to the requirements of LAC 33:V.1763.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous Waste Division, LR 24:1754 (September 1998).

§4739. Recordkeeping Requirements

A. Interim status facilities are subject to the requirements of LAC 33:V.1765.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.
HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous Waste Division, LR 24:1754 (September 1998).

Chapter 49. Lists of Hazardous Wastes

[Comment: Chapter 49 is divided into two sections: Category I Hazardous Wastes, which consist of Hazardous Wastes from nonspecific and specific sources (F and K wastes), Acute Hazardous Wastes (P wastes), and Toxic Wastes (U wastes) (LAC 33:V.4901); and Category II Hazardous Wastes, which consist of wastes that are ignitable, corrosive, reactive, or toxic (LAC 33:V.4903).]

§4901. Category I Hazardous Wastes

A. A solid waste is a hazardous waste if it is listed in this Chapter, unless it has been excluded from this list under LAC 33:V.105.M. Hazard codes are defined as follows for the listed hazardous wastes.

Ignitable waste	(I)
Corrosive waste	(C)
Reactive waste	(R)
Toxicity Characteristic waste	(E)
Acute hazardous waste or acutely hazardous waste	(H)
Toxic waste	(T)

1. Each hazardous waste listed in this Chapter 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 or 105.A of the Act and certain recordkeeping and reporting requirements under LAC 33:V.Chapters 3-29, 31-38, and 43.

2. The following hazardous wastes listed in LAC 33:V.4901.B and C are subject to the exclusion limits for acutely hazardous wastes established in LAC 33:V.108: EPA Hazardous Wastes Numbers F020, F021, F022, F023, F026, and F027.

B. Hazardous Wastes from Nonspecific Sources

1. The following solid wastes are listed hazardous wastes from nonspecific sources unless they are excluded in accordance with LAC 33:V.105.H.

[NOTE: EPA, in January 1985, added new listed hazardous wastes.]

Table 1. Hazardous Wastes from Nonspecific Sources		
Industry and EPA Hazardous Waste Number	**Hazard Code**	**Hazardous Waste**
Generic		
F001	(T)	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 10 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.
F002	(T)	The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-tri-fluoroethane, ortho-dichlorobenzene, tri-chlorofluoromethane and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of 10 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.
F003	(I)*	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 10 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.
F004	(T)	The following spent non-halogenated solvents: Cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of 10 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.
F005	(I,T)	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 10 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.
F006	(T)	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.
F007	(R,T)	Spent cyanide plating bath solutions from electroplating operations.
F008	(R,T)	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process.
F009	(R,T)	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.
F010	(R,T)	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.
F011	(R,T)	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.
F012	(T)	Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process.

Table 1. Hazardous Wastes from Nonspecific Sources		
Industry and EPA Hazardous Waste Number	**Hazard Code**	**Hazardous Waste**
F019	(T)	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. Wastewater treatment sludges from the manufacturing of motor vehicles using a zinc phosphating process will not be subject to this listing at the point of generation if the wastes are not placed outside on the land prior to shipment to a landfill for disposal and are either disposed of in a Subtitle D municipal or industrial landfill unit that is equipped with a single clay liner and is permitted, licensed, or otherwise authorized by the state; or disposed of in a landfill unit subject to, or otherwise meeting, the landfill requirements in 40 CFR 258.40 or LAC 33:V.2503 or 4512. For the purposes of this listing, *motor vehicle manufacturing* is defined in Clause B.2.d.i of this Section, and Clause B.2.d.ii of this Section describes the recordkeeping requirements for motor vehicle manufacturing facilities.
F020	(H)	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.)
F021	(H)	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.
F022	(H)	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.
F023	(H)	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.)
F024	(T)	Processed 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 LAC 33:V.4901.B or C.)
F025	(T)	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.
F026	(H)	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.
F027	(H)	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 synthesized from prepurified 2,4,5-trichlorophenol as the sole component.)

Table 1. Hazardous Wastes from Nonspecific Sources		
Industry and EPA Hazardous Waste Number	**Hazard Code**	**Hazardous Waste**
F028	(T)	Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027.
F032	(T)	Wastewaters, 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 LAC 33:V.4901.B.3 of this Subpart 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.
F034	(T)	Wastewaters, 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.
F035	(T)	Wastewaters, 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.
F037	(T)	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 LAC 33:V.4901.B.2.b (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. This listing does include residuals generated from processing or recycling oil-bearing hazardous secondary materials excluded under LAC 33:V.105.D.1.l, if those residuals are to be disposed of.
F038	(T)	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 LAC 33:V.4901.B.2.b (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.
F039	(T)	Leachate (liquids that have percolated through land disposed wastes) resulting from the disposal of more than one restricted waste classified as hazardous under LAC 33:V.4901. (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.)

* (I,T) should be used to specify mixtures that are ignitable and contain toxic constituents.

2. Listing Specific Definitions

a. For the purposes of the F037 and F038 listings, oil/water/solids is defined as oil and/or water and/or solids.

b. For the purposes of the F037 and F038 listing:

i. aggressive biological treatment units are defined as units which employ one of the following four treatment methods:

(a). activated sludge;

(b). trickling filter;

(c). rotating biological contactor for the continuous accelerated biological oxidation of wastewaters; or

(d). high-rate aeration, which is a system of surface impoundments or tanks, in which intense mechanical aeration is used to completely mix the wastes, enhancing biological activity, and:

(i). the unit employs a minimum of 6 hp per million gallons of treatment volume; and either

(ii). the hydraulic retention time of the unit is no longer than five days; or

(iii).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 described in Clause B.2.b.i of this Section; 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.

c. 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. For the purposes of the F038 listing:

i. 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

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

d. For the purposes of the F019 listing, the following conditions apply to wastewater treatment sludges from the manufacturing of motor vehicles using a zinc phosphating process.

i. *Motor vehicle manufacturing* is defined to include the manufacture of automobiles and light trucks/utility vehicles (including light duty vans, pick-up trucks, minivans, and sport utility vehicles). Facilities must be engaged in manufacturing complete vehicles (body and chassis or unibody) or chassis only.

ii. Generators must maintain in their on-site records documentation and information sufficient to prove that the wastewater treatment sludges to be exempted from the F019 listing meet the conditions of the listing. These records must include the volume of waste generated and disposed of off-site, documentation showing when the waste volumes were generated and sent off-site, the name and address of the receiving facility, and documentation confirming receipt of the waste by the receiving facility. Generators must maintain these documents on site for no less than three years. The retention period for the documentation is automatically extended during the course of any enforcement action or as requested by the EPA Regional Administrator or the administrative authority.

3. 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 Subparagraphs B.3.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 groundwater, surface water, or atmosphere.

i. Generators shall do one of the following:

(a). prepare and follow an equipment cleaning plan and clean equipment in accordance with this Section;

(b). prepare and follow an equipment replacement plan and replace equipment in accordance with this Section; or

(c). document cleaning and replacement in accordance with this Section, carried out after termination of use of chlorophenolic preservations.

ii. Cleaning Requirements

(a). Prepare and sign a written equipment cleaning plan that describes:

(i). the equipment to be cleaned;

(ii). how the equipment will be cleaned;

(iii). the solvent to be used in cleaning;

(iv). how solvent rinses will be tested; and

(v). how cleaning residues will be disposed.

(b). Equipment must be cleaned as follows:

(i). remove all visible residues from process equipment; and

(ii). rinse process equipment with an appropriate solvent until dioxins and dibenzofurans are not detected in the final solvent rinse.

(c). Analytical Requirements

(i). Rinses must be tested by using an appropriate method.

(ii). *Not detected* means at or below the lower method calibration limit (MCL). The 2,3,7,8-TCDD-based MCL is 0.01 parts per trillion (ppt), sample weight of 1000g, IS spiking level of 1 ppt, final extraction volume of 10-50 µL. For other congeners, multiply the values by 1 for TCDF/PeCDD/PeCDF, by 2.5 for HxCDD/HxCDF/HpCDD/HpCDF, and by 5 for OCDD/OCDF.

(d). The generator must manage all residues from the cleaning process as F032 waste.

iii. Replacement Requirements

(a). Prepare and sign a written equipment replacement plan that describes:

(i). the equipment to be replaced;

(ii). how the equipment will be replaced; and

(iii). how the equipment will be disposed.

(b). The generator must manage the discarded equipment as F032 waste.

iv. Documentation is required which states 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:

i. the name and address of the facility;

ii. formulations previously used and the date on which their use ceased in each process at the plant;

iii. formulations currently used in each process at the plant;

iv. the equipment cleaning or replacement plan;

v. the name and address of any persons who conducted the cleaning and replacement;

vi. the dates on which cleaning and replacement were accomplished;

vii. the dates of sampling and testing;

viii. a description of the sample handling and preparation techniques, including techniques used for extraction, containerization, preservation, and chain-of-custody of the samples;

ix. a description of the tests performed, the date the tests were performed, and the results of the tests;

x. the name and model numbers of the instrument(s) used in performing the tests;

xi. QA/QC documentation; and

xii. 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 LAC 33:V.4901.B 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."

C. Hazardous wastes from specific sources are listed in Table 2 of this Section.

Table 2. Hazardous Wastes from Specific Sources

Industry and EPA Hazardous Waste Number	Hazard Code	Hazardous Waste
Wood Preservation		
K001	(T)	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol.
Inorganic Pigments		
K002	(T)	Wastewater treatment sludge from the production of chrome yellow and orange pigments.
K003	(T)	Wastewater treatment sludge from the production of molybdate orange pigments.
K004	(T)	Wastewater treatment sludge from the production of zinc yellow pigments.
K005	(T)	Wastewater treatment sludge from the production of chrome green pigments.
K006	(T)	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).
K007	(T)	Wastewater treatment sludge from the production of iron blue pigments.
K008	(T)	Oven residue from the production of chrome oxide green pigments.
Organic Chemicals		
K009	(T)	Distillation bottoms from the production of acetaldehyde from ethylene.
K010	(T)	Distillation side cuts from the production of acetaldehyde from ethylene.
K011	(R,T)	Bottom stream from the wastewater stripper in the production of acrylonitrile.
K013	(R,T)	Bottom stream from the acetonitrile column in the production of acrylonitrile.
K014	(T)	Bottoms from the acetonitrile purification column in the production of acrylonitrile.
K015	(T)	Still bottoms from the distillation of benzyl chloride.
K016	(T)	Heavy ends of distillation residues from the production of carbon tetrachloride.
K017	(T)	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin.
K018	(T)	Heavy ends from the fractionation column in ethyl chloride production.
K019	(T)	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production.

Table 2. Hazardous Wastes from Specific Sources		
Industry and EPA Hazardous Waste Number	**Hazard Code**	**Hazardous Waste**
K020	(T)	Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production.
K021	(T)	Aqueous spent antimony catalyst waste from fluoromethanes production.
K022	(T)	Distillation bottom tars from the production of phenol/acetone from cumene.
K023	(T)	Distillation light ends from the production of phthalic anhydride from naphthalene.
K024	(T)	Distillation bottoms from the production of phthalic anhydride from naphthalene.
K025	(T)	Distillation bottoms from the production of nitrobenzene by the nitration of benzene.
K026	(T)	Stripping still tails from the production of methyl ethyl pyridines.
K027	(R,T)	Centrifuge and distillation residues from toluene diisocyanate production.
K028	(T)	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane.
K029	(T)	Waste from the product steam stripper in the production of 1,1,1-trichloroethane.
K030	(T)	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene.
K083	(T)	Distillation bottoms from aniline production.
K085	(T)	Distillation or fractionation column bottoms from the production of chlorobenzenes.
K093	(T)	Distillation light ends from the production of phthalic anhydride from ortho-xylene.
K094	(T)	Distillation bottoms from the production of phthalic anhydride from ortho-xylene.
K095	(T)	Distillation bottoms from the production of 1,1,1-trichloroethane.
K096	(T)	Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane.
K103	(T)	Process residues from aniline extraction from the production of aniline.
K104	(T)	Combined wastewater streams generated from nitrobenzene/aniline production.
K105	(T)	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes.
K107	(C,T)	Column bottoms from product separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.
K108	(I,T)	Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.
K109	(T)	Spent filter cartridges from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.
K110	(T)	Condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.
K111	(C,T)	Product washwaters from the production of dinitrotoluene via nitration of toluene.
K112	(T)	Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene.
K113	(T)	Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.

Table 2. Hazardous Wastes from Specific Sources		
Industry and EPA Hazardous Waste Number	**Hazard Code**	**Hazardous Waste**
K114	(T)	Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.
K115	(T)	Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.
K116	(T)	Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine.
K117	(T)	Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene.
K118	(T)	Spent adsorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.
K136	(T)	Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.
K149	(T)	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.)
K150	(T)	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.
K151	(T)	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.
K156	(T)	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.)
K157	(T)	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.)
K158	(T)	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.)
K159	(T)	Organics from the treatment of thiocarbamate wastes.
K161	(R,T)	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-K126.)

Table 2. Hazardous Wastes from Specific Sources		
Industry and EPA Hazardous Waste Number	**Hazard Code**	**Hazardous Waste**
K174	(T)	Wastewater treatment sludges from the production of ethylene dichloride or vinyl chloride monomer (including sludges that result from commingled ethylene dichloride or vinyl chloride monomer wastewater and other wastewater), unless the sludges meet the following conditions: (i) they are disposed of in a RCRA Subtitle C or nonhazardous landfill licensed or permitted by the state or federal government; (ii) they are not otherwise placed on the land prior to final disposal; and (iii) the generator maintains documentation demonstrating that the waste was either disposed of in an on-site landfill or consigned to a transporter or disposal facility that provided a written commitment to dispose of the waste in an off-site landfill. Respondents in any action brought to enforce the requirements of RCRA Subtitle C must, upon a showing by the government that the respondent managed wastewater treatment sludges from the production of vinyl chloride monomer or ethylene dichloride, demonstrate that they meet the terms of the exclusion set forth above. In doing so, they must provide appropriate documentation (*e.g.*, contracts between the generator and the landfill owner/operator, invoices documenting delivery of waste to landfill) that the terms of the exclusion were met.
K175	(T)	Wastewater treatment sludges from the production of vinyl chloride monomer using mercuric chloride catalyst in an acetylene-based process.
K181	(T)	Nonwastewaters from the production of dyes and/or pigments (including nonwastewaters commingled at the point of generation with nonwastewaters from other processes) that, at the point of generation, contain mass loadings of any of the constituents identified in LAC 33:V.4901.C.2 that are equal to or greater than the corresponding LAC 33:V.4901.C.2 levels, as determined on a calendar year basis. These wastes will not be hazardous if the nonwastewaters are: (i) disposed in a Subtitle D landfill unit subject to the design criteria in 40 CFR 258.40; (ii) disposed in a RCRA Subtitle C landfill unit subject to either 40 CFR 264.301 or 265.301; (iii) disposed in other Subtitle D landfill units that meet the design criteria in 40 CFR 258.40, 264.301, or 265.301; or (iv) treated in a combustion unit that is permitted under RCRA Subtitle C, or an onsite combustion unit that is permitted under the Clean Air Act. For the purposes of this listing, *dyes and/or pigments production* is defined in LAC 33:V.4901.C.1. LAC 33:V.4901.C.3 describes the process for demonstrating that a facility's nonwastewaters are not K181. This listing does not apply to wastes that are otherwise identified as hazardous under 40 CFR 261.21-24 and 261.31-33 at the point of generation. Also, the listing does not apply to wastes generated before any annual mass loading limit is met.

Table 2. Hazardous Wastes from Specific Sources		
Industry and EPA Hazardous Waste Number	**Hazard Code**	**Hazardous Waste**
Inorganic Chemicals		
K071	(T)	Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used.
K073	(T)	Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production.
K106	(T)	Wastewater treatment sludge from the mercury cell process in chlorine production.
K176	(E)	Baghouse filters from the production of antimony oxide, including filters from the production of intermediates (e.g., antimony metal or crude antimony oxide).
K177	(T)	Slag from the production of antimony accumulated or disposed, including slag from the production of intermediates (e.g., antimony metal or crude antimony oxide).
K178	(T)	Residues from manufacturing-site storage of ferric chloride from acids formed during the production of titanium dioxide using the chloride-ilmenite process.
Pesticides		
K031	(T)	By-product salts generated in the production of MSMA and cacodylic acid.
K032	(T)	Wastewater treatment sludge from the production of chlordane.
K033	(T)	Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane.
K034	(T)	Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane.
K035	(T)	Wastewater treatment sludges generated in the production of creosote.
K036	(T)	Still bottoms from toluene reclamation distillation in the production of disulfoton.
K037	(T)	Wastewater treatment sludges from the production of disulfoton.
K038	(T)	Wastewater treatment sludge from the washing and stripping of phorate production.
K039	(T)	Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate.
K040	(T)	Wastewater treatment sludge from the production of phorate.
K041	(T)	Wastewater treatment sludge from the production of toxaphene.
K042	(T)	Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T.
K043	(T)	2,6-Dichlorophenol waste from the production of 2,4-D.
K097	(T)	Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane.
K098	(T)	Untreated process wastewater from the production of toxaphene.
K099	(T)	Untreated wastewater from the production of 2,4-D.
K123	(T)	Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenebisdithiocarbamic acid and its salt.
K124	(C,T)	Reactor vent scrubber water from the production of ethylenebisdithiocarbamic acid and its salts.

Table 2. Hazardous Wastes from Specific Sources

Industry and EPA Hazardous Waste Number	Hazard Code	Hazardous Waste
K125	(T)	Filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts.
K126	(T)	Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts.
K131	(C,T)	Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide.
K132	(T)	Spent absorbent and wastewater separator solids from the production of methyl bromide.
Explosives		
K044	(R)	Wastewater treatment sludges from the manufacturing and processing of explosives.
K045	(R)	Spent carbon from the treatment of wastewater containing explosives.
K046	(T)	Wastewater treatment sludges from the manufacturing, formulation, and loading of lead-based initiating compounds.
K047	(R)	Pink/red water from TNT operations.
Petroleum Refining		
K048	(T)	Dissolved air flotation (DAF) float from the petroleum refining industry.
K049	(T)	Slop oil emulsion solids from the petroleum refining industry.
K050	(T)	Heat exchanger bundle cleaning sludge from the petroleum refining industry.
K051	(T)	API separator sludge from the petroleum refining industry.
K052	(T)	Tank bottom (leaded) from the petroleum refining industry.
K169	(T)	Crude oil tank sediment from petroleum refining operations.
K170	(T)	Clarified slurry oil tank sediment and/or in-line filter/separation solids from petroleum refining operations.
K171	(I,T)	Spent hydrotreating catalyst from petroleum refining operations, including guard beds used to desulfurize feed to other catalytic reactors (this listing does not include inert support media).
K172	(I,T)	Spent hydrorefining catalyst from petroleum refining operations, including guard beds used to desulfurize feed to other catalytic reactors (this listing does not include inert support media).
Iron and Steel		
K061	(T)	Emission control dust/sludge from the primary production of steel in electric furnaces.
K062	(C,T)	Spent pickle liquor generated by steel finishing operations of iron and steel industry (SIC Codes 331 and 332).
Primary Aluminum		
K088	(T)	Spent potliners from primary aluminum reduction.

Table 2. Hazardous Wastes from Specific Sources

Industry and EPA Hazardous Waste Number	Hazard Code	Hazardous Waste
Secondary Lead		
K069	(T)	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 affecting this stay, EPA will publish a notice of the action in the *Federal Register*.]
K100	(T)	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.
Veterinary Pharmaceuticals		
K084	(T)	Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.
K101	(T)	Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.
K102	(T)	Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.
Ink Formulation		
K086	(T)	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.
Coking		
K060	(T)	Ammonia still lime sludge from coking operations.
K087	(T)	Decanter tank tar sludge from coking operations.
K141	(T)	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 car sludge from coking operations).
K142	(T)	Tar storage tank residues from the production of coke from coal or from the recovery of coke by-products produced from coal.
K143	(T)	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.
K144	(T)	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.
K145	(T)	Residues from naphthalene collection and recovery operations from the recovery of coke by-products produced from coal.
K147	(T)	Tar storage tank residues from coal tar refining.
K148	(T)	Residues from coal tar distillation, including but not limited to, still bottoms.

1. Listing-Specific Definitions. For purposes of the K181 listing, the following definition applies.

Dyes and/or Pigments Production—includes manufacture of the following product classes: dyes, pigments, and FDA certified colors that are classified as azo, triarylmethane, perylene, or anthraquinone classes. Azo products include azo, monoazo, diazo, triazo, polyazo, azoic, benzidine, and pyrazolone products. Triarylmethane products include both triarylmethane and triphenylmethane products. Wastes that are not generated at a dyes and/or pigments manufacturing site, such as wastes from the offsite use, formulation, and packaging of dyes and/or pigments, are not included in the K181 listing.

2. K181 Listing Levels. Nonwastewaters containing constituents in amounts equal to or exceeding the following levels during any calendar year are subject to the K181 listing, unless the conditions in the K181 listing are met.

Constituent	Chemical Abstracts No.	Mass Levels (kg/yr)
Aniline	62-53-3	9,300
o-Anisidine	90-04-0	110
4-Chloroaniline	106-47-8	4,800
p-Cresidine	120-71-8	660
2,4-Dimethylaniline	95-68-1	100
1,2-Phenylenediamine	95-54-5	710
1,3-Phenylenediamine	108-45-2	1,200

3. Procedures for Demonstrating That Dyes and/or Pigment Nonwastewaters Are Not K181. The procedures described in Subparagraphs C.3.a-c and e of this Section establish when nonwastewaters from the production of dyes/pigments would not be hazardous (these procedures apply to wastes that are not disposed in landfill units or treated in combustion units as specified in Table 2 of this Subsection). If the nonwastewaters are disposed in landfill units or treated in combustion units, as described in Table 2 of this Subsection, then the nonwastewaters are not hazardous. In order to demonstrate that it is meeting the landfill disposal or combustion conditions contained in the K181 listing description, the generator must maintain documentation as described in Subparagraph C.3.d of this Section.

a. Determination Based on No K181 Constituents. Generators that have knowledge (e.g., knowledge of constituents in wastes based on prior sampling and analysis data and/or information about raw materials used, production processes used, and reaction and degradation products formed) that their wastes contain none of the K181 constituents (see Paragraph C.2 of this Section) can use their knowledge to determine that their waste is not K181. The generator must document the basis for all such determinations on an annual basis and keep each annual documentation for three years.

b. Determination for Generated Quantities of 1,000 MT/yr or Less for Wastes That Contain K181 Constituents. If the total annual quantity of dyes and/or pigment nonwastewaters generated is 1,000 metric tons or less, the generator can use knowledge of the wastes (e.g., knowledge of constituents in wastes based on prior analytical data and/or information about raw materials used, production processes used, and reaction and degradation products formed) to conclude that annual mass loadings for the K181 constituents are below the listing levels of Paragraph C.2 of this Section. To make this determination, the generator must:

i. each year document the basis for determining that the annual quantity of nonwastewaters expected to be generated will be less than 1,000 metric tons;

ii. track the actual quantity of nonwastewaters generated from January 1 through December 31 of each year. If, at any time within the year, the actual waste quantity exceeds 1,000 metric tons, the generator must comply with the requirements of Subparagraph C.3.c of this Section for the remainder of the year;

iii. keep a running total of the K181 constituent mass loadings over the course of the calendar year; and

iv. keep the following records on site for the three most recent calendar years in which the hazardous waste determinations are made:

(a). the quantity of dyes and/or pigment nonwastewaters generated;

(b). the relevant process information used; and

(c). the calculations performed to determine annual total mass loadings for each K181 constituent in the nonwastewaters during the year.

c. Determination for Generated Quantities Greater than 1,000 MT/yr for Wastes That Contain K181 Constituents. If the total annual quantity of dyes and/or pigment nonwastewaters generated is greater than 1,000 metric tons, the generator must perform all of the steps described in Clauses C.3.c.i-xi of this Section in order to make a determination that its waste is not K181.

i. Determine which K181 constituents (see Paragraph C.2 of this Section) are reasonably expected to be present in the wastes based on knowledge of the wastes (e.g., based on prior sampling and analysis data and/or information about raw materials used, production processes used, and reaction and degradation products formed).

ii. If 1,2-phenylenediamine is present in the wastes, the generator can use either knowledge or sampling and analysis procedures to determine the level of this constituent in the wastes. For determinations based on use of knowledge, the generator must comply with the procedures for using knowledge described in Subparagraph C.3.b of this Section and keep the records described in Clause C.3.b.iv of this Section. For determinations based on sampling and

analysis, the generator must comply with the sampling and analysis and recordkeeping requirements described in Clauses C.3.c.iii-xi of this Section.

iii. Develop a waste sampling and analysis plan (or modify an existing plan) to collect and analyze representative waste samples for the K181 constituents reasonably expected to be present in the wastes. At a minimum, the plan must include:

(a). a discussion of the number of samples needed to characterize the wastes fully;

(b). the planned sample collection method to obtain representative waste samples;

(c). a discussion of how the sampling plan accounts for potential temporal and spatial variability of the wastes;

(d). a detailed description of the test methods to be used, including sample preparation, cleanup (if necessary), and determinative methods.

iv. Collect and analyze samples in accordance with the waste sampling and analysis plan.

(a). The sampling and analysis must be unbiased, precise, and representative of the wastes.

(b). The analytical measurements must be sufficiently sensitive, accurate, and precise to support any claim that the constituent mass loadings are below the listing levels of Paragraph C.2 of this Section.

v. Record the analytical results.

vi. Record the waste quantity represented by the sampling and analysis results.

vii. Calculate constituent-specific mass loadings (product of concentrations and waste quantity).

viii. Keep a running total of the K181 constituent mass loadings over the course of the calendar year.

ix. Determine whether the mass of any of the K181 constituents listed in Paragraph C.2 of this Section generated between January 1 and December 31 of any year is below the K181 listing levels.

x. Keep the following records on site for the three most recent calendar years in which the hazardous waste determinations are made:

(a). the sampling and analysis plan;

(b). the sampling and analysis results (including QA/QC data);

(c). the quantity of dyes and/or pigment nonwastewaters generated;

(d). the calculations performed to determine annual mass loadings.

xi. Nonhazardous waste determinations must be conducted annually to verify that the wastes remain nonhazardous.

(a). The annual testing requirements are suspended after three consecutive successful annual demonstrations that the wastes are nonhazardous. The generator can then use knowledge of the wastes to support subsequent annual determinations.

(b). The annual testing requirements are reinstated if the manufacturing or waste treatment processes generating the wastes are significantly altered, resulting in an increase of the potential for the wastes to exceed the listing levels.

(c). If the annual testing requirements are suspended, the generator must keep records of the process knowledge information used to support a nonhazardous determination. If testing is reinstated, a description of the process change must be retained.

d. Recordkeeping for the Landfill Disposal and Combustion Exemptions. For the purposes of meeting the landfill disposal and combustion condition set out in the K181 listing description, the generator must maintain on site for three years documentation demonstrating that each shipment of waste was received by a landfill unit that is subject to or meets the landfill design standards set out in the listing description, or was treated in combustion units as specified in the listing description.

e. Waste Holding and Handling. During the interim period, from the point of generation to completion of the hazardous waste determination, the generator is responsible for storing the wastes appropriately. If the wastes are determined to be hazardous and the generator has not complied with the RCRA Subtitle C requirements during the interim period, the generator could be subject to an enforcement action for improper management.

D. Discarded Commercial Chemical Products, Off-specification Species, Container Residues, Spill Residues Thereof, Any Associated Wastewaters, and Any Discarded Process Wastewaters. The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded as described in LAC 33:V.109 (definition of *solid waste*), 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, or when they present a threat to groundwater or human health and the environment:

1. any commercial chemical product, or manufacturing chemical intermediate having the generic name listed in LAC 33:V.4901.E or F;

2. any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in LAC 33:V.4901.E or F;

3. any residue remaining in a container or an inner liner removed from a container that has held any commercial chemical product or manufacturing chemical intermediate having the generic name listed in LAC 33:V.4901.E or F, unless the container is empty as defined in LAC 33:V.109.*Empty Container*.2;

4. 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 LAC 33:V.4901.E or F, 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 or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in LAC 33:V.4901.E or F.

[Comment: The phrase "commercial chemical product or manufacturing chemical intermediate having the generic name listed in . . ." refers to a chemical substance that 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 LAC 33:V.4901.E or F. Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in LAC 33:V.4901.E or F, such waste will be listed in either LAC 33:V.4901.B or C or will be identified as a hazardous waste by the characteristics set forth in LAC 33:V.4903.]

E. The commercial chemical products, manufacturing chemical intermediates, or off-specification commercial chemical products or manufacturing chemical intermediates referred to in Paragraphs D.1-4 of this Section are identified as acute hazardous wastes (H) and are subject to the small quantity exclusions defined in LAC 33:V.108.E. These wastes and their corresponding EPA Hazardous Waste Numbers are listed in Table 3 of this Section.

[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 is listed only for acute toxicity. Wastes are first listed in alphabetical order by substance and then listed again in numerical order by EPA Hazardous Waste Number.]

Table 3. Acute Hazardous Wastes (Alphabetical Order by Substance)

EPA Hazardous Waste Number	Chemical Abstract Number	Hazardous Waste (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

Table 3. Acute Hazardous Wastes (Alphabetical Order by Substance)		
EPA Hazardous Waste Number	**Chemical Abstract Number**	**Hazardous Waste (Substance)**
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)-, and salts, when present at concentrations greater than 0.3 percent
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)C1
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)
P004	309-00-2	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10- hexachloro- 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- hexachloro- 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)-, and 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, and 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, and metabolites
P042	51-43-4	Epinephrine

Table 3. Acute Hazardous Wastes (Alphabetical Order by Substance)

EPA Hazardous Waste Number	Chemical Abstract Number	Hazardous Waste (Substance)
P031	460-19-5	Ethanedinitrile
P194	23135-22-0	Ethanimidothioic 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-benzo-dioxathiepin, 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
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 cyanide $Ni(CN)_2$
P075	[1]54-11-5	Nicotine, and 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

Table 3. Acute Hazardous Wastes (Alphabetical Order by Substance)		
EPA Hazardous Waste Number	**Chemical Abstract Number**	**Hazardous Waste (Substance)**
P194	23135-22-0	Oxamyl
P089	56-38-2	Parathion
P034	131-89-5	Phenol, 2-cyclohexyl-4,6-dinitro-
P199	2032-65-7	Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate
P128	315-18-4	Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester)
P048	51-28-5	Phenol, 2,4-dinitro-
P047	[1]534-52-1	Phenol, 2-methyl-4,6-dinitro-, and salts
P201	2631-37-0	Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate
P202	64-00-6	Phenol, 3-(1-methylethyl)-, methyl carbamate
P020	88-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-
P009	131-74-8	Phenol, 2,4,6-trinitro-, ammonium salt (R)
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
P203	1646-88-4	Propanal, 2-methyl-2-(methyl-sufonyl)-, O-[(methylamino)carbonyl] oxime
P070	116-06-3	Propanal, 2-methyl-2-(methylthio)-, 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-o1
P008	504-24-5	4-Pyridinamine
P075	[1]54-11-5	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (s)- and 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
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, and salts
P018	357-57-3	Strychnidin-10-one, 2,3-dimethoxy-
P108	[1]57-24-9	Strychnine, and 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)

Table 3. Acute Hazardous Wastes (Alphabetical Order by Substance)

EPA Hazardous Waste Number	Chemical Abstract Number	Hazardous Waste (Substance)
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, and salts, when present at concentrations greater than 0.3 percent
P205	137-30-4	Zinc,bis(dimethyl-carbamodithioato-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 percent (R,T)
P205	137-30-4	Ziram

[1]CAS Number given for parent compound only.

Table 3. Acute Hazardous Wastes (Numerical Order by EPA Hazardous Waste Number)

EPA Hazardous Waste Number	Chemical Abstract Number	Hazardous Waste (Substance)
P001	[1]81-81-2	2H-1-Benzopyran-2-one, 4-hydroxy- 3-(3-oxo-1-phenylbutyl)-, and salts, when present at concentrations greater than 0.3 percent
P001	[1]81-81-2	Warfarin, and salts, when present at concentrations greater than 0.3 percent
P002	591-08-2	Acetamide, N-(aminothioxomethyl)-
P002	591-08-2	1-Acetyl-2-thiourea
P003	107-02-8	Acrolein
P003	107-02-8	2-Propenal
P004	309-00-2	Aldrin
P004	309-00-2	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10- hexachloro- 1,4,4a,5,8,8a,-hexahydro-, (1alpha, 4alpha, 4abeta, 5alpha, 8alpha, 8abeta)-
P005	107-18-6	Allyl alcohol
P005	107-18-6	2-Propen-1-ol
P006	20859-73-8	Aluminum phosphide (R,T)
P007	2763-96-4	5-(aminomethyl)-3-isoxazolol
P007	2763-96-4	3 (2H)-Isoxazolone, 5-(aminomethyl)-
P008	504-24-5	4-Aminopyridine
P008	504-24-5	4-Pyridinamine
P009	131-74-8	Ammonium picrate (R)
P009	131-74-8	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P010	7778-39-4	Arsenic acid H_3AsO_4
P011	1303-28-2	Arsenic oxide As_2O_5
P011	1303-28-2	Arsenic pentoxide
P012	1327-53-3	Arsenic oxide As_2O_3
P012	1327-53-3	Arsenic trioxide
P013	542-62-1	Barium cyanide
P014	108-98-5	Benzenethiol
P014	108-98-5	Thiophenol

Table 3. Acute Hazardous Wastes
(Numerical Order by EPA Hazardous Waste Number)

EPA Hazardous Waste Number	Chemical Abstract Number	Hazardous Waste (Substance)
P015	7440-41-7	Beryllium Powder
P016	542-88-1	Dichloromethyl ether
P016	542-88-1	Methane, oxybis[chloro-
P017	598-31-2	Bromoacetone
P017	598-31-2	2-Propanone, 1-bromo-
P018	357-57-3	Brucine
P018	357-57-3	Strychnidin-10-one, 2,3-dimethoxy-
P020	88-85-7	Dinoseb
P020	88-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-
P021	592-01-8	Calcium cyanide
P021	592-01-8	Calcium cyanide $Ca(CN)_2$
P022	75-15-0	Carbon disulfide
P023	107-20-0	Acetaldehyde, chloro-
P023	107-20-0	Chloroacetaldehyde
P024	106-47-8	Benzenamine, 4-chloro-
P024	106-47-8	p-Chloroaniline
P026	5344-82-1	1-(o-Chlorophenyl)thiourea
P026	5344-82-1	Thiourea, (2-chlorophenyl)
P027	542-76-7	3-Chloropropionitrile
P027	542-76-7	Propanenitrile, 3-chloro-
P028	100-44-7	Benzene, (chloromethyl)-
P028	100-44-7	Benzyl chloride
P029	544-92-3	Copper cyanide
P029	544-92-3	Copper cyanide Cu(CN)
P030		Cyanides (soluble cyanide salts), not otherwise specified
P031	460-19-5	Cyanogen
P031	460-19-5	Ethanedinitrile
P033	506-77-4	Cyanogen chloride
P033	506-77-4	Cyanogen chloride (CN)C1
P034	131-89-5	2-Cyclohexyl-4,6-dinitrophenol
P034	131-89-5	Phenol, 2-cyclohexyl-4,6-dinitro-
P036	696-28-6	Arsonous dichloride, phenyl-
P036	696-28-6	Dichlorophenylarsine
P037	60-57-1	Dieldrin
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)-
P038	692-42-2	Arsine, diethyl-
P038	692-42-2	Diethylarsine
P039	298-04-4	Disulfoton
P039	298-04-4	Phosphorodithioic acid, O,O- diethyl S-[2-(ethylthio)ethyl] ester
P040	297-97-2	O,O-Diethyl O-pyrazinyl phosphorothioate
P040	297-97-2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
P041	311-45-5	Diethyl-p-nitrophenyl phosphate
P041	311-45-5	Phosphoric acid, diethyl 4-nitrophenyl ester
P042	51-43-4	1, 2-Benzenediol, 4-[1- hydroxy-2-(methylamino) ethyl], (R)-
P042	51-43-4	Epinephrine
P043	55-91-4	Diisopropylfluorophosphate (DFP)
P043	55-91-4	Phosphorofluoridic acid, bis (1-methylethyl) ester
P044	60-51-5	Dimethoate
P044	60-51-5	Phosphorodithioic acid, O, O-dimethyl S-[2-(methylamino)- 2-oxoethyl] ester
P045	39196-18-4	2-Butanone, 3,3-dimethyl-1-(methylthio)-, O- [(methylamino) carbonyl] oxime
P045	39196-18-4	Thiofanox
P046	122-09-8	Benzeneethanamine, alpha, alpha- dimethyl-
P046	122-09-8	alpha, alpha-Dimethylphenethylamine
P047	[1]534-52-1	4,6-Dinitro-o-cresol, and salts
P047	[1]534-52-1	Phenol, 2-methyl-4,6-dinitro-, and salts
P048	51-28-5	2,4-Dinitrophenol
P048	51-28-5	Phenol, 2,4-dinitro-
P049	541-53-7	Dithiobiuret
P049	541-53-7	Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$
P050	115-29-7	Endosulfan
P050	115-29-7	6, 9-Methano-2,4,3-benzo-dioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a- hexahydro-,3-oxide

Table 3. Acute Hazardous Wastes
(Numerical Order by EPA Hazardous Waste Number)

EPA Hazardous Waste Number	Chemical Abstract Number	Hazardous Waste (Substance)
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)-, and metabolites
P051	72-20-8	Endrin
P051	72-20-8	Endrin, and metabolites
P054	151-56-4	Aziridine
P054	151-56-4	Ethyleneimine
P056	7782-41-4	Fluorine
P057	640-19-7	Acetamide, 2-fluoro-
P057	640-19-7	Fluoroacetamide
P058	62-74-8	Acetic acid, fluoro-, sodium salt
P058	62-74-8	Fluoroacetic acid, sodium salt
P059	76-44-8	Heptachlor
P059	76-44-8	4,7-Methano-1H-indene,1,4,5,6,7, 8,8-heptachloro-3a,4,7,7a-tetrahydro-
P060	465-73-6	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)-
P060	465-73-6	Isodrin
P062	757-58-4	Hexaethyl tetraphosphate
P062	757-58-4	Tetraphosphoric acid, hexaethyl ester
P063	74-90-8	Hydrocyanic acid
P063	74-90-8	Hydrogen cyanide
P064	624-83-9	Methane, isocyanato-
P064	624-83-9	Methyl isocyanate
P065	628-86-4	Fulminic acid, mercury (2+) salt (R,T)
P065	628-86-4	Mercury fulminate (R,T)
P066	16752-77-5	Ethanimidothioic acid, N- [[(methylamino)carbonyl]oxy]-, methyl ester
P066	16752-77-5	Methomyl
P067	75-55-8	Aziridine, 2-methyl-
P067	75-55-8	1,2-Propylenimine
P068	60-34-4	Hydrazine, methyl-
P068	60-34-4	Methyl hydrazine
P069	75-86-5	2-Methyllactonitrile
P069	75-86-5	Propanenitrile, 2-hydroxy-2-methyl-
P070	116-06-3	Aldicarb
P070	116-06-3	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime
P071	298-00-0	Methyl parathion
P071	298-00-0	Phosphorothioic acid, O,O,-dimethyl O-(4-nitrophenyl) ester
P072	86-88-4	alpha-Naphthylthiourea
P072	86-88-4	Thiourea, 1-naphthalenyl-
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 cyanide $Ni(CN)_2$
P075	[1]54-11-5	Nicotine, and salts
P075	[1]54-11-5	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (s)- and salts
P076	10102-43-9	Nitric oxide
P076	10102-43-9	Nitrogen oxide NO
P077	100-01-6	Benzenamine, 4-nitro
P077	100-01-6	p-Nitroaniline
P078	10102-44-0	Nitrogen dioxide
P078	10102-44-0	Nitrogen oxide NO_2
P081	55-63-0	Nitroglycerine (R)
P081	55-63-0	1,2,3-Propanetriol, trinitrate (R)
P082	62-75-9	Methanamine, N-methyl-N-nitroso-
P082	62-75-9	N-Nitrosodimethylamine
P084	4549-40-0	N-Nitrosomethylvinylamine
P084	4549-40-0	Vinylamine, N-methyl-N-nitroso-
P085	152-16-9	Diphosphoramide, octamethyl-
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	Endothall
P088	145-73-3	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid

Table 3. Acute Hazardous Wastes
(Numerical Order by EPA Hazardous Waste Number)

EPA Hazardous Waste Number	Chemical Abstract Number	Hazardous Waste (Substance)
P089	56-38-2	Parathion
P089	56-38-2	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester
P092	62-38-4	Mercury, (acetato-O)phenyl-
P092	62-38-4	Phenylmercury acetate
P093	103-85-5	Phenylthiourea
P093	103-85-5	Thiourea, phenyl-
P094	298-02-2	Phorate
P094	298-02-2	Phosphorodithioic acid, O, O-diethyl S-[(ethylthio)methyl] ester
P095	75-44-5	Carbonic dichloride
P095	75-44-5	Phosgene
P096	7803-51-2	Hydrogen phosphide
P096	7803-51-2	Phosphine
P097	52-85-7	Famphur
P097	52-85-7	Phosphorothioic acid, O-[4- [(dimethylamino)sulfonyl] phenyl]O,O- dimethyl ester
P098	151-50-8	Potassium cyanide
P098	151-50-8	Potassium cyanide K(CN)
P099	506-61-6	Argentate (1-), bis(cyano-C)-, potassium
P099	506-61-6	Potassium silver cyanide
P101	107-12-0	Ethyl cyanide
P101	107-12-0	Propanenitrile
P102	107-19-7	Propargyl alcohol
P102	107-19-7	2-Propyn-1-o1
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, and salts
P108	[1]57-24-9	Strychnine, and salts
P109	3689-24-5	Tetraethyldithiopyrophosphate
P109	3689-24-5	Thiodiphosphoric acid, tetraethyl ester
P110	78-00-2	Plumbane, tetraethyl-
P110	78-00-2	Tetraethyl lead
P111	107-49-3	Diphosphoric acid, tetraethyl ester
P111	107-49-3	Tetraethyl pyrophosphate
P112	509-14-8	Methane, tetranitro- (R)
P112	509-14-8	Tetranitromethane (R)
P113	1314-32-5	Thallic oxide
P113	1314-32-5	Thallium oxide Tl_2O_3
P114	12039-52-0	Selenious acid, dithallium(1+) salt
P114	12039-52-0	Thallium(I) selenite
P115	7446-18-6	Sulfuric acid, dithallium(1+) salt
P115	7446-18-6	Thallium(I) sulfate
P116	79-19-6	Hydrazinecarbothioamide
P116	79-19-6	Thiosemicarbazide
P118	75-70-7	Methanethiol, trichloro-
P118	75-70-7	Trichloromethanethiol
P119	7803-55-6	Ammonium vanadate
P119	7803-55-6	Vanadic acid, ammonium salt
P120	1314-62-1	Vanadium oxide V_2O_5
P120	1314-62-1	Vanadium pentoxide
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 percent (R,T)
P123	8001-35-2	Toxaphene
P127	1563-66-2	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate
P127	1563-66-2	Carbofuran
P128	315-8-4	Mexacarbate
P128	315-18-4	Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester)
P185	26419-73-8	1,3-Dithiolane-2-carboxaldehyde, 2, 4-dimethyl-, O-[(methylamino)- carbonyl]oxime
P185	26419-73-8	Tirpate

Table 3. Acute Hazardous Wastes (Numerical Order by EPA Hazardous Waste Number)		
EPA Hazardous Waste Number	**Chemical Abstract Number**	**Hazardous Waste (Substance)**
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)
P188	57-64-7	Physostigmine salicylate
P189	55285-14-8	Carbamic acid, [(dibutylamino)-thio]methyl-, 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester
P189	55285-14-8	Carbosulfan
P190	1129-41-5	Carbamic acid, methyl-, 3-methylphenyl ester
P190	1129-41-5	Metolcarb
P191	644-64-4	Carbamic acid, dimethyl-, 1-[(dimethyl-amino)carbonyl]-5-methyl-1H-pyrazol-3-yl ester
P191	644-64-4	Dimetilan
P192	119-38-0	Carbamic acid, dimethyl-, 3-methyl-1- (1-methylethyl)-1H-pyrazol-5-yl ester
P192	119-38-0	Isolan
P194	23135-22-0	Ethanimidothioic acid, 2-(dimethylamino)-N-[[(methylamino) carbonyl]oxy]-2-oxo-, methyl ester
P194	23135-22-0	Oxamyl
P196	15339-36-3	Manganese, bis(dimethylcarbamodithioato-S,S')-
P196	15339-36-3	Manganese, dimethyldithiocarbamate
P197	17702-57-7	Formparanate
P197	17702-57-7	Methanimidamide, N,N-dimethyl-N'-[2-methyl-4-[[(methylamino)carbonyl]oxy]phenyl]-
P198	23422-53-9	Formetanate hydrochloride
P198	23422-53-9	Methanimidamide, N,N-dimethyl-N'-[3-[[(methylamino)-carbonyl]oxy]phenyl]-monohydrochloride
P199	2032-65-7	Methiocarb
P199	2032-65-7	Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate
P201	2631-37-0	Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate
P201	2631-37-0	Promecarb
P202	64-00-6	m-Cumenyl methylcarbamate
P202	64-00-6	3-Isopropylphenyl N-methylcarbamate
P202	64-00-6	Phenol, 3-(1-methylethyl)-, methyl carbamate
P203	1646-88-4	Aldicarb sulfone
P203	1646-88-4	Propanal, 2-methyl-2-(methyl-sufonyl)-, O-[(methylamino)carbonyl] oxime
P204	57-47-6	Physostigmine
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)-
P205	137-30-4	Zinc,bis(dimethyl-carbamodithioato-S,S')-
P205	137-30-4	Ziram
[1]CAS Number given for parent compound only.		

F. Commercial chemical products or manufacturing chemical intermediates or off-specification commercial chemical products referred to in Paragraphs D.1-4 of this Section are identified as toxic wastes (T) unless otherwise designated and are subject to the small quantity generator exclusion defined in LAC 33:V.108.A and G. These wastes and their corresponding EPA Hazardous Waste Numbers are listed in Table 4 of this Section.

[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 listed only for toxicity. Wastes are first listed in alphabetical order by substance and then listed again in numerical order by EPA Hazardous Waste Number.]

Table 4. Toxic Wastes (Alphabetical Order by Substance)		
EPA Hazardous Waste Number	**Chemical Abstract Number**	**Hazardous Waste (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-dichloro- phenoxy)-, salts and esters
U112	141-78-6	Acetic acid, ethyl ester (I)
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)-

Table 4. Toxic Wastes
(Alphabetical Order by Substance)

EPA Hazardous Waste Number	Chemical Abstract Number	Hazardous Waste (Substance)
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-

Table 4. Toxic Wastes
(Alphabetical Order by Substance)

EPA Hazardous Waste Number	Chemical Abstract Number	Hazardous Waste (Substance)
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)-
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, and salts
U364	22961-82-6	1,3-Benzodioxol-4-ol, 2,2-dimethyl-
U278	22781-23-3	1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate
U203	94-59-7	1,3-Benzodioxole, 5-(2-propenyl)-
U141	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-
U090	94-58-6	1,3-Benzodioxole, 5-propyl-
U367	1563-38-8	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-
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)-, and salts, when present at concentrations of 0.3 percent 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-
U114	[1]111-54-6	Carbamodithioic acid, 1,2-ethanediylbis-,salts and esters
U062	2303-16-4	Carbamothioic acid, bis(1-methylethyl)-S-(2,3-dichloro-2- propenyl)ester
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
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 and gamma isomers

Table 4. Toxic Wastes
(Alphabetical Order by Substance)

EPA Hazardous Waste Number	Chemical Abstract Number	Hazardous Waste (Substance)
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
U051		Creosote
U052	1319-77-3	Cresols (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 and 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)
U395	5952-26-1	Diethylene glycol, dicarbamate
U108	123-91-1	1,4-Diethyleneoxide
U028	117-81-7	Diethylhexyl phthalate
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	Diethylstilbestrol
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-Dimethyl-benzylhydroperoxide (R)
U097	79-44-7	Dimethylcarbamoyl chloride

Table 4. Toxic Wastes
(Alphabetical Order by Substance)

EPA Hazardous Waste Number	Chemical Abstract Number	Hazardous Waste (Substance)
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-
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-
U394	30558-43-1	Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-, methyl ester
U410	59669-26-0	Ethanimidothioic acid, N,N'-[thiobis[(methylimino) carbonyloxy]]bis-,dimethyl 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)
U117	60-29-7	Ethyl ether (I)
U238	51-79-6	Ethyl carbamate (urethane)
U114	[1]111-54-6	Ethylenebisdithiocarbamic acid, salts and 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	Ethylene thiourea
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)

Table 4. Toxic Wastes (Alphabetical Order by Substance)		
EPA Hazardous Waste Number	**Chemical Abstract Number**	**Hazardous Waste (Substance)**
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
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-octa-chloro-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

Table 4. Toxic Wastes
(Alphabetical Order by Substance)

EPA Hazardous Waste Number	Chemical Abstract Number	Hazardous Waste (Substance)
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)-
U026	494-03-1	Naphthalenamine,N,N'-bis (2-chloroethyl)-
U167	134-32-7	1-Naphthalenamine
U168	91-59-8	2-Naphthalenamine
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
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)-
U182	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-

Table 4. Toxic Wastes (Alphabetical Order by Substance)		
EPA Hazardous Waste Number	**Chemical Abstract Number**	**Hazardous Waste (Substance)**
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	73-83-1	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
U194	107-10-8	n-Propylamine (I,T)
U083	78-87-5	Propylene dichloride
U387	52888-80-9	Prosulfocarb
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 and 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)

Table 4. Toxic Wastes
(Alphabetical Order by Substance)

EPA Hazardous Waste Number	Chemical Abstract Number	Hazardous Waste (Substance)
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 $[(H_2N)C(S)]_2 S_2$, tetramethyl-
U409	23564-05-8	Thiophanatemethyl
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
U226	71-55-6	1,1,1-Trichloroethane
U227	79-00-5	1,1,2-Trichloroethane
U228	79-01-6	Trichloroethylene
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-
U121	75-69-4	Trichloromonofluoromethane
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, and salts, when present at concentrations of 0.3 percent 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)-
U249	1314-84-7	Zinc phosphide Zn_3P_2, when present at concentrations of 10 percent or less

[1] CAS Number given for parent compound only.

Table 4. Toxic Wastes
(Numerical Order by EPA Hazardous Waste Number)

EPA Hazardous Waste Number	Chemical Abstract Number	Hazardous Waste (Substance)
U001	75-07-0	Acetaldehyde (I)
U001	75-07-0	Ethanal (I)
U002	67-64-1	Acetone (I)
U002	67-64-1	2-Propanone (I)
U003	75-05-8	Acetonitrile (I,T)
U004	98-86-2	Acetophenone

Table 4. Toxic Wastes
(Numerical Order by EPA Hazardous Waste Number)

EPA Hazardous Waste Number	Chemical Abstract Number	Hazardous Waste (Substance)
U004	98-86-2	Ethanone, 1-phenyl-
U005	53-96-3	Acetamide, N-9H-fluoren-2-yl-
U005	53-96-3	2-Acetylaminofluorene
U006	75-36-5	Acetyl chloride (C,R,T)
U007	79-06-1	Acrylamide
U007	79-06-1	2-Propenamide
U008	79-10-7	Acrylic acid (I)
U008	79-10-7	2-Propenoic acid (I)
U009	107-13-1	Acrylonitrile
U009	107-13-1	2-Propenenitrile
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)]-
U010	50-07-7	Mitomycin C
U011	61-82-5	Amitrole
U011	61-82-5	1H-1,2,4-Triazol-3-amine
U012	62-53-3	Aniline (I,T)
U012	62-53-3	Benzenamine (I,T)
U014	492-80-8	Auramine
U014	492-80-8	Benzenamine,4,4'-carbonimidoylbis (N,N-dimethyl-
U015	115-02-6	Azaserine
U015	115-02-6	L-Serine, diazoacetate (ester)
U016	225-51-4	Benz(c)acridine
U017	98-87-3	Benzal chloride
U017	98-87-3	Benzene, (dichloromethyl)-
U018	56-55-3	Benz[a]anthracene
U019	71-43-2	Benzene (I,T)
U020	98-09-9	Benzenesulfonic acid chloride (C,R)
U020	98-09-9	Benzenesulfonyl chloride (C,R)
U021	92-87-5	Benzidine
U021	92-87-5	(1,1'-Biphenyl)-4,4'-diamine
U022	50-32-8	Benzo[a]pyrene
U023	98-07-7	Benzene, (trichloromethyl)-
U023	98-07-7	Benzotrichloride (C,R,T)
U024	111-91-1	Dichloromethoxy ethane
U024	111-91-1	Ethane, 1,1'-[methylenebis (oxy)]bis[2-chloro-
U025	111-44-4	Dichloroethyl ether
U025	111-44-4	Ethane, 1,1'-oxybis [2-chloro-
U026	494-03-1	Chlornaphazin
U026	494-03-1	Naphthalenamine,N,N'-bis (2-chloroethyl)-
U027	108-60-1	Dichloroisopropyl ether
U027	108-60-1	Propane, 2,2'-oxybis[2-chloro-
U028	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester
U028	117-81-7	Diethylhexyl phthalate
U029	74-83-9	Methane, bromo-
U029	74-83-9	Methyl bromide
U030	101-55-3	Benzene, 1-bromo-4-phenoxy-
U030	101-55-3	4-Bromophenyl phenyl ether
U031	71-36-3	1-Butanol (I)
U031	71-36-3	n-Butyl alcohol (I)
U032	13765-19-0	Calcium chromate
U032	13765-19-0	Chromic acid H_2CrO_4, calcium salt
U033	353-50-4	Carbonic difluoride
U033	353-50-4	Carbon oxyfluoride (R,T)
U034	75-87-6	Acetaldehyde, trichloro-
U034	75-87-6	Chloral
U035	305-03-3	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-
U035	305-03-3	Chlorambucil
U036	57-74-9	Chlordane, alpha and gamma isomers
U036	57-74-9	4,7-Methano-1H-indene,1,2,4,5,6,7,8,8-octa-chloro-2,3,3a,4,7,7a-hexahydro-
U037	108-90-7	Benzene, chloro-
U037	108-90-7	Chlorobenzene
U038	510-15-6	Benzeneacetic acid, 4-chloro-alpha- (4-chlorophenyl)-alpha-hydroxy-, ethyl ester

Table 4. Toxic Wastes
(Numerical Order by EPA Hazardous Waste Number)

EPA Hazardous Waste Number	Chemical Abstract Number	Hazardous Waste (Substance)
U038	510-15-6	Chlorobenzilate
U039	59-50-7	p-Chloro-m-cresol
U039	59-50-7	Phenol, 4-chloro-3-methyl-
U041	106-89-8	Epichlorohydrin
U041	106-89-8	Oxirane, (chloromethyl)-
U042	110-75-8	2-Chloroethyl vinyl ether
U042	110-75-8	Ethene, (2-chloroethoxy)-
U043	75-01-4	Ethene, chloro-
U043	75-01-4	Vinyl chloride
U044	67-66-3	Chloroform
U044	67-66-3	Methane, trichloro-
U045	74-87-3	Methane, chloro-(I,T)
U045	74-87-3	Methyl chloride (I,T)
U046	107-30-2	Chloromethyl methyl ether
U046	107-30-2	Methane, chloromethoxy-
U047	91-58-7	beta-Chloronaphthalene
U047	91-58-7	Naphthalene, 2-chloro-
U048	95-57-8	o-Chlorophenol
U048	95-57-8	Phenol, 2-chloro-
U049	3165-93-3	Benzenamine, 4-chloro-2-methyl-, hydrochloride
U049	3165-93-3	4-Chloro-o-toluidine, hydrochloride
U050	218-01-9	Chrysene
U051		Creosote
U052	1319-77-3	Cresols (Cresylic acid)
U052	1319-77-3	Phenol, methyl-
U053	4170-30-3	2-Butenal
U053	4170-30-3	Crotonaldehyde
U055	98-82-8	Benzene, (1-methylethyl)-(I)
U055	98-82-8	Cumene (I)
U056	110-82-7	Benzene, hexahydro-(I)
U056	110-82-7	Cyclohexane (I)
U057	108-94-1	Cyclohexanone (I)
U058	50-18-0	Cyclophosphamide
U058	50-18-0	2H-1,3,2-Oxazaphosphorin-2-amine,N,N- bis(2-chloroethyl) tetrahydro-,2-oxide
U059	20830-81-3	Daunomycin
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)-
U060	72-54-8	Benzene, 1, 1'-(2, 2-dichloroethylidene)bis [4-chloro-
U060	72-54-8	DDD
U061	50-29-3	Benzene, 1, 1'-(2,2,2-trichloroethylidene)bis[4-chloro-
U061	50-29-3	DDT
U062	2303-16-4	Carbamothioic acid, bis(1-methylethyl)-S-(2,3-dichloro-2- propenyl)ester
U062	2303-16-4	Diallate
U063	53-70-3	Dibenz[a,h]anthracene
U064	189-55-9	Benzo[rst]pentaphene
U064	189-55-9	Dibenzo[a,i]pyrene
U066	96-12-8	1,2-Dibromo-3-chloropropane
U066	96-12-8	Propane, 1,2-dibromo-3-chloro-
U067	106-93-4	Ethane, 1,2-dibromo-
U067	106-93-4	Ethylene dibromide
U068	74-95-3	Methane, dibromo-
U068	74-95-3	Methylene bromide
U069	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester
U069	84-74-2	Dibutyl phthalate
U070	95-50-1	Benzene, 1,2-dichloro-
U070	95-50-1	o-Dichlorobenzene
U071	541-73-1	Benzene, 1,3-dichloro-
U071	541-73-1	m-Dichlorobenzene
U072	106-46-7	Benzene, 1,4-dichloro-
U072	106-46-7	p-Dichlorobenzene
U073	91-94-1	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dichloro-
U073	91-94-1	3,3'-Dichlorobenzidine

Table 4. Toxic Wastes
(Numerical Order by EPA Hazardous Waste Number)

EPA Hazardous Waste Number	Chemical Abstract Number	Hazardous Waste (Substance)
U074	764-41-0	2-Butene, 1,4-dichloro- (I,T)
U074	764-41-0	1,4-Dichloro-2-butene (I,T)
U075	75-71-8	Dichlorodifluoromethane
U075	75-71-8	Methane, dichlorodifluoro-
U076	75-34-3	Ethane, 1,1-dichloro-
U076	75-34-3	Ethylidene dichloride
U077	107-06-2	Ethane, 1,2-dichloro-
U077	107-06-2	Ethylene dichloride
U078	75-35-4	1,1-Dichloroethylene
U078	75-35-4	Ethene, 1,1-dichloro-
U079	156-60-5	1,2-Dichloroethylene
U079	156-60-5	Ethene, 1,2-dichloro-, (E)-
U080	75-09-2	Methane, dichloro-
U080	75-09-2	Methylene chloride
U081	120-83-2	2,4-Dichlorophenol
U081	120-83-2	Phenol, 2,4-dichloro-
U082	87-65-0	2,6-Dichlorophenol
U082	87-65-0	Phenol, 2,6-dichloro-
U083	78-87-5	Propane, 1,2-dichloro-
U083	78-87-5	Propylene dichloride
U084	542-75-6	1,3-Dichloropropene
U084	542-75-6	1-Propene, 1,3-dichloro-
U085	1464-53-5	2,2'-Bioxirane
U085	1464-53-5	1,2:3,4-Diepoxybutane (I,T)
U086	1615-80-1	N,N'-Diethylhydrazine
U086	1615-80-1	Hydrazine, 1,2-diethyl-
U087	3288-58-2	O,O-Diethyl-S-methyl-dithiophosphate
U087	3288-58-2	Phosphorodithioic acid, O,O-diethyl,S-methyl ester
U088	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester
U088	84-66-2	Diethyl phthalate
U089	56-53-1	Diethylstilbestrol
U089	56-53-1	Phenol, 4,4'-(1,2-diethyl-1,2- ethenediyl) bis-, (E)-
U090	94-58-6	1,3-Benzodioxole, 5-propyl-
U090	94-58-6	Dihydrosafrole
U091	119-90-4	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dimethoxy-
U091	119-90-4	3,3'-Dimethoxybenzidine
U092	124-40-3	Dimethylamine (I)
U092	124-40-3	Methanamine, N-methyl-(I)
U093	60-11-7	Benzenamine,N,N-dimethyl-4-(phenylazo)-
U093	60-11-7	p-Dimethylaminoazobenzene
U094	57-97-6	Benz[a]anthracene, 7,12-dimethyl-
U094	57-97-6	7,12-Dimethylbenz[a]anthracene
U095	119-93-7	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dimethyl-
U095	119-93-7	3,3'-Dimethylbenzidine
U096	80-15-9	alpha,alpha-Dimethyl-benzylhydroperoxide (R)
U096	80-15-9	Hydroperoxide, 1-methyl-1-phenylethyl-(R)
U097	79-44-7	Carbamic chloride, dimethyl-
U097	79-44-7	Dimethylcarbamoyl chloride
U098	57-14-7	1,1-Dimethylhydrazine
U098	57-14-7	Hydrazine, 1,1-dimethyl-
U099	540-73-8	1,2-Dimethylhydrazine
U099	540-73-8	Hydrazine, 1,2-dimethyl-
U101	105-67-9	2,4-Dimethylphenol
U101	105-67-9	Phenol, 2,4-dimethyl-
U102	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester
U102	131-11-3	Dimethyl phthalate
U103	77-78-1	Dimethyl sulfate
U103	77-78-1	Sulfuric acid, dimethyl ester
U105	121-14-2	Benzene, 1-methyl-2,4-dinitro-
U105	121-14-2	2,4-Dinitrotoluene
U106	606-20-2	Benzene, 2-methyl-1,3-dinitro-
U106	606-20-2	2,6-Dinitrotoluene

Table 4. Toxic Wastes
(Numerical Order by EPA Hazardous Waste Number)

EPA Hazardous Waste Number	Chemical Abstract Number	Hazardous Waste (Substance)
U107	117-84-0	1,2-Benzenedicarboxylic acid, dioctyl ester
U107	117-84-0	Di-n-octyl phthalate
U108	123-91-1	1,4-Diethyleneoxide
U108	123-91-1	1,4-Dioxane
U109	122-66-7	1,2-Diphenylhydrazine
U109	122-66-7	Hydrazine, 1,2-diphenyl-
U110	142-84-7	Dipropylamine (I)
U110	142-84-7	1-Propanamine, N-propyl-(I)
U111	621-64-7	Di-n-propylnitrosamine
U111	621-64-7	1-Propanamine, N-nitroso- N-propyl-
U112	141-78-6	Acetic acid, ethyl ester (I)
U112	141-78-6	Ethyl acetate (I)
U113	140-88-5	Ethyl acrylate (I)
U113	140-88-5	2-Propenoic acid, ethyl ester (I)
U114	[1]111-54-6	Carbamodithioic acid, 1,2-ethanediylbis-,salts and esters
U114	[1]111-54-6	Ethylenebisdithiocarbamic acid, salts and esters
U115	75-21-8	Ethylene oxide (I,T)
U115	75-21-8	Oxirane (I,T)
U116	96-45-7	Ethylene thiourea
U116	96-45-7	2-Imidazolidinethione
U117	60-29-7	Ethane,1,1'-oxybis-(I)
U117	60-29-7	Ethyl ether (I)
U118	97-63-2	Ethyl methacrylate
U118	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester
U119	62-50-0	Ethyl methanesulfonate
U119	62-50-0	Methanesulfonic acid, ethyl ester
U120	206-44-0	Fluoranthene
U121	75-69-4	Methane, trichlorofluoro-
U121	75-69-4	Trichloromonofluoromethane
U122	50-00-0	Formaldehyde
U123	64-18-6	Formic acid (C,T)
U124	110-00-9	Furan (I)
U124	110-00-9	Furfuran (I)
U125	98-01-1	2-Furancarboxaldehyde (I)
U125	98-01-1	Furfural (I)
U126	765-34-4	Glycidylaldehyde
U126	765-34-4	Oxiranecarboxyaldehyde
U127	118-74-1	Benzene, hexachloro-
U127	118-74-1	Hexachlorobenzene
U128	87-68-3	1,3-Butadiene,1,1,2,3,4,4-hexachloro-
U128	87-68-3	Hexachlorobutadiene
U129	58-89-9	Cyclohexane,1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha, 5alpha,6beta)-
U129	58-89-9	Lindane
U130	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
U130	77-47-4	Hexachlorocyclopentadiene
U131	67-72-1	Ethane, hexachloro-
U131	67-72-1	Hexachloroethane
U132	70-30-4	Hexachlorophene
U132	70-30-4	Phenol, 2,2'-methylenebis[3,4,6- trichloro-
U133	302-01-2	Hydrazine (R,T)
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
U136	75-60-5	Arsinic acid, dimethyl-
U136	75-60-5	Cacodylic acid
U137	193-39-5	Indeno[1,2,3-cd]pyrene
U138	74-88-4	Methane, iodo-
U138	74-88-4	Methyl iodide
U140	78-83-1	Isobutyl alcohol (I,T)
U140	73-83-1	1-Propanol, 2-methyl-(I,T)
U141	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-

Table 4. Toxic Wastes
(Numerical Order by EPA Hazardous Waste Number)

EPA Hazardous Waste Number	Chemical Abstract Number	Hazardous Waste (Substance)
U141	120-58-1	Isosafrole
U142	143-50-0	Kepone
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-
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]]-
U143	303-34-4	Lasiocarpine
U144	301-04-2	Acetic acid, lead (2+) salt
U144	301-04-2	Lead acetate
U145	7446-27-7	Lead phosphate
U145	7446-27-7	Phosphoric acid, lead(2+)salt(2:3)
U146	1335-32-6	Lead,bis(acetato-O) tetrahydroxytri-
U146	1335-32-6	Lead subacetate
U147	108-31-6	2,5-Furandione
U147	108-31-6	Maleic anhydride
U148	123-33-1	Maleic hydrazide
U148	123-33-1	3,6-Pyridazinedione,1,2-dihydro-
U149	109-77-3	Malononitrile
U149	109-77-3	Propanedinitrile
U150	148-82-3	Melphalan
U150	148-82-3	L-Phenylalanine, 4-[bis (2-chloroethyl)amino]-
U151	7439-97-6	Mercury
U152	126-98-7	Methacrylonitrile (I,T)
U152	126-98-7	2-Propenenitrile, 2-methyl-(I,T)
U153	74-93-1	Methanethiol (I,T)
U153	74-93-1	Thiomethanol (I,T)
U154	67-56-1	Methanol (I)
U154	67-56-1	Methyl alcohol (I)
U155	91-80-5	1,2-Ethanediamine,-N,N-dimethyl-N'-2- pyridinyl-N'-(2-thienylmethyl)-
U155	91-80-5	Methapyrilene
U156	79-22-1	Carbonochloridic acid, methyl ester (I,T)
U156	79-22-1	Methyl chlorocarbonate (I,T)
U157	56-49-5	Benz (j) aceanthrylene, 1,2-dihydro-3-methyl-
U157	56-49-5	3-Methylcholanthrene
U158	101-14-4	Benzenamine, 4,4'-methylenebis [2-chloro-
U158	101-14-4	4,4'-Methylenebis(2-chloroaniline)
U159	78-93-3	2-Butanone (I,T)
U159	78-93-3	Methyl ethyl ketone (MEK) (I,T)
U160	1338-23-4	2-Butanone, peroxide (R,T)
U160	1338-23-4	Methyl ethyl ketone peroxide (R,T)
U161	108-10-1	Methyl isobutyl ketone (I)
U161	108-10-1	4-Methyl-2-pentanone (I)
U161	108-10-1	Pentanol, 4-methyl-
U162	80-62-6	Methyl methacrylate (I,T)
U162	80-62-6	2-Propenoic acid, 2-methyl-, methyl ester (I,T)
U163	70-25-7	Guanidine,N-methyl-N'-nitro-N-nitroso-
U163	70-25-7	MNNG
U164	56-04-2	Methylthiouracil
U164	56-04-2	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-
U165	91-20-3	Naphthalene
U166	130-15-4	1,4-Naphthalenedione
U166	130-15-4	1,4-Naphthoquinone
U167	134-32-7	1-Naphthalenamine
U167	134-32-7	alpha-Naphthylamine
U168	91-59-8	2-Naphthalenamine
U168	91-59-8	beta-Naphthylamine
U169	98-95-3	Benzene, nitro-
U169	98-95-3	Nitrobenzene (I,T)
U170	100-02-7	p-Nitrophenol
U170	100-02-7	Phenol, 4-nitro-
U171	79-46-9	2-Nitropropane (I,T)
U171	79-46-9	Propane, 2-nitro-(I,T)
U172	924-16-3	1-Butanamine, N-butyl-N-nitroso-

Table 4. Toxic Wastes
(Numerical Order by EPA Hazardous Waste Number)

EPA Hazardous Waste Number	Chemical Abstract Number	Hazardous Waste (Substance)
U172	924-16-3	N-Nitrosodi-n-butylamine
U173	1116-54-7	Ethanol,2,2'-(nitrosoimino)bis-
U173	1116-54-7	N-Nitrosodiethanolamine
U174	55-18-5	Ethanamine, N-ethyl-N-nitroso-
U174	55-18-5	N-Nitrosodiethylamine
U176	759-73-9	N-Nitroso-N-ethylurea
U176	759-73-9	Urea, N-ethyl-N-nitroso-
U177	684-93-5	N-Nitroso-N-methylurea
U177	684-93-5	Urea, N-methyl-N-nitroso-
U178	615-53-2	Carbamic acid, methylnitroso-,ethyl ester
U178	615-53-2	N-Nitroso-N-methylurethane
U179	100-75-4	N-Nitrosopiperidine
U179	100-75-4	Piperidine,1-nitroso-
U180	930-55-2	N-Nitrosopyrrolidine
U180	930-55-2	Pyrrolidine, 1-nitroso-
U181	99-55-8	Benzenamine, 2-methyl-5-nitro-
U181	99-55-8	5-Nitro-o-toluidine
U182	123-63-7	Paraldehyde
U182	123-63-7	1,3,5-Trioxane, 2,4,6-trimethyl-
U183	608-93-5	Benzene, pentachloro
U183	608-93-5	Pentachlorobenzene
U184	76-01-7	Ethane, pentachloro-
U184	76-01-7	Pentachloroethane
U185	82-68-8	Benzene, pentachloronitro-
U185	82-68-8	Pentachloronitrobenzene (PCNB)
U186	504-60-9	1-Methylbutadiene (I)
U186	504-60-9	1,3-Pentadiene (I)
U187	62-44-2	Acetamide, N-(4-ethoxyphenyl)-
U187	62-44-2	Phenacetin
U188	108-95-2	Phenol
U189	1314-80-3	Phosphorus sulfide (R)
U189	1314-80-3	Sulfur phosphide (R)
U190	85-44-9	1,3-Isobenzofurandione
U190	85-44-9	Phthalic anhydride
U191	109-06-8	2-Picoline
U191	109-06-8	Pyridine, 2-methyl-
U192	23950-58-5	Benzamide,3,5-dichloro-N-(1,1-dimethyl-2 propynyl)-
U192	23950-58-5	Pronamide
U193	1120-71-4	1,2-Oxathiolane, 2,2-dioxide
U193	1120-71-4	1,3-Propane sultone
U194	107-10-8	1-Propanamine (I,T)
U194	107-10-8	n-Propylamine (I,T)
U196	110-86-1	Pyridine
U197	106-51-4	p-Benzoquinone
U197	106-51-4	2,5-Cyclohexadiene-1,4-dione
U200	50-55-5	Reserpine
U200	50-55-5	Yohimban-16-carboxylic acid,11,17-dimethoxy-18- [(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester,(3beta, 16beta,17alpha,18beta,20alpha)-
U201	108-46-3	1,3-Benzenediol
U201	108-46-3	Resorcinol
U202	[1]81-07-2	1,2-Benzisothiazol-3 (2H)- one,1,1,-dioxide, and salts
U202	[1]81-07-2	Saccharin and salts
U203	94-59-7	1,3-Benzodioxole, 5-(2-propenyl)-
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)
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]-
U206	18883-66-4	Streptozotocin
U207	95-94-3	Benzene, 1,2,4,5-tetrachloro-

Table 4. Toxic Wastes
(Numerical Order by EPA Hazardous Waste Number)

EPA Hazardous Waste Number	Chemical Abstract Number	Hazardous Waste (Substance)
U207	95-94-3	1,2,4,5-Tetrachlorobenzene
U208	630-20-6	Ethane, 1,1,1,2-tetrachloro-
U208	630-20-6	1,1,1,2-Tetrachloroethane
U209	79-34-5	Ethane, 1,1,2,2-tetrachloro-
U209	79-34-5	1,1,2,2,-Tetrachloroethane
U210	127-18-4	Ethene, tetrachloro-
U210	127-18-4	Tetrachloroethylene
U211	56-23-5	Carbon tetrachloride
U211	56-23-5	Methane, tetrachloro-
U213	109-99-9	Furan, tetrahydro-(I)
U213	109-99-9	Tetrahydrofuran (I)
U214	563-68-8	Acetic acid, thallium(1+) salt
U214	563-68-8	Thallium(I) acetate
U215	6533-73-9	Carbonic acid, dithallium (1+) salt
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	Nitric acid, thallium(1+)salt
U217	10102-45-1	Thallium (I) nitrate
U218	62-55-5	Ethanethioamide
U218	62-55-5	Thioacetamide
U219	62-56-6	Thiourea
U220	108-88-3	Benzene, methyl-
U220	108-88-3	Toluene
U221	25376-45-8	Benzenediamine, ar-methyl-
U221	25376-45-8	Toluenediamine
U222	636-21-5	Benzenamine, 2-methyl-, hydrochloride
U222	636-21-5	o-Toluidine hydrochloride
U223	26471-62-5	Benzene,1,3-diisocyanatomethyl-(R,T)
U223	26471-62-5	Toluene diisocyanate (R,T)
U225	75-25-2	Bromoform
U225	75-25-2	Methane, tribromo-
U226	71-55-6	Ethane, 1,1,1-trichloro-
U226	71-55-6	Methyl chloroform
U226	71-55-6	1,1,1-Trichloroethane
U227	79-00-5	Ethane, 1,1,2-trichloro-
U227	79-00-5	1,1,2-Trichloroethane
U228	79-01-6	Ethene, trichloro-
U228	79-01-6	Trichloroethylene
U234	99-35-4	Benzene, 1,3,5-trinitro-
U234	99-35-4	1,3,5-Trinitrobenzene (R,T)
U235	126-72-7	1-Propanol, 2,3-dibromo-, phosphate (3:1)
U235	126-72-7	Tris(2,3-dibromopropyl) phosphate
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
U236	72-57-1	Trypan blue
U237	66-75-1	2,4-(1H,3H)-Pyrimidinedione, 5- [bis(2-chloroethyl) amino]-
U237	66-75-1	Uracil mustard
U238	51-79-6	Carbamic acid, ethyl ester
U238	51-79-6	Ethyl carbamate (urethane)
U239	1330-20-7	Benzene, dimethyl-(I,T)
U239	1330-20-7	Xylene (I)
U240	[1]94-75-7	Acetic acid, (2,4-dichloro- phenoxy)-, salts and esters
U240	[1]94-75-7	2,4-D, salts and esters
U243	1888-71-7	Hexachloropropene
U243	1888-71-7	1-Propene, 1,1,2,3,3,3-hexachloro-
U244	137-26-8	Thioperoxydicarbonic diamide $[(H_2N)C(S)]_2 S_2$, tetramethyl-
U244	137-26-8	Thiram
U246	506-68-3	Cyanogen bromide (CN) Br
U247	72-43-5	Benzene, 1, 1'-(2,2,2-trichloroethylidene)bis[4-methoxy-
U247	72-43-5	Methoxychlor
U248	[1]81-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenyl-butyl)-, and salts, when present at concentrations of 0.3 percent or less
U248	[1]81-81-2	Warfarin, and salts, when present at concentrations of 0.3 percent or less

Table 4. Toxic Wastes
(Numerical Order by EPA Hazardous Waste Number)

EPA Hazardous Waste Number	Chemical Abstract Number	Hazardous Waste (Substance)
U249	1314-84-7	Zinc phosphide Zn_3P_2, when present at concentrations of 10 percent or less
U271	17804-35-2	Benomyl
U271	17804-35-2	Carbamic acid, [1-[(butylamino)carbonyl]-1H- benzimidazol-2-yl]-, methyl ester
U278	22781-23-3	Bendiocarb
U278	22781-23-3	1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate
U279	63-25-2	Carbaryl
U279	63-25-2	1-Naphthalenol, methylcarbamate
U280	101-27-9	Barban
U280	101-27-9	Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butynyl ester
U328	95-53-4	Benzenamine, 2-methyl-
U328	95-53-4	o-Toluidine
U353	106-49-0	Benzenamine, 4-methyl-
U353	106-49-0	p-Toluidine
U359	110-80-5	Ethanol,2-ethoxy-
U359	110-80-5	Ethylene glycol monoethyl ether
U364	22961-82-6	Bendiocarb phenol
U364	22961-82-6	1,3-Benzodioxol-4-ol, 2,2-dimethyl-
U367	1563-38-8	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-
U367	1563-38-8	Carbofuran phenol
U372	10605-21-7	Carbamic acid, 1H-benzimidazol-2-yl, methyl ester
U372	10605-21-7	Carbendazim
U373	122-42-9	Carbamic acid, phenyl-, 1-methylethyl ester
U373	122-42-9	Propham
U387	52888-80-9	Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester
U387	52888-80-9	Prosulfocarb
U389	2303-17-5	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester
U389	2303-17-5	Triallate
U394	30558-43-1	A2213
U394	30558-43-1	Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-, methyl ester
U395	5952-26-1	Diethylene glycol, dicarbamate
U395	5952-26-1	Ethanol, 2,2'-oxybis-, dicarbamate
U404	121-44-8	Ethanamine, N,N-diethyl-
U404	121-44-8	Triethylamine
U409	23564-05-8	Carbamic acid, [1,2-phenylenebis (iminocarbonothioyl)]bis-, dimethyl ester
U409	23564-05-8	Thiophanatemethyl
U410	59669-26-0	Ethanimidothioic acid, N,N'-[thiobis[(methylimino) carbonyloxy]]bis-,dimethyl ester
U410	59669-26-0	Thiodicarb
U411	114-26-1	Phenol, 2-(1-methylethoxy)-, methylcarbamate
U411	114-26-1	Propoxur
See F027	93-76-5	Acetic acid, (2,4,5-trichlorophenoxy)-
See F027	87-86-5	Pentachlorophenol
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-
See F027	93-72-1	Propanoic acid,2-(2,4,5-trichlorophenoxy)-
See F027	93-72-1	Silvex (2,4,5-TP)
See F027	93-76-5	2,4,5-T
See F027	58-90-2	2,3,4,6-Tetrachlorophenol
See F027	95-95-4	2,4,5-Trichlorophenol
See F027	88-06-2	2,4,6-Trichlorophenol

[1]CAS Number given for parent compound only.

G. Constituents that Serve as a Basis for Listing Hazardous Waste. Table 6 of this Section lists constituents that serve as a basis for listing hazardous waste.

Table 6. Table of Constituents that Serve as a Basis for Listing Hazardous Waste
EPA Hazardous Waste Number F001
Tetrachloroethylene; methylene chloride; trichloroethylene; 1,1,1-trichloroethane; carbon tetrachloride; chlorinated fluorocarbons
EPA Hazardous Waste Number F002
Tetrachloroethylene; methylene chloride; trichloroethylene; 1,1,1-trichloroethane; 1,1,2-trichloroethane; chlorobenzene; 1,1,2-trichloro-1,2,2-trifluoroethane; ortho-dichlorobenzene; trichlorofluoromethane
EPA Hazardous Waste Number F003
N.A.
EPA Hazardous Waste Number F004
Cresols and cresylic acid; nitrobenzene
EPA Hazardous Waste Number F005
Toluene; methyl ethyl ketone; carbon disulfide; isobutanol; pyridine; 2-ethoxyethanol; benzene; 2-nitropropane
EPA Hazardous Waste Number F006
Cadmium; hexavalent chromium; nickel; cyanide (complexed)
EPA Hazardous Waste Number F007
Cyanide (salts)
EPA Hazardous Waste Number F008
Cyanide (salts)
EPA Hazardous Waste Number F009
Cyanide (salts)
EPA Hazardous Waste Number F010
Cyanide (salts)
EPA Hazardous Waste Number F011
Cyanide (salts)
EPA Hazardous Waste Number F012
Cyanide (complexed)
EPA Hazardous Waste Number F019
Hexavalent chromium; cyanide (complexed)
EPA Hazardous Waste Number F020
Tetra- and pentachlorodibenzo-p-dioxins; tetra- and pentachlorodibenzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine, and other salts
EPA Hazardous Waste Number F021
Penta- and hexachlorodibenzo-p-dioxins; penta- and hexachlorodibenzofurans; pentachlorophenol and its derivatives
EPA Hazardous Waste Number F022
Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans
EPA Hazardous Waste Number F023
Tetra- and pentachlorodibenzo-p-dioxins; tetra- and pentachlorodibenzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine, and other salts
EPA Hazardous Waste Number 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-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; hexachlorocyclohexane; benzene; chlorobenzene; dichlorobenzenes; 1,2,4-trichlorobenzene; tetrachlorobenzene; pentachlorobenzene; hexachlorobenzene; toluene; naphthalene
EPA Hazardous Waste Number 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; dichlorobenzenes; 1,2,4-trichlorobenzene; tetrachlorobenzene; pentachlorobenzene; hexachlorobenzene; toluene; naphthalene
EPA Hazardous Waste Number F026
Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans
EPA Hazardous Waste Number 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
EPA Hazardous Waste Number 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
EPA Hazardous Waste Number 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
EPA Hazardous Waste Number F034
Benz(a)anthracene; benzo(k)fluoranthene; benzo(a)pyrene; dibenz(a,h)anthracene; indeno(1,2,3-cd)pyrene; naphthalene; arsenic; chromium
EPA Hazardous Waste Number F035
Arsenic; chromium; lead

Table 6. Table of Constituents that Serve as a Basis for Listing Hazardous Waste
EPA Hazardous Waste Number F037
Benzene; benzo(a)pyrene; chrysene; lead; chromium
EPA Hazardous Waste Number F038
Benzene; benzo(a)pyrene; chrysene; lead; chromium
EPA Hazardous Waste Number F039
All constituents for which treatment standards are specified for multi-source leachate (wastewaters and nonwastewaters) under LAC 33:V.2299, Table 2
EPA Hazardous Waste Number K001
Pentachlorophenol; phenol; 2-chlorophenol; p-chloro-m-cresol; 2,4-dimethylphenol; 2,4-dinitrophenol; trichlorophenols; tetrachlorophenols; 2,4-dinitrophenol; creosote; chrysene; naphthalene; fluoranthene; benzo(b)fluoranthene; benzo(a)pyrene; indeno(1,2,3-cd)pyrene; benz(a)anthracene; dibenz(a)anthracene; acenaphthalene
EPA Hazardous Waste Number K002
Hexavalent chromium; lead
EPA Hazardous Waste Number K003
Hexavalent chromium; lead
EPA Hazardous Waste Number K004
Hexavalent chromium
EPA Hazardous Waste Number K005
Hexavalent chromium; lead
EPA Hazardous Waste Number K006
Hexavalent chromium
EPA Hazardous Waste Number K007
Cyanide (complexed); hexavalent chromium
EPA Hazardous Waste Number K008
Hexavalent chromium
EPA Hazardous Waste Number K009
Chloroform; formaldehyde; methylene chloride; methyl chloride; paraldehyde; formic acid
EPA Hazardous Waste Number K010
Chloroform; formaldehyde; methylene chloride; methyl chloride; paraldehyde; formic acid; chloroacetaldehyde
EPA Hazardous Waste Number K011
Acrylonitrile; acetonitrile; hydrocyanic acid
EPA Hazardous Waste Number K013
Hydrocyanic acid; acrylonitrile; acetonitrile
EPA Hazardous Waste Number K014
Acetonitrile; acrylamide
EPA Hazardous Waste Number K015
Benzyl chloride; chlorobenzene; toluene; benzotrichloride
EPA Hazardous Waste Number K016
Hexachlorobenzene; hexachlorobutadiene; carbon tetrachloride; hexachloroethane; perchloroethylene
EPA Hazardous Waste Number K017
Epichlorohydrin; chloroethers [bis(chloromethyl) ether and bis(2-chloroethyl) ether]; trichloropropane; dichloropropanols
EPA Hazardous Waste Number K018
1,2-dichloroethane; trichloroethylene; hexachlorobutadiene; hexachlorobenzene
EPA Hazardous Waste Number 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
EPA Hazardous Waste Number 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
EPA Hazardous Waste Number K021
Antimony; carbon tetrachloride; chloroform
EPA Hazardous Waste Number K022
Phenol; tars (polycyclic aromatic hydrocarbons)
EPA Hazardous Waste Number K023
Phthalic anhydride; maleic anhydride
EPA Hazardous Waste Number K024
Phthalic anhydride; 1,4-naphthoquinone
EPA Hazardous Waste Number K025
Meta-dinitrobenzene; 2,4-dinitrotoluene
EPA Hazardous Waste Number K026
Paraldehyde; pyridines; 2-picoline
EPA Hazardous Waste Number K027
Toluene diisocyanate; toluene-2,4-diamine
EPA Hazardous Waste Number K028
1,1,1-trichloroethane; vinyl chloride
EPA Hazardous Waste Number K029
1,2-dichloroethane; 1,1,1-trichloroethane; vinyl chloride; vinylidene chloride; chloroform

Table 6. Table of Constituents that Serve as a Basis for Listing Hazardous Waste
EPA Hazardous Waste Number K030
Hexachlorobenzene; hexachlorobutadiene; hexachloroethane; 1,1,1,2-tetrachloroethane; 1,1,2,2-tetrachloroethane; ethylene dichloride
EPA Hazardous Waste Number K031
Arsenic
EPA Hazardous Waste Number K032
Hexachlorocyclopentadiene
EPA Hazardous Waste Number K033
Hexachlorocyclopentadiene
EPA Hazardous Waste Number K034
Hexachlorocyclopentadiene
EPA Hazardous Waste Number K035
Creosote; chrysene; naphthalene; fluoranthene; benzo(b)fluoranthene; benzo(a)pyrene; indeno(1,2,3-cd)pyrene; benzo(a)anthracene; dibenzo(a)anthracene; acenaphthalene
EPA Hazardous Waste Number K036
Toluene; phosphorodithioic and phosphorothioic acid esters
EPA Hazardous Waste Number K037
Toluene; phosphorodithioic and phosphorothioic acid esters
EPA Hazardous Waste Number K038
Phorate; formaldehyde; phosphorodithioic and phosphorothioic acid esters
EPA Hazardous Waste Number K039
Phosphorodithioic and phosphorothioic acid esters
EPA Hazardous Waste Number K040
Phorate; formaldehyde; phosphorodithioic and phosphorothioic acid esters
EPA Hazardous Waste Number K041
Toxaphene
EPA Hazardous Waste Number K042
Hexachlorobenzene; ortho-dichlorobenzene
EPA Hazardous Waste Number K043
2,4-dichlorophenol; 2,6-dichlorophenol; 2,4,6-trichlorophenol
EPA Hazardous Waste Number K044
N.A.
EPA Hazardous Waste Number K045
N.A.
EPA Hazardous Waste Number K046
Lead
EPA Hazardous Waste Number K047
N.A.
EPA Hazardous Waste Number K048
Hexavalent chromium; lead
EPA Hazardous Waste Number K049
Hexavalent chromium; lead
EPA Hazardous Waste Number K050
Hexavalent chromium
EPA Hazardous Waste Number K051
Hexavalent chromium; lead
EPA Hazardous Waste Number K052
Lead
EPA Hazardous Waste Number K060
Cyanide; naphthalene; phenolic compounds; arsenic
EPA Hazardous Waste Number K061
Hexavalent chromium; lead; cadmium
EPA Hazardous Waste Number K062
Hexavalent chromium; lead
EPA Hazardous Waste Number K064
Lead; cadmium
EPA Hazardous Waste Number K065
Do
EPA Hazardous Waste Number K066
Do
EPA Hazardous Waste Number K069
Hexavalent chromium; lead; cadmium
EPA Hazardous Waste Number K071
Mercury
EPA Hazardous Waste Number K073
Chloroform; carbon tetrachloride; hexachloroethane; trichloroethane; tetrachloroethylene; dichloroethylene; 1,1,2,2-tetrachloroethane

Table 6. Table of Constituents that Serve as a Basis for Listing Hazardous Waste
EPA Hazardous Waste Number K083
Aniline; diphenylamine; nitrobenzene; phenylenediamine
EPA Hazardous Waste Number K084
Arsenic
EPA Hazardous Waste Number K085
Benzene; dichlorobenzenes; trichlorobenzenes; tetrachlorobenzenes; pentachlorobenzene; hexachlorobenzene; benzyl chloride
EPA Hazardous Waste Number K086
Lead; hexavalent chromium
EPA Hazardous Waste Number K087
Phenol; naphthalene
EPA Hazardous Waste Number K088
Cyanide (complexes)
EPA Hazardous Waste Number K090
Chromium
EPA Hazardous Waste Number K091
Do
EPA Hazardous Waste Number K093
Phthalic anhydride; maleic anhydride
EPA Hazardous Waste Number K094
Phthalic anhydride
EPA Hazardous Waste Number K095
1,1,2-trichloroethane; 1,1,1,2-tetrachloroethane; 1,1,2,2-tetrachloroethane
EPA Hazardous Waste Number K096
1,2-dichloroethane; 1,1,1-trichloroethane; 1,1,2-trichloroethane
EPA Hazardous Waste Number K097
Chlordane; heptachlor
EPA Hazardous Waste Number K098
Toxaphene
EPA Hazardous Waste Number K099
2,4-dichlorophenol; 2,4,6-trichlorophenol
EPA Hazardous Waste Number K100
Hexavalent chromium; lead; cadmium
EPA Hazardous Waste Number K101
Arsenic
EPA Hazardous Waste Number K102
Arsenic
EPA Hazardous Waste Number K103
Aniline; nitrobenzene; phenylenediamine
EPA Hazardous Waste Number K104
Aniline; benzene; diphenylamine; nitrobenzene; phenylenediamine
EPA Hazardous Waste Number K105
Benzene; monochlorobenzene; dichlorobenzenes; 2,4,6-trichlorophenol
EPA Hazardous Waste Number K106
Mercury
EPA Hazardous Waste Number K107
1,1-dimethylhydrazine (UDMH)
EPA Hazardous Waste Number K108
1,1-dimethylhydrazine (UDMH)
EPA Hazardous Waste Number K109
1,1-dimethylhydrazine (UDMH)
EPA Hazardous Waste Number K110
1,1-dimethylhydrazine (UDMH)
EPA Hazardous Waste Number K111
2,4-dinitrotoluene
EPA Hazardous Waste Number K112
2,4-toluenediamine; o-toluidine; p-toluidine; aniline
EPA Hazardous Waste Number K113
2,4-toluenediamine; o-toluidine; p-toluidine; aniline
EPA Hazardous Waste Number K114
2,4-toluenediamine; o-toluidine; p-toluidine
EPA Hazardous Waste Number K115
2,4-toluenediamine
EPA Hazardous Waste Number K116
Carbon tetrachloride; tetrachloroethylene; chloroform; phosgene
EPA Hazardous Waste Number K117
Ethylene dibromide

Table 6. Table of Constituents that Serve as a Basis for Listing Hazardous Waste
EPA Hazardous Waste Number K118
Ethylene dibromide
EPA Hazardous Waste Number K123
Ethylene thiourea
EPA Hazardous Waste Number K124
Ethylene thiourea
EPA Hazardous Waste Number K125
Ethylene thiourea
EPA Hazardous Waste Number K126
Ethylene thiourea
EPA Hazardous Waste Number K131
Dimethyl sulfate; methyl bromide
EPA Hazardous Waste Number K132
Methyl bromide
EPA Hazardous Waste Number K136
Ethylene dibromide
EPA Hazardous Waste Number K141
Benzene; benz(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(k)fluoranthene; dibenz(a,h)anthracene; indeno(1,2,3-cd)pyrene
EPA Hazardous Waste Number K142
Benzene; benz(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(k)fluoranthene; dibenz(a,h)anthracene; indeno(1,2,3-cd)pyrene
EPA Hazardous Waste Number K143
Benzene; benz(a)anthracene; benzo(b)fluoranthene; benzo(k)fluoranthene
EPA Hazardous Waste Number K144
Benzene; benz(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(k)fluoranthene; dibenz(a,h)anthracene
EPA Hazardous Waste Number K145
Benzene; benz(a)anthracene; benzo(a)pyrene; dibenz(a,h)anthracene; naphthalene
EPA Hazardous Waste Number K147
Benzene; benz(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(k)fluoranthene; dibenz(a,h)anthracene; indeno(1,2,3-cd)pyrene
EPA Hazardous Waste Number K148
Benz(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(k)fluoranthene; dibenz(a,h)anthracene; indeno(1,2,3-cd)pyrene
EPA Hazardous Waste Number K149
Benzotrichloride; benzyl chloride; chloroform; chloromethane; chlorobenzene; 1,4-dichlorobenzene; hexachlorobenzene; pentachlorobenzene; 1,2,4,5-tetrachlorobenzene; toluene
EPA Hazardous Waste Number 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
EPA Hazardous Waste Number K151
Benzene; carbon tetrachloride; chloroform; hexachlorobenzene; pentachlorobenzene; toluene; 1,2,4,5-tetrachlorobenzene; tetrachloroethylene
EPA Hazardous Waste Number K156
Benomyl; carbaryl; carbendazim; carbofuran; carbosulfan; formaldehyde; methylene chloride; triethylamine
EPA Hazardous Waste Number K157
Carbon tetrachloride; formaldehyde; methyl chloride; methylene chloride; pyridine; triethylamine
EPA Hazardous Waste Number K158
Benomyl; carbendazim; carbofuran; carbosulfan; chloroform; methylene chloride
EPA Hazardous Waste Number K159
Benzene; butylate; EPTC; molinate; pebulate; vernolate
EPA Hazardous Waste Number K161
Antimony; arsenic; metam-sodium; ziram
EPA Hazardous Waste Number K169
Benzene
EPA Hazardous Waste Number K170
Benzo(a)pyrene; dibenz(a,h)anthracene; benz(a)anthracene; benzo(b)fluoranthene; benzo(k)fluoranthene; 3-methylcholanthrene; 7,12-dimethylbenz(a)anthracene
EPA Hazardous Waste Number K171
Benzene; arsenic
EPA Hazardous Waste Number K172
Benzene; arsenic
EPA Hazardous Waste Number K174
1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD); 1,2,3,4,6,7,8-heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF); 1,2,3,4,7,8,9-heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF); HxCDDs (all hexachlorodibenzo-p-dioxins); HxCDFs (all hexachlorodibenzofurans); PeCDDs (all pentachlorodibenzo-p-dioxins); OCDD (1,2,3,4,6,7,8,9-octachlorodibenzo-p-dioxin); OCDF (1,2,3,4,6,7,8,9-octachlorodibenzofuran); PeCDFs (all pentachlorodibenzofurans); TCDDs (all tetrachlorodibenzo-p-dioxins); TCDFs (all tetrachlorodibenzofurans)

Table 6. Table of Constituents that Serve as a Basis for Listing Hazardous Waste
EPA Hazardous Waste Number K175
Mercury
EPA Hazardous Waste Number K176
Arsenic; lead
EPA Hazardous Waste Number K177
Antimony
EPA Hazardous Waste Number K178
Thallium
EPA Hazardous Waste Number K181
Aniline; o-anisidine; 4-chloroaniline; p-cresidine; 2,4-dimethylaniline; 1,2-phenylenediamine; 1,3-phenylenediamine

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, LR 10:200 (March 1984), amended LR 10:496 (July 1984), LR 11:1139 (December 1985), LR 12:319 (May 1986), LR 13:84 (February 1987), LR 13:433 (August 1987), LR 14:426 (July 1988), LR 14:791 (November 1988), LR 15:182 (March 1989), LR 16:220 (March 1990), LR 16:614 (July 1990), LR 16:1057 (December 1990), LR 17:369 (April 1991), LR 17:478 (May 1991), LR 17:658 (July 1991), LR 18:723 (July 1992), LR 18:1256 (November 1992), LR 18:1375 (December 1992), LR 20:1000 (September 1994), LR 21:266 (March 1995), LR 21:944 (September 1995), LR 22:829, 840 (September 1996), amended by the Office of Waste Services, Hazardous Waste Division, LR 23:1522 (November 1997), LR 24:321 (February 1998), LR 24:686 (April 1998), LR 24:1754 (September 1998), LR 25:487 (March 1999), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 27:304 (March 2001), LR 27:715 (May 2001), LR 28:1009 (May 2002), LR 29:324 (March 2003), amended by the Office of Environmental Assessment, LR 31:1573 (July 2005), amended by the Office of the Secretary, Legal Affairs Division, LR 32:831 (May 2006), LR 33:1627 (August 2007), LR 34:635 (April 2008), LR 34:1020 (June 2008), LR 34:2392 (November 2008).

§4903. Category II Hazardous Wastes

A. Category II hazardous wastes are wastes designated as hazardous based on classical analytical procedures (see *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, EPA Publication SW-846, as incorporated by reference at LAC 33:V.110, for guidance on the procedures). There are four hazardous waste categories for wastes not otherwise characterized: ignitability, corrosivity, reactivity, and toxicity. LAC 33:V.Subpart 1 applies to those materials that exhibit the characteristics of ignitability, corrosivity, reactivity, and/or toxicity.

B. Ignitability. A solid waste that exhibits the characteristic of ignitability has the EPA Hazardous Waste Number D001. 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 a 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, as incorporated by reference in LAC 33:V.110, or by a Setaflash Closed Cup Tester, using the test method specified in ASTM Standard D 3278-78, as incorporated by reference in LAC 33:V.110.

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.

a. The term *compressed gas* designates any material or mixture having in the container an absolute pressure exceeding 40 p.s.i. at 70°F or, regardless of the pressure at 70°F, having an absolute pressure exceeding 104 p.s.i. at 130°F; or any liquid flammable material having a vapor pressure exceeding 40 p.s.i. absolute at 100°F as determined by ASTM Test D-323.

b. A compressed gas shall be characterized as ignitable if any one of the following occurs:

i. either a mixture of 13 percent or less (by volume) with air forms a flammable mixture or the flammable range with air is wider than 12 percent regardless of the lower limit. These limits shall be determined at atmospheric temperature and pressure. The method of sampling and test procedure shall be acceptable to the Bureau of Explosives and approved by the Director, Pipeline and Hazardous Materials Technology, U.S. Department of Transportation (see Note 2 to this Subsection);

ii. using the Bureau of Explosives' Flame Projection Apparatus (see Note 1 to this Subsection), the flame projects more than 18 inches beyond the ignition source with valve opened fully, or the flame flashes back and burns at the valve with any degree of valve opening;

iii. using the Bureau of Explosives' Open Drum Apparatus (see Note 1 to this Subsection), there is any significant propagation of flame away from the ignition source; or

iv. using the Bureau of Explosives' Closed Drum Apparatus (see Note 1 to this Subsection), there is any explosion of the vapor-air mixture in the drum.

4. It is an oxidizer. An oxidizer, for the purposes of these regulations, is a substance, such as a chlorate, permanganate, inorganic peroxide, or nitrate, that yields oxygen readily to stimulate the combustion of organic matter (see Note 4 to this Subsection). An organic compound containing the bivalent -O-O- structure and that may be considered a derivative of hydrogen peroxide where one or more of the hydrogen atoms have been replaced by organic radicals must be classed as an organic peroxide unless:

a. the material meets the definition of a Class A explosive or a Class B explosive, as defined in LAC 33:V.4903.D.8, in which case it must be classed as an explosive;

b. the material is forbidden to be offered for transportation according to 49 CFR 172.101 or 49 CFR 173.21;

c. it is determined that the predominant hazard of the material containing an organic peroxide is other than that of an organic peroxide; or

d. according to data on file with the Pipeline and Hazardous Materials Safety Administration in the U.S. Department of Transportation (see Note 3 to this Subsection), it has been determined that the material does not present a hazard in transportation.

[Note 1: A description of the Bureau of Explosives' Flame Projection Apparatus, Open Drum Apparatus, Closed Drum Apparatus, and method of tests may be procured from the Bureau of Explosives.]

[Note 2: As part of a U.S. Department of Transportation (DOT) reorganization, the Office of Hazardous Materials Technology (OHMT), which was the office listed in the 1980 publication of 49 CFR 173.300 for the purposes of approving sampling and test procedures for a flammable gas, ceased operations on February 20, 2005. OHMT programs have moved to the Pipeline and Hazardous Materials Safety Administration (PHMSA) in the DOT.]

[Note 3: As part of a U.S. Department of Transportation (DOT) reorganization, the Research and Special Programs Administration (RSPA), which was the office listed in the 1980 publication of 49 CFR 173.151a for the purposes of determining that a material does not present a hazard in transport, ceased operations on February 20, 2005. RSPA programs have moved to the Pipeline and Hazardous Materials Safety Administration (PHMSA) in the DOT.]

[Note 4: The DOT regulatory definition of an oxidizer was contained in §173.151 of 49 CFR, and the definition of an organic peroxide was contained in paragraph 173.151a. An organic peroxide is a type of oxidizer.]

C. Corrosivity. A solid waste that exhibits the characteristic of corrosivity has the EPA Hazardous Waste Number D002. 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 9040C in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, EPA Publication SW-846, as incorporated by reference in LAC 33:V.110.

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 Method 1110A in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, EPA Publication SW-846, and as incorporated by reference in LAC 33:V.110.

D. Reactivity. A solid waste that exhibits the characteristic of reactivity has the EPA Hazardous Waste Number D003. 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 2.0 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 LDPS Regulation LAC 33:V.Subpart 2.Chapter 101, or a Class A explosive as defined in LDPS Regulation LAC 33:V.Subpart 2.Chapter 101 or a Class B explosive as defined in LDPS Regulation LAC 33:V.Subpart 2.Chapter 101.

E. Toxicity Characteristic

1. A solid waste (except manufactured gas plant waste) exhibits the characteristic of toxicity if, using the Toxicity Characteristic Leaching Procedure, Method 1311 described in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, EPA Publication SW-846, as incorporated by reference at LAC 33:V.110, the extract from a representative sample of the waste contains any of the contaminants listed in Table 5 of this Section 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 purposes of this Section.

2. A solid waste that exhibits the characteristic of toxicity, but is not listed as a hazardous waste in LAC 33:V.4901, has the Hazardous Waste Number specified in Table 5 of this Section that corresponds to the toxic contaminant causing it to be hazardous.

Table 5. Maximum Concentrations of Contaminants for the Toxicity Characteristic

EPA HW Number[1]	Contaminant	CAS Number[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

Table 5. Maximum Concentrations of Contaminants for the Toxicity Characteristic

EPA HW Number[1]	Contaminant	CAS Number[2]	Regulatory Level (mg/L)
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-Dichlorethane	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	Pentachlorophenol	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.

F. A hazardous waste that is listed in LAC 33:V.4901 and/or is identified by one or more of the characteristics in this Section is assigned every EPA Hazardous Waste Number that is applicable as set forth in LAC 33:V.Chapter 49. These waste code numbers must be used in complying with all applicable notification, recordkeeping, and reporting requirements.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 10:496 (July 1984), LR 16:1057 (December 1990), LR 17:369 (April 1991), LR 18:723 (July 1992), LR 18:1256 (November 1992), LR 22:829 (September 1996), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 29:325 (March 2003), amended by the Office of the Secretary, Legal Affairs Division, LR 34:644 (April 2008), LR 34:1020 (June 2008).

§4907. Criteria for Listing Hazardous Waste

A. The administrative authority shall list a solid waste as a hazardous waste upon determining that the solid waste meets one of the following criteria.

1. It exhibits any of the characteristics of hazardous waste identified in LAC 33:V.4903.

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 or Acutely Hazardous Waste.)

3. It contains any of the toxic constituents listed in LAC 33:V.3105, Table 1, and after considering the following factors, the administrative authority 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:

a. the nature of the toxicity presented by the constituent;

b. the concentration of the constituent in the waste;

c. 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 LAC 33:V.4907.A.3.g;

d. the persistence of the constituent or any toxic degradation product of the constituent;

e. the potential for the constituent or any toxic degradation product of the constituent to degrade into nonharmful constituents and the rate of degradation;

f. the degree to which the constituent or any degradation product of the constituent bioaccumulates in ecosystems;

g. the plausible types of improper management to which the waste could be subjected;

h. the quantities of the waste generated at individual generation sites or on a regional or national basis;

i. 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;

j. action taken by other governmental agencies or regulatory programs based on the health or environmental hazard posed by the waste or waste constituent; and

k. such other factors as may be appropriate.

Substances will be listed in LAC 33:V.3105, Table 1 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 administrative authority may list classes or types of solid waste as hazardous waste if he or she 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 LAC 33:V.109.

C. The administrative authority shall use the criteria for listing specified in this Chapter to establish the exclusion limits referred to in LAC 33:V.108.C.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 17:478 (May 1991), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 27:715 (May 2001).

§4909. Comparable/Syngas Fuel Exclusion

A. Wastes that meet the following comparable/syngas fuel requirements are not solid wastes.

B. Comparable Fuel Specifications

1. Physical Specifications

a. Heating Value. The heating value must exceed 5,000 Btu/lbs. (11,500 J/g).

b. Viscosity. The viscosity must not exceed: 50 cs, as-fired.

2. Constituent Specifications. For compounds listed in Table 7 of this Section the specification levels and, where nondetect is the specification, minimum required detection limits are listed in Table 7 of this Section.

C. Synthesis Gas Fuel Specification. Synthesis gas fuel (i.e., syngas fuel) that is generated from hazardous waste must:

1. have a minimum Btu value of 100 Btu/Scf;

2. contain less than 1 ppmv of total halogen;

3. contain less than 300 ppmv of total nitrogen other than diatomic nitrogen (N_2);

4. contain less than 200 ppmv of hydrogen sulfide; and

5. contain less than 1 ppmv of each hazardous constituent in the target list of LAC 33:V.3105, Table 1.

Table 7: Detection and Detection Limit Values for Comparable Fuel Specification					
Chemical Name	**CAS Number**	**Composite Value (mg/kg)**	**Heating Value (Btu/lb)**	**Concentration Limit (mg/kg at required 10,000 Btu/lb)**	**Minimum Required Detection Limit (mg/kg)**
Total Nitrogen as N	NA	9000	18400	4900	
Total Halogens as Cl	NA	1000	18400	540	
Total Organic Halogens as Cl	NA			25 or individual halogenated organics listed below	
Polychlorinated biphenyls, total [Arocolors, total]	1336-36-3	Nondetect		Nondetect	1.4
Cyanide, total	57-12-5	Nondetect		Nondetect	1.0
Metals					
Antimony, total	7440-36-0	Nondetect		12	
Arsenic, total	7440-38-2	Nondetect		0.23	
Barium, total	7440-39-3	Nondetect		23	
Beryllium, total	7440-41-7	Nondetect		1.2	
Cadmium, total	7440-43-9		Nondetect		1.2
Chromium, total	7440-47-3	Nondetect		2.3	
Cobalt	7440-48-4	Nondetect		4.6	
Lead, total	7439-92-1	57	18100	31	
Manganese	7439-96-5	Nondetect		1.2	
Mercury, total	7439-97-6	Nondetect		0.25	
Nickel, total	7440-02-0	106	18400	58	
Selenium, total	7782-49-2	Nondetect		0.23	
Silver, total	7440-22-4	Nondetect		2.3	
Thallium, total	7440-28-0	Nondetect		23	
Hydrocarbons					
Benzo[a]anthracene	56-55-3	Nondetect		2400	
Benzene	71-43-2	8000	19600	4100	
Benzo[b]fluoranthene	205-99-2	Nondetect		2400	
Benzo[k]fluoranthene	207-08-9	Nondetect		2400	
Benzo[a]pyrene	50-32-8	Nondetect		2400	
Chrysene	218-01-9	Nondetect		2400	
Dibenzo[a,h]anthracene	53-70-3	Nondetect		2400	
7,12-Dimethylbenz[a]anthracene	57-97-6	Nondetect		2400	
Fluoranthene	206-44-0	Nondetect		2400	
Indeno(1,2,3-cd)pyrene	193-39-5	Nondetect		2400	
3-Methylcholanthrene	56-49-5	Nondetect		2400	
Naphthalene	91-20-3	6200	19400	3200	
Toluene	108-88-3	69000	19400	36000	
Oxygenates					
Acetophenone	98-86-2	Nondetect		2400	
Acrolein	107-02-8	Nondetect		39	
Allyl alcohol	107-18-6	Nondetect		30	
Bis(2-ethylhexyl)phthalate [Di-2-ethylhexyl phthalate]	117-81-7	Nondetect		2400	
Butyl benzyl phthalate	85-68-7	Nondetect		2400	
o-Cresol [2-Methyl phenol]	95-48-7	Nondetect		2400	
m-Cresol [3-Methyl phenol]	108-39-4	Nondetect		2400	
p-Cresol [4-Methyl phenol]	106-44-5	Nondetect		2400	
Di-n-butyl phthalate	84-74-2	Nondetect		2400	
Diethyl phthalate	84-66-2	Nondetect		2400	
2,4-Dimethylphenol	105-67-9	Nondetect		2400	
Dimethyl phthalate	131-11-3	Nondetect		2400	
Di-n-octyl phthalate	117-84-0	Nondetect		2400	
Endothall	145-73-3	Nondetect		100	
Ethyl methacrylate	97-63-2	Nondetect		39	
2-Ethoxyethanol [Ethylene glycol monoethyl ether]	110-80-5	Nondetect		100	
Isobutyl alcohol	78-83-1	Nondetect		39	
Isosafrole	120-58-1	Nondetect		2400	
Methyl ethyl ketone [2-Butanone]	78-93-3	Nondetect		39	
Methyl methacrylate	80-62-6	Nondetect		39	
1,4-Naphthoquinone	130-15-4	Nondetect		2400	
Phenol	108-95-2	Nondetect		2400	
Propargyl alcohol [2-Propyn-l-ol]	107-19-7	Nondetect		30	
Safrole	94-59-7	Nondetect		2400	

Table 7: Detection and Detection Limit Values for Comparable Fuel Specification					
Chemical Name	**CAS Number**	**Composite Value (mg/kg)**	**Heating Value (Btu/lb)**	**Concentration Limit (mg/kg at required 10,000 Btu/lb)**	**Minimum Required Detection Limit (mg/kg)**
Sulfonated Organics					
Carbon disulfide	75-15-0	Nondetect		Nondetect	39
Disulfoton	298-04-4	Nondetect		Nondetect	2400
Ethyl methanesulfonate	62-50-0	Nondetect		Nondetect	2400
Methyl methanesulfonate	66-27-3	Nondetect		Nondetect	2400
Phorate	298-02-2	Nondetect		Nondetect	2400
1,3-Propane sultone	1120-71-4	Nondetect		Nondetect	100
Tetraethyldithiopyrophosphate [Sulfotepp]	3689-24-5	Nondetect		Nondetect	2400
Thiophenol [Benzenethiol]	108-98-5	Nondetect		Nondetect	30
O,O,O-Triethyl phosphorothioate	126-68-1	Nondetect		Nondetect	2400
Nitrogenated Organics					
Acetonitrile [Methyl cyanide]	75-05-8	Nondetect		Nondetect	39
2-Acetylaminofluorene [2-AAF]	53-96-3	Nondetect		Nondetect	2400
Acrylonitrile	107-13-1	Nondetect		Nondetect	39
4-Aminobiphenyl	92-67-1	Nondetect		Nondetect	2400
4-Aminopyridine	504-24-5	Nondetect		Nondetect	100
Aniline	62-53-3	Nondetect		Nondetect	2400
Benzidine	92-87-5	Nondetect		Nondetect	2400
Dibenz[a,j]acridine	224-42-0	Nondetect		Nondetect	2400
O,O-Diethyl O-pyrazinyl phosphoro-thioate [Thionazin]	297-97-2	Nondetect		Nondetect	2400
Dimethoate	60-51-5	Nondetect		Nondetect	2400
p-(Dimethylamino)azobenzene [4-Dimethylaminoazobenzene]	60-11-7	Nondetect		Nondetect	2400
3,3'-Dimethylbenzidine	119-93-7	Nondetect		Nondetect	2400
α,α-Dimethylphenethylamine	122-09-8	Nondetect		Nondetect	2400
3,3'-Dimethoxybenzidine	119-90-4	Nondetect		Nondetect	100
1,3-Dinitrobenzene [m-Dinitrobenzene]	99-65-0	Nondetect		Nondetect	2400
4,6-Dinitro-o-cresol	534-52-1	Nondetect		Nondetect	2400
2,4-Dinitrophenol	51-28-5	Nondetect		Nondetect	2400
2,4-Dinitrotoluene	121-14-2	Nondetect		Nondetect	2400
2,6-Dinitrotoluene	606-20-2	Nondetect		Nondetect	2400
Dinoseb [2-sec-Butyl-4,6-dinitrophenol]	88-85-7	Nondetect		Nondetect	2400
Diphenylamine	122-39-4	Nondetect		Nondetect	2400
Ethyl carbamate [Urethane]	51-79-6	Nondetect		Nondetect	100
Ethylenethiourea (2-Imidazolidinethione)	96-45-7	Nondetect		Nondetect	110
Famphur	52-85-7	Nondetect		Nondetect	2400
Methacrylonitrile	126-98-7	Nondetect		Nondetect	39
Methapyrilene	91-80-5	Nondetect		Nondetect	2400
Methomyl	16752-77-5	Nondetect		Nondetect	57
2-Methyllactonitrile [Acetone cyanohydrin]	75-86-5	Nondetect		Nondetect	100
Methyl parathion	298-00-0	Nondetect		Nondetect	2400
MNNG (N-Metyl-N-nitroso-N'-nitroguanidine)	70-25-7	Nondetect		Nondetect	110
1-Naphthylamine, [α-Naphthylamine]	134-32-7	Nondetect		Nondetect	2400
2-Naphthylamine, [β-Naphthylamine]	91-59-8	Nondetect		Nondetect	2400
Nicotine	54-11-5	Nondetect		Nondetect	100
4-Nitroaniline, [p-Nitroaniline]	100-01-6	Nondetect		Nondetect	2400
Nitrobenzene	98-95-3	Nondetect		Nondetect	2400
p-Nitrophenol, [p-Nitrophenol]	100-02-7	Nondetect		Nondetect	2400
5-Nitro-o-toluidine	99-55-8	Nondetect		Nondetect	2400
N-Nitrosodi-n-butylamine	924-16-3	Nondetect		Nondetect	2400
N-Nitrosodiethylamine	55-18-5	Nondetect		Nondetect	2400
N-Nitrosodiphenylamine, [Diphenylnitrosamine]	86-30-6	Nondetect		Nondetect	2400
N-Nitroso-N-methylethylamine	10595-95-6	Nondetect		Nondetect	2400
N-Nitrosomorpholine	59-89-2	Nondetect		Nondetect	2400
N-Nitrosopiperidine	100-75-4	Nondetect		Nondetect	2400
N-Nitrosopyrrolidine	930-55-2	Nondetect		Nondetect	2400
2-Nitropropane	79-46-9	Nondetect		Nondetect	30
Parathion	56-38-2	Nondetect		Nondetect	2400
Phenacetin	62-44-2	Nondetect		Nondetect	2400
1,4-Phenylenediamine, [p-Phenylenediamine]	106-50-3	Nondetect		Nondetect	2400

Table 7: Detection and Detection Limit Values for Comparable Fuel Specification					
Chemical Name	**CAS Number**	**Composite Value (mg/kg)**	**Heating Value (Btu/lb)**	**Concentration Limit (mg/kg at required 10,000 Btu/lb)**	**Minimum Required Detection Limit (mg/kg)**
N-Phenylthiourea	103-85-5	Nondetect		Nondetect	57
2-Picoline [alpha-Picoline]	109-06-8	Nondetect		Nondetect	2400
Propylthioracil [6-Propyl-2-thiouracil]	51-52-5	Nondetect		Nondetect	100
Pyridine	110-86-1	Nondetect		Nondetect	2400
Strychnine	57-24-9	Nondetect		Nondetect	100
Thioacetamide	62-55-5	Nondetect		Nondetect	57
Thiofanox	39196-18-4	Nondetect		Nondetect	100
Thiourea	62-56-6	Nondetect		Nondetect	57
Toluene-2,4-diamine [2,4-Diaminotoluene]	95-80-7	Nondetect		Nondetect	57
Toluene-2,6-diamine [2,6-Diaminotoluene]	823-40-5	Nondetect		Nondetect	57
o-Toluidine	95-53-4	Nondetect		Nondetect	2400
p-Toluidine	106-49-0	Nondetect		Nondetect	100
1,3,5-Trinitrobenzene, [sym-Trinitrobenzene]	99-35-4	Nondetect		Nondetect	2400
Halogenated Organics					
Allyl chloride	107-05-1	Nondetect		Nondetect	39
Aramite	140-57-8	Nondetect		Nondetect	2400
Benzal chloride [Dichloromethyl benzene]	98-87-3	Nondetect		Nondetect	100
Benzyl chloride	100-44-77	Nondetect		Nondetect	100
Bis(2-chloroethyl)ether [Dichloroethyl ether]	111-44-4	Nondetect		Nondetect	2400
Bromoform [Tribromomethane]	75-25-2	Nondetect		Nondetect	39
Bromomethane [Methyl bromide]	74-83-9	Nondetect		Nondetect	39
4-Bromophenyl phenyl ether [p-Bromo diphenyl ether]	101-55-3	Nondetect		Nondetect	2400
Carbon tetrachloride	56-23-5	Nondetect		Nondetect	39
Chlordane	57-74-9	Nondetect		Nondetect	14
p-Chloroaniline	106-47-8	Nondetect		Nondetect	2400
Chlorobenzene	108-90-7	Nondetect		Nondetect	39
Chlorobenzilate	510-15-6	Nondetect		Nondetect	2400
p-Chloro-m-cresol	59-50-7	Nondetect		Nondetect	2400
2-Chloroethyl vinyl ether	110-75-8	Nondetect		Nondetect	39
Chloroform	67-66-3	Nondetect		Nondetect	39
Chloromethane [Methyl chloride]	74-87-3	Nondetect		Nondetect	39
2-Chloronaphthalene [beta-Chloronaphthalene]	91-58-7	Nondetect		Nondetect	2400
2-Chlorophenol [o-Chlorophenol]	95-57-8	Nondetect		Nondetect	2400
Chloroprene [2-Chloro-1,3-butadiene]	1126-99-8	Nondetect		Nondetect	39
2,4-D [2,4-Dichlorophenoxyacetic acid]	94-75-7	Nondetect		Nondetect	7.0
Diallate	2303-16-4	Nondetect		Nondetect	2400
1,2-Dibromo-3-chloropropane	96-12-8	Nondetect		Nondetect	39
1,2-Dichlorobenzene [o-Dichlorobenzene]	95-50-1	Nondetect		Nondetect	2400
1,3-Dichlorobenzene [m-Dichlorobenzene]	541-73-1	Nondetect		Nondetect	2400
1,4-Dichlorobenzene [p-Dichlorobenzene]	106-46-7	Nondetect		Nondetect	2400
3,3'-Dichlorobenzidine	91-94-1	Nondetect		Nondetect	2400
Dichlorodifluoromethane [CFC-12]	75-71-8	Nondetect		Nondetect	39
1,2-Dichloroethane [Ethylene dichloride]	107-06-2	Nondetect		Nondetect	39
1,1-Dichloroethylene [Vinylidene chloride]	75-35-4	Nondetect		Nondetect	39
Dichloromethoxy ethane [Bis(2-chloroethoxy)methane]	111-91-1	Nondetect		Nondetect	2400
2,4-Dichlorophenol	120-83-2	Nondetect		Nondetect	2400
2,6-Dichlorophenol	87-65-0	Nondetect		Nondetect	2400
1,2-Dichloropropane [Propylene dichloride]	78-87-5	Nondetect		Nondetect	39
cis-1,3-Dichloropropylene	10061-01-5	Nondetect		Nondetect	39
trans-1,3-Dichloropropylene	10061-02-6	Nondetect		Nondetect	39
1,3-Dichloro-2-propanol	96-23-1	Nondetect		Nondetect	30
Endosulfan I	959-98-8	Nondetect		Nondetect	1.4
Endosulfan II	33213-65-9	Nondetect		Nondetect	1.4

Table 7: Detection and Detection Limit Values for Comparable Fuel Specification					
Chemical Name	**CAS Number**	**Composite Value (mg/kg)**	**Heating Value (Btu/lb)**	**Concentration Limit (mg/kg at required 10,000 Btu/lb)**	**Minimum Required Detection Limit (mg/kg)**
Endrin	72-20-8	Nondetect		Nondetect	1.4
Endrin aldehyde	7421-93-4	Nondetect		Nondetect	1.4
Endrin Ketone	53494-70-5	Nondetect		Nondetect	1.4
Epichlorohydrin [1-Chloro-2,3-epoxy propane]	106-89-8	Nondetect		Nondetect	30
Ethylidene dichloride [1,1-Dichloroethane]	75-34-3	Nondetect		Nondetect	39
2-Fluoroacetamide	640-19-7	Nondetect		Nondetect	100
Heptachlor	76-44-8	Nondetect		Nondetect	1.4
Heptachlor epoxide	1024-57-3	Nondetect		Nondetect	2.8
Hexachlorobenzene	118-74-1	Nondetect		Nondetect	2400
Hexachloro-1,3-butadiene [Hexachlorobutadiene]	87-68-3	Nondetect		Nondetect	2400
Hexachlorocyclopentadiene	77-47-4	Nondetect		Nondetect	2400
Hexachloroethane	67-72-1	Nondetect		Nondetect	2400
Hexachlorophene	70-30-4	Nondetect		Nondetect	59000
Hexachloropropene [Hexachloropropylene]	1888-71-7	Nondetect		Nondetect	2400
Isodrin	465-73-6	Nondetect		Nondetect	2400
Kepone [Chlordecone]	143-50-0	Nondetect		Nondetect	4700
Lindane [gamma-Hexachlorocyclohexane] [gamma-BHC]	58-89-9	Nondetect		Nondetect	1.4
Methylene chloride [Dichloromethane]	75-09-2	Nondetect		Nondetect	39
4,4'-methylene-bis(2-chloroaniline)	101-14-4	Nondetect		Nondetect	100
Methyl iodide [Iodomethane]	74-88-4	Nondetect		Nondetect	39
Pentachlorobenzene	608-93-5	Nondetect		Nondetect	2400
Pentachloroethane	76-01-7	Nondetect		Nondetect	39
Pentachloronitrobenzene [PCNB] [Quintobenzene] [Quintozene]	82-68-8	Nondetect		Nondetect	2400
Pentachlorophenol	87-86-5	Nondetect		Nondetect	2400
Pronamide	23950-58-5	Nondetect		Nondetect	2400
Silvex [2,4,5-Trichlorophenoxypropionic acid]	93-72-1	Nondetect		Nondetect	7.0
2,3,7,8-Tetrachlorodibenzo-p-dioxin [2,3,7,8-TCDD]	1746-01-6	Nondetect		Nondetect	30
1,2,4,5-Tetrachlorobenzene	95-94-3	Nondetect		Nondetect	2400
1,1,2,2-Tetrachloroethane	79-34-5	Nondetect		Nondetect	39
Tetrachloroethylene [Perchloroethylene]	127-18-4	Nondetect		Nondetect	39
2,3,4,6-Tetrachlorophenol	58-90-2	Nondetect		Nondetect	2400
1,2,4-Trichlorobenzene	120-82-1	Nondetect		Nondetect	2400
1,1,1-Trichloroethane [Methyl chloroform]	71-55-6	Nondetect		Nondetect	39
1,1,2-Trichloroethane [Vinyl trichloride]	79-00-5	Nondetect		Nondetect	39
Trichloroethylene	79-01-6	Nondetect		Nondetect	39
Trichlorofluoromethane [Trichlormonofluoromethane]	75-69-4	Nondetect		Nondetect	39
2,4,5-Trichlorophenol	95-95-4	Nondetect		Nondetect	2400
2,4,6-Trichlorophenol	88-06-02	Nondetect		Nondetect	2400
1,2,3-Trichloropropane	96-18-4	Nondetect		Nondetect	39
Vinyl Chloride	75-01-4	Nondetect		Nondetect	39
Notes: NA – Not Applicable					

D. Implementation. Waste that meets the comparable or syngas fuel specifications provided by Subsection B or C of this Section (these constituent levels must be achieved by the comparable fuel when generated, or as a result of treatment or blending, as provided in Paragraph D.3 or 4 of this Section) is excluded from the definition of solid waste provided in Paragraphs D.1-13 of this Section.

1. Notices. For purposes of this Section, the person claiming and qualifying for the exclusion is called the comparable/syngas fuel generator and the person burning the comparable/syngas fuel is called the comparable/syngas fuel burner. The person who generates the comparable fuel or syngas fuel must claim and certify to the exclusion.

a. State RCRA and CAA Authorized States or Regional RCRA and CAA Administrative Authority in Unauthorized States

i. The generator must submit a one-time notice to the regional or state RCRA and CAA administrative authority in whose jurisdiction the exclusion is being claimed and where the comparable/syngas fuel will be burned certifying compliance with the conditions of the exclusion and providing documentation as required by Clause D.1.a.iii of this Section.

ii. If the generator is a company that generates comparable/syngas fuel at more than one facility, the generator shall specify at which sites the comparable/syngas fuel will be generated.

iii. A comparable/syngas fuel generator's notification to the administrative authority must contain the following items:

(a). the name, address, and EPA ID number of the person/facility claiming the exclusion;

(b). the applicable EPA hazardous waste codes for the hazardous waste;

(c). the name and address of the units meeting the requirements of Paragraph D.2 of this Section that will burn the comparable/syngas fuel; and

(d). the following statement signed and submitted by the person claiming the exclusion or his authorized representative:

> "Under penalty of criminal and civil prosecution for making or submitting false statements, representations, or omissions, I certify that the requirements of LAC 33:V.4909 have been met for all waste identified in this notification. Copies of the records and information required at LAC 33:V.4909.D.10 are available at the comparable/syngas fuel generator's facility. Based on my inquiry of the individuals immediately responsible for obtaining the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

b. Public Notice. Prior to burning an excluded comparable/syngas fuel, the burner must publish in a major newspaper of general circulation local to the site where the fuel will be burned, a notice entitled "Notification of Burning a Comparable/Syngas Fuel Excluded under the Resource Conservation and Recovery Act" containing the following information:

i. the name, address, and EPA ID number of the generating facility;

ii. the name and address of the unit(s) that will burn the comparable/syngas fuel;

iii. a brief, general description of the manufacturing, treatment, or other process generating the comparable/syngas fuel;

iv. an estimate of the average and maximum monthly and annual quantity of the waste claimed to be excluded; and

v. the name and mailing address of the regional or state administrative authority to whom the claim was submitted.

2. Burning. The comparable/syngas fuel exclusion for fuels meeting the requirements of Subsection B or C and Paragraph D.1 of this Section applies only if the fuel is burned in the following units that also shall be subject to federal/state/local air emission requirements, including all applicable CAA MACT requirements:

a. *industrial furnaces* as defined in LAC 33:V.109;

b. *boilers*, as defined in LAC 33:V.109, that are further defined as follows:

i. industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes; or

ii. utility boilers used to produce electric power, steam, heated or cooled air, or other gases or fluids for sale; or

c. hazardous waste incinerators subject to regulation under LAC 33:V.Chapter 31 or Chapter 43.Subchapter N or applicable CAA MACT standards; or

d. gas turbines used to produce electric power, steam, heated or cooled air, or other gases or fluids for sale.

3. Blending to Meet the Viscosity Specification. A hazardous waste blended to meet the viscosity specification shall:

a. as generated and prior to any blending, manipulation, or processing meet the constituent and heating value specifications of Subparagraph B.1.a and Paragraph B.2 of this Section;

b. be blended at a facility that is subject to the applicable requirements of LAC 33:V.Chapters 11, 15, 17, 18, 19, 21, 23, 24, 25, 27, 28, 29, 30, 32, 33, 35, 37, and 43; and

c. not violate the dilution prohibition of Paragraph D.6 of this Section.

4. Treatment to Meet the Comparable Fuel Exclusion Specifications

a. A hazardous waste may be treated to meet the exclusion specifications of Paragraphs B.1 and 2 of this Section provided the treatment:

i. destroys or removes the constituent listed in the specification or raises the heating value by removing or destroying hazardous constituents or materials;

ii. is performed at a facility that is subject to the applicable requirements of LAC 33:V.Chapters 11, 15, 17, 18, 19, 21, 23, 24, 25, 27, 28, 29, 30, 32, 33, 35, 37, and 43; and

iii. does not violate the dilution prohibition of Paragraph D.6 of this Section.

b. Residuals resulting from the treatment of a hazardous waste listed in LAC 33:V.4901 to generate a comparable fuel remain a hazardous waste.

5. Generation of a Syngas Fuel

a. A syngas fuel can be generated from the processing of hazardous wastes to meet the exclusion specifications of Subsection C of this Section provided the processing:

i. destroys or removes the constituent listed in the specification or raises the heating value by removing or destroying constituents or materials;

ii. is performed at a facility that is subject to the applicable requirements of LAC 33:V.Chapters 11, 15, 17, 18, 19, 21, 23, 24, 25, 27, 28, 29, 30, 32, 33, 35, 37, and 43 or is an exempt recycling unit in accordance with LAC 33:V.4115; and

iii. does not violate the dilution prohibition of Paragraph D.6 of this Section.

b. Residuals resulting from the treatment of a hazardous waste listed in LAC 33:V.4901 to generate a syngas fuel remain a hazardous waste.

6. Dilution Prohibition for Comparable and Syngas Fuels. No generator, transporter, handler, or owner or operator of a treatment, storage, or disposal facility shall in any way dilute a hazardous waste to meet the exclusion specifications of Subparagraph B.1.a or Paragraph B.2 or Subsection C of this Section.

7. Waste Analysis Plans. The generator of a comparable/syngas fuel shall develop and follow a written waste analysis plan that describes the procedures for sampling and analysis of the hazardous waste to be excluded. The plan shall be followed and retained at the facility excluding the waste.

a. At a minimum, the plan must specify:

i. the parameters for which each hazardous waste will be analyzed and the rationale for the selection of those parameters;

ii. the test methods which will be used to test for these parameters;

iii. the sampling method which will be used to obtain a representative sample of the waste to be analyzed;

iv. 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

v. if process knowledge is used in the waste determination, any information prepared by the generator in making such determination.

b. The waste analysis plan shall also contain records of the following:

i. the dates and times waste samples were obtained, and the dates the samples were analyzed;

ii. the names and qualifications of the person(s) who obtained the samples;

iii. a description of the temporal and spatial locations of the samples;

iv. the name and address of the laboratory facility at which analyses of the samples were performed;

v. a description of the analytical methods used, including any cleanup and sample preparation methods;

vi. all quantitative limits achieved and all other quality control results for the analysis (including method blanks, duplicate analyses, matrix spikes, etc.), laboratory quality assurance data, and description of any deviations from analytical methods written in the plan or from any other activity written in the plan which occurred;

vii. all laboratory results demonstrating that the exclusion specifications have been met for the waste; and

viii. all laboratory documentation that support the analytical results, unless a contract between the claimant and the laboratory provides for the documentation to be maintained by the laboratory for the period specified in Paragraph D.11 of this Section and also provides for the availability of the documentation to the claimant upon request.

c. Syngas fuel generators shall submit for approval, prior to performing sampling, analysis, or any management of a syngas fuel as an excluded waste, a waste analysis plan containing the elements of Subparagraph D.7.a of this Section to the appropriate regulatory authority. The approval of waste analysis plans must be stated in writing and received by the facility prior to sampling and analysis to demonstrate the exclusion of a syngas. The approval of the waste analysis plan may contain such provisions and conditions as the regulatory authority deems appropriate.

8. Comparable Fuel Sampling and Analysis

a. General. For each waste for which an exclusion is claimed, the generator of the hazardous waste must test for all the constituents on LAC 33:V.3105, Table 1, except those that the generator determines, based on testing or knowledge, should not be present in the waste. The generator is required to document the basis of each determination that a constituent should not be present. The generator may not determine that any of the following categories of constituents should not be present:

i. a constituent that triggered the toxicity characteristic for the waste constituents that were the basis of the listing of the waste stream, or constituents for which there is a treatment standard for the waste code in LAC 33:V.2223;

ii. a constituent detected in previous analysis of the waste;

iii. constituents introduced into the process that generates the waste; or

iv. constituents that are by-products or side reactions to the process that generates the waste.

[NOTE: Any claim under Paragraph D.8 of this Section must be valid and accurate for all hazardous constituents; a determination not to test for a hazardous constituent will not shield a generator from liability should that constituent later be found in the waste above the exclusion specifications.]

b. For each waste for which the exclusion is claimed where the generator of the comparable/syngas fuel is not the original generator of the hazardous waste, the generator of the comparable/syngas fuel may not use process knowledge in accordance with Subparagraph D.8.a of this Section and must test to determine that all of the constituent specifications of Paragraph B.2 and Subsection C of this Section have been met.

c. The comparable/syngas fuel generator may use any reliable analytical method to demonstrate that no constituent of concern is present at concentrations above the specification levels. It is the responsibility of the generator to ensure that the sampling and analysis are unbiased, precise, and representative of the waste. For the waste to be eligible for exclusion, a generator must demonstrate that:

i. each constituent of concern is not present in the waste above the specification level at the 95 percent upper confidence limit around the mean; and

ii. the analysis could have detected the presence of the constituent at or below the specification level at the 95 percent upper confidence limit around the mean.

d. Nothing in this Section preempts, overrides, or otherwise negates the provision in LAC 33:V.1103 that requires any person who generates a solid waste to determine if that waste is a hazardous waste.

e. In an enforcement action, the burden of proof to establish conformance with the exclusion specification shall be on the generator claiming the exclusion.

f. The generator must conduct sampling and analysis in accordance with their waste analysis plan developed under Paragraph D.7 of this Section.

g. Syngas fuel and comparable fuel that have not been blended in order to meet the kinematic viscosity specifications shall be analyzed as generated.

h. If a comparable fuel is blended in order to meet the kinematic viscosity specifications, the generator shall:

i. analyze the fuel as generated to ensure that it meets the constituent and heating value specifications; and

ii. after blending, analyze the fuel again to ensure that the blended fuel continues to meet all comparable/syngas fuel specifications.

i. Excluded comparable/syngas fuel must be retested, at a minimum, annually and must be retested after a process change that could change the chemical or physical properties of the waste.

9. Speculative Accumulation. Any persons handling a comparable/syngas fuel are subject to the speculative accumulation test under LAC 33:V.109.*Solid Waste*.2.c.

10. Records. The generator must maintain records of the following information on-site:

a. all information required to be submitted to the implementing authority as part of the notification of the claim:

i. the owner/operator name, address, and EPA facility ID number of the person claiming the exclusion;

ii. the applicable EPA hazardous waste codes for each hazardous waste excluded as a fuel; and

iii. the certification signed by the person claiming the exclusion or his authorized representative;

b. a brief description of the process that generated the hazardous waste and process that generated the excluded fuel, if not the same;

c. an estimate of the average and maximum monthly and annual quantities of each waste claimed to be excluded;

d. documentation for any claim that a constituent is not present in the hazardous waste as required under Subparagraph D.8.a of this Section;

e. the results of all analyses and all detection limits achieved as required under Paragraph D.8 of this Section;

f. if the excluded waste was generated through treatment or blending, documentation as required under Paragraph D.3 or 4 of this Section;

g. if the waste is to be shipped off-site, a certification from the burner as required under Paragraph D.12 of this Section;

h. a waste analysis plan and the results of the sampling and analysis that includes the following:

i. the dates and times waste samples were obtained, and the dates the samples were analyzed;

ii. the names and qualifications of the person(s) who obtained the samples;

iii. a description of the temporal and spatial locations of the samples;

iv. the name and address of the laboratory facility at which analyses of the samples were performed;

v. a description of the analytical methods used, including any cleanup and sample preparation methods;

vi. all quantitative limits achieved and all other quality control results for the analysis (including method blanks, duplicate analyses, matrix spikes, etc.), laboratory quality assurance data, and description of any deviations from analytical methods written in the plan or from any other activity written in the plan which occurred;

vii. all laboratory analytical results demonstrating that the exclusion specifications have been met for the waste; and

viii. all laboratory documentation that support the analytical results, unless a contract between the claimant and the laboratory provides for the documentation to be maintained by the laboratory for the period specified in Paragraph D.11 of this Section and also provides for the availability of the documentation to the claimant upon request; and

i. if the generator ships comparable/syngas fuel off-site for burning, the generator must retain for each shipment the following information on-site:

i. the name and address of the facility receiving the comparable/syngas fuel for burning;

ii. the quantity of comparable/syngas fuel shipped and delivered;

iii. the date of shipment or delivery;

iv. a cross-reference to the record of comparable/syngas fuel analysis or other information used to make the determination that the comparable/syngas fuel meets the specifications as required under Paragraph D.8 of this Section ; and

v. a one-time certification by the burner as required under Paragraph D.12 of this Section.

11. Records Retention. Records must be maintained for a period of three years. A generator must maintain a current waste analysis plan during that three-year period.

12. Burner Certification. Prior to submitting a notification to the state and regional administrative authority, a comparable/syngas fuel generator who intends to ship the fuel off-site for burning must obtain a one-time written, signed statement from the burner:

a. certifying that the comparable/syngas fuel will only be burned in an industrial furnace or boiler, utility boiler, or hazardous waste incinerator, as required under Paragraph D.2 of this Section;

b. identifying the name and address of the units that will burn the comparable/syngas fuel; and

c. certifying that the state in which the burner is located is authorized to exclude wastes as comparable/syngas fuel under the provisions of this Section.

13. Ineligible Waste Codes. Wastes that are listed because of presence of dioxins or furans, as set out in LAC 33:V.4901.G, Table 6, are not eligible for this exclusion, and any fuel produced from or otherwise containing these wastes remains a hazardous waste subject to full RCRA hazardous waste management requirements.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous Waste Division, LR 25:489 (March 1999), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 27:305 (March 2001), LR 28:1010 (May 2002), amended by the Office of the Secretary, Legal Affairs Division, LR 34:644 (April 2008), LR 34:1021 (June 2008).

§4911. Conditional Exclusion for Used, Broken Cathode Ray Tubes (CRTs) Undergoing Recycling

A. Prior to processing, broken CRTs are not solid wastes if they are destined for recycling and if they meet the following requirements.

1. Storage. The broken CRTs shall be either:

a. stored in a building with a roof, floor, and walls; or

b. placed in a container (i.e., a package or a vehicle) that is constructed, filled, and closed to minimize identifiable releases to the environment of CRT glass (including fine solid materials).

2. Labeling. Each container in which used, broken CRT material is contained shall be labeled or marked clearly with one of the following phrases: "Used Cathode Ray Tube(s)—Contains Leaded Glass" or “Leaded Glass from Televisions or Computers.” It shall also be labeled: "Do Not Mix with Other Glass Materials."

3. Transportation. The used, broken CRTs shall be transported in a container meeting the requirements of Subparagraph A.1.b and Paragraph A.2 of this Section.

4. Speculative Accumulation and Use Constituting Disposal. The used, broken CRTs are subject to the limitations on speculative accumulation as defined in LAC 33:V.109. If they are used in a manner constituting disposal, they must comply with the applicable requirements of LAC 33:V.4139 and 4141 instead of the requirements of this Section.

5. Exports. In addition to the applicable conditions specified in Paragraphs A.1-4 of this Section, exports of used, broken CRTs must comply with 40 CFR 261.39(a)(5).

B. Requirements for Processing of Used, Broken CRTs. Used, broken CRTs undergoing *CRT processing* as defined in LAC 33:V.109 are not solid wastes if they meet the following requirements.

1. Storage. Used, broken CRTs undergoing processing are subject to the requirements of Paragraphs A.1, 2, and 4 of this Section.

2. Processing. All CRTs shall be processed within a building with a roof, floor, and walls. No activities may be performed that use temperatures high enough to volatilize lead from CRTs.

C. Processed CRT Glass Sent to CRT Glass Making or Lead Smelting. Glass removed from used CRTs that is destined for recycling at a CRT glass manufacturer or a lead smelter after processing is not a solid waste unless it is speculatively accumulated as defined in LAC 33:V.109. Imported, processed glass from CRTs is subject to these requirements as soon as it enters this state.

D. Processed CRT Glass Sent to Other Types of Recycling, except for Use Constituting Disposal. Glass removed from CRTs that is destined for other types of recycling after processing (except use constituting disposal) is not a solid waste if it meets the requirements of Paragraphs A.1-4 of this Section. Imported, processed glass removed from CRTs is subject to these requirements as soon as it enters this state.

E. Use Constituting Disposal. Processed glass removed from CRTs that is used in a manner constituting disposal shall comply with the requirements of Paragraphs A.1-4 of this Section and the applicable requirements of LAC 33:V.4139. Imported, processed glass from CRTs is subject to these requirements as soon as it enters this state.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq. and in particular R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of the Secretary, Legal Affairs Division, LR 31:3122 (December 2005), amended LR 34:645 (April 2008).

§4913. Conditional Exclusion for Used, Intact Cathode Ray Tubes (CRTs) Exported for Recycling

A. Used, intact CRTs exported for recycling are not solid wastes if they meet the notice and consent conditions of LAC 33:V.4911.A.5, and if they are not speculatively accumulated as defined in LAC 33:V.109.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq. and in particular R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of the Secretary, Legal Affairs Division, LR 34:645 (April 2008).

§4915. Notification and Recordkeeping for Used, Intact Cathode Ray Tubes (CRTs) Exported for Reuse

A. Persons who export used, intact CRTs for reuse must send a one-time notification to the EPA's Regional Administrator. The notification must include a statement that the notifier plans to export used, intact CRTs for reuse; the notifier's name, address, and EPA ID number (if applicable); and the name and phone number of a contact person.

B. Persons who export used, intact CRTs for reuse must keep copies of normal business records, such as contracts, demonstrating that each shipment of exported CRTs will be reused. This documentation must be retained for a period of at least three years from the date the CRTs were exported.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq. and in particular R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of the Secretary, Legal Affairs Division, LR 34:645 (April 2008).

§4999. Appendices—Appendix A, B, C, D, E, and F

~~Appendix A. Reserved~~

~~Appendix B. Reserved~~

Appendix C. Extraction Procedure (EP) Toxicity Test Method and Structural Integrity Test

(Method 1310B)

[NOTE: The EP (Method 1310B) is published in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, EPA Publication SW-846, as incorporated by reference in LAC 33:V.110.]

Appendix D. 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 department to be representative of the waste.

Containerized Liquid Wastes—"COLIWASA."

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).

Liquid Waste in Pits, Ponds, Lagoons, and Similar Reservoirs—"Pond Sampler."

[NOTE: These protocols are described in *Samplers and Sampling Procedures for Hazardous Waste Streams*, EPA 600/2-80-018, January 1980.]

Appendix E. Wastes Excluded under LAC 33:V.105.M

A. Each facility granted a conditional exclusion must comply with the specific conditions for the waste exclusion as listed in Table 1 of this Appendix. Each facility granted a one-time exclusion is listed in Table 2 of this Appendix. Each waste exclusion listed in Table 1 shall begin with a waste description and include details for the following conditions:

1. testing, including organic and/or inorganic constituents, dioxins, furans, etc.;

2. waste holding and handling;

3. delisting levels, including organic and/or inorganic constituents, dioxins, furans, etc.; and

4. changes in operating conditions or feed streams.

B. Each facility granted a conditional exclusion must comply with the following general conditions pertaining to the waste exclusion listed in Table 1 of this Appendix.

1. Data Submittal

a. The facility must notify the department, in writing, at least two weeks prior to initiating the specific testing required for the waste exclusion.

b. All data obtained to fulfill the required testing must be submitted to the Office of Environmental Assessment within 60 days after each sampling event.

c. Records of operating conditions and analytical data from the required testing must be compiled, summarized, and maintained on-site for a minimum of three years. These records and data must be furnished upon request of the department and made available for inspection.

d. Failure to submit the required data within the specified time period or failure to maintain the required records on-site for the specified time shall be considered by the department, at its discretion, sufficient basis to revoke the exclusion.

e. 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.

> "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. In the event that any of this information is determined by the department, 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 been in effect, or to the extent directed by the department, and that the company will be liable for any actions taken in contravention of the company's environmental obligations under the Louisiana Environmental Quality Act premised upon the company's reliance on the void exclusion."

2. Reopener Language

a. If, at any time after disposal of the delisted waste, the facility possesses or is otherwise made aware of any environmental data (including, but not limited to, leachate data or groundwater monitoring data) or any other data relevant to the delisted waste indicating that any constituent identified in the delisting verification testing is at a level higher than the delisting level allowed by the department in granting the petition, the facility must report the data, in writing, to the department within 10 days of first possessing or being made aware of that data.

b. If the testing of the waste, as required by the waste exclusion, does not meet the specific delisting requirements of the waste exclusion, the facility must report the data, in writing, to the department within 10 days of first possessing or being made aware of that data.

c. Based on the information described herein and any other information received from any source, the department will make a preliminary determination as to whether the reported information requires that the department take action to protect human health or the environment. Further action may include suspending or revoking the exclusion, or such other appropriate response as may be necessary to protect human health and the environment.

d. If the department determines that the reported information does require departmental action, the department will notify the facility, in writing, of the action believed necessary to protect human health and the environment. The notice shall include a statement of the proposed action and a statement providing the facility with an opportunity to present information as to why the proposed action is not necessary. The facility shall have 10 days from the date of the department's notice to present such information.

e. Following the receipt of information from the facility, or if no such information is received within 10 days, the department will issue a final written determination describing the departmental actions that are necessary to protect human health or the environment.

f. Any required action described in the department's determination shall become effective immediately, unless the department provides otherwise.

3. Notification Requirements

a. The facility must provide a one-time written notification to any state regulatory agency in a state to which or through which the delisted waste will be transported, at least 60 days prior to the commencement of such activities.

b. Failure to provide notification will result in a violation of the delisting conditions and a possible revocation of the decision to delist.

Table 1 - Wastes Excluded
BFI Waste Systems of Louisiana LLC, Colonial Landfill, Sorrento, LA
The BFI Colonial Landfill is a nonhazardous solid waste landfill permitted to receive residential, commercial, and industrial nonhazardous solid waste. Landfill leachate, at a maximum annual generation rate of 36,000 cubic yards per year (approximately 7.2 million gallons per year), is generated as liquid leachate from the landfill. Effective August 6, 1998, the United States Environmental Protection Agency (USEPA) listed four waste streams as hazardous waste. The EPA Hazardous Waste Numbers of these wastes are: K169, K170, K171, and K172. BFI Colonial received these wastes as nonhazardous solid waste prior to August 6, 1998. For the purpose of this exclusion, landfill leachate resulting from petroleum refining operations includes EPA Hazardous Waste Numbers K169, K170, K171, and K172. The constituents of concern for these wastes are listed as arsenic; benzene; benzo(a)pyrene; dibenz(a,h)anthracene; benz(a)anthracene; benzo(b)fluoranthene; benzo(k)fluoranthene; 3-methylcholanthrene; and 7,12-dimethylbenz(a)anthracene (see LAC 33:V.4901). BFI Colonial must implement a testing and management 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 methods described in *Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, EPA Publication Number SW-846*, as incorporated by reference in LAC 33:V.110.
(1)(A). Inorganic Testing During the first 12 consecutive months of this exclusion, BFI Colonial must collect and analyze a monthly composite sample of the leachate. Composite samples must be composed of one grab sample from each of three different days during a representative week of operation. The monthly samples must be analyzed for the constituents listed in condition (3)(A) prior to disposal of the leachate. BFI Colonial must report to the department the unit operating conditions and analytical data (reported in milligrams per liter) for antimony, arsenic, barium, cadmium, chromium, cobalt, copper, lead, nickel, silver, thallium, tin, vanadium, and zinc, including quality control information. If the department and BFI Colonial concur that the analytical results obtained during the 12 monthly testing periods have been significantly below the delisting levels in condition (3)(A), then BFI Colonial may replace the inorganic testing required in condition (1)(A) with the inorganic testing required in condition (1)(B). Condition (1)(A) shall remain effective until this concurrence is reached.
(1)(B). Subsequent Inorganic Testing Following concurrence by the department, BFI Colonial may substitute the following testing conditions for those in condition (1)(A). BFI Colonial must continue to monitor operating conditions and analyze quarterly composite samples representative of normal operations. BFI Colonial must report to the department the unit operating conditions and analytical data (reported in milligrams per liter) for antimony, arsenic, barium, cadmium, chromium, cobalt, copper, lead, nickel, silver, thallium, tin, vanadium, and zinc, including quality control information. The samples must be composed of one grab sample from each of three different days during a representative week of operation, during the first month of each quarterly period. These quarterly representative composite samples must be analyzed for the constituents listed in condition (3)(A) prior to disposal of the leachate. If delisting levels for any inorganic constituents listed in condition (3)(A) are exceeded in any quarterly sample, BFI Colonial must re-institute testing as required in condition (1)(A). BFI Colonial may, at its discretion, analyze composite samples gathered more frequently to demonstrate that smaller batches of waste are nonhazardous.
(1)(C). Organic Testing During the first 12 consecutive months of this exclusion, BFI Colonial must collect and analyze monthly one grab sample of the leachate. These monthly representative grab samples must be analyzed for the constituents listed in condition (3)(B) prior to disposal of the leachate. BFI Colonial must report to the department the landfill operating conditions and analytical data (reported in milligrams per liter) for acenaphthene; anthracene; benzene; bis (2-ethylhexyl) phthalate; 2-butanone; m, p-cresol; o-cresol; diethyl phthalate; ethylbenzene; 2-hexanone; methyl isobutyl ketone; 2-methylnaphthalene; naphthalene; phenanthrene; phenol; toluene; and total xylenes; including quality control information. If the department and BFI Colonial concur that the analytical results obtained during the 12 monthly testing periods have been significantly below the delisting levels in condition (3)(B), then BFI Colonial may replace the organic testing required in condition (1)(C) with the organic testing required in condition (1)(D). Condition (1)(C) shall remain effective until this concurrence is reached.
(1)(D). Subsequent Organic Testing Following concurrence by the department, BFI Colonial may substitute the following testing conditions for those in condition (1)(C). BFI Colonial must continue to monitor operating conditions and analyze one quarterly grab sample representative of normal operations. BFI Colonial must report to the department the landfill operating conditions and analytical data (reported in milligrams per liter) for acenaphthene; anthracene; benzene; bis (2-ethylhexyl) phthalate; 2-butanone; m, p-cresol; o-cresol; diethyl phthalate; ethylbenzene; 2-hexanone; methyl isobutyl ketone; 2-methylnaphthalene; naphthalene; phenanthrene; phenol; toluene; and total xylenes; including quality control information. This quarterly representative grab sample must be collected during the first month of each quarterly

Table 1 - Wastes Excluded
BFI Waste Systems of Louisiana LLC, Colonial Landfill, Sorrento, LA
period and analyzed for the constituents listed in condition (3)(B) prior to disposal of the leachate. If delisting levels for any organic constituents listed in condition (3)(B) are exceeded in the quarterly sample, BFI Colonial must re-institute testing as required in condition (1)(C). BFI Colonial may, at its discretion, analyze grab samples gathered more frequently to demonstrate that smaller batches of waste are nonhazardous.
(2). Waste Holding and Handling BFI Colonial must treat the leachate as hazardous waste until the verification testing is completed, as specified in conditions (1)(A)-(1)(D), and the leachate has satisfied the delisting criteria, as specified in condition (3). If the levels of constituents in the samples of leachate are below all of the applicable levels set forth in condition (3), then the leachate thereby becomes nonhazardous solid waste and may be managed and disposed of in accordance with all applicable solid waste regulations. If hazardous constituent levels in any monthly composite or other representative sample equal or exceed any of the delisting levels set in condition (3), the leachate must be managed and disposed of in accordance with Subtitle C of RCRA until the leachate meets the delisting levels. BFI Colonial must repeat the analyses for the constituents listed in conditions (3)(A) and (3)(B) prior to disposal.
(3). Delisting Levels Concentrations in conditions (3)(A) and (3)(B) must be measured in the extract from the samples by the method specified in LAC 33:V.4903.E. All leachable concentrations in the extract must be less than the following levels (all units are milligrams per liter).
(3)(A). Inorganic Constituents (all units are milligrams per liter) Antimony—0.082; Arsenic—0.38; Barium—22.2; Cadmium—0.06; Chromium—0.50; Cobalt—27; Copper—0.50; Lead—0.50; Nickel—5.0; Silver—0.50; Thallium—0.34; Tin—225; Vanadium—8.38; Zinc—50.0.
(3)(B). Organic Constituents (all units are milligrams per liter) Acenaphthene—3.0; Anthracene—0.20; Benzene—0.018; Bis (2-ethylhexyl) phthalate—6.74; 2-Butanone—5.0; m, p-Cresol—7.88; o-Cresol—7.88; Diethyl phthalate—18.6; Ethylbenzene—8.4; 2-Hexanone—6.3; Methyl isobutyl ketone—5.0; 2-Methylnaphthalene—5.0; Naphthalene—0.96; Phenanthrene—1.0; Phenol—50.; Toluene—1.0; Xylenes (total)—1.0.
(4). Changes in Operating Conditions If BFI Colonial significantly changes the operating conditions specified in the petition, BFI Colonial must notify the department in writing. Following receipt of written approval by the department, BFI Colonial must re-institute the testing required in conditions (1)(A) and (1)(C) for a minimum of four consecutive months. BFI Colonial must report unit operating conditions and test data required by conditions (1)(A) and (1)(C), including quality control data, obtained during this period no later than 60 days after the changes take place. Following written notification by the department, BFI Colonial may replace testing conditions (1)(A) and (1)(C) with (1)(B) and (1)(D). BFI Colonial must fulfill all other requirements in condition (1).

Table 1 - Wastes Excluded
DuPont Dow Elastomers LLC, LaPlace, LA
Dynawave Scrubber Effluent is generated through the combustion of organic waste feed streams carrying the listed EPA Hazardous Waste Numbers F001, F002, F003, and F005. The specific hazardous waste streams being combusted and their EPA Hazardous Waste Numbers are: HCl Feed—D001, D002, and D007; Ponchartrain CD Heels—D001 and F005; Waste Organics—D001, D007, and F005; Catalyst Sludge Receiver (CSR) Sludge—D001, D007, and F005; Isom Purge—D001, D002, and F005; and Louisville CD Heels—D001, D007, D039, F001, F002, F003, and F005. DuPont Dow Elastomers must implement a sampling program that meets the following conditions for the exclusion to be valid.
(1). Testing Sample collections and analyses, including quality control (QC) procedures, must be performed according to methodologies described in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,* EPA Publication Number SW-846, as incorporated by reference in LAC 33:V.110.

Table 1 - Wastes Excluded
DuPont Dow Elastomers LLC, LaPlace, LA
(1)(A). Inorganic Testing During the first 12 months of this exclusion, DuPont Dow must collect and analyze a monthly grab sample of the Dynawave Scrubber Effluent. DuPont Dow must report to the department the unit operating conditions and analytical data (reported in milligrams per liter) for chromium, nickel, and zinc, including quality control information. If the department and DuPont Dow concur that the analytical results obtained during the 12 monthly testing periods have been significantly below the delisting levels in condition (3)(A), then DuPont Dow may replace the inorganic testing required in condition (1)(A) with the inorganic testing required in condition (1)(B). Condition (1)(A) shall remain effective until this concurrence is reached.
(1)(B). Subsequent Inorganic Testing Following concurrence by the department, DuPont Dow may substitute the following testing conditions for those in condition (1)(A). DuPont Dow must continue to monitor operating conditions and analyze samples representative of each year of operation. The samples must be grab samples from a randomly chosen operating day during the same month of operation as the previous year's sampling event. These annual representative grab samples must be analyzed for chromium, nickel, and zinc. DuPont Dow may, at its discretion, analyze any samples gathered more frequently to demonstrate that smaller batches of waste are nonhazardous.
(1)(C). Organic Testing During the first 30 days of this exclusion, DuPont Dow must collect a grab sample of the Dynawave Scrubber Effluent and analyze it for the organic constituents listed in condition (3)(B) below. After completing this initial sampling, DuPont Dow shall sample and analyze for the organic constituents listed in condition (3)(B) on an annual basis.
(1)(D). Dioxins and Furans Testing During the first 30 days of this exclusion, DuPont Dow must collect a grab sample of the Dynawave Scrubber Effluent and analyze it for the dioxins and furans in condition (3)(C) below. After completing this initial sampling, DuPont Dow shall sample and analyze for the dioxins and furans in condition (3)(C) once every three years to commence three years after the initial sampling.
(2). Waste Holding and Handling Consequent to this exclusion, the Dynawave Scrubber Effluent becomes, on generation, nonhazardous solid waste and may be managed and disposed of on the DuPont Dow plant site in any one of three permitted underground deep injection wells. With prior written authorization from the department, alternative disposal methods may be either a Louisiana Pollution Discharge Elimination System/National Pollution Discharge Elimination System (LPDES/NPDES) permitted outfall or a permitted commercial underground deep injection well. This newly delisted waste must always be managed and disposed of in accordance with all applicable solid waste regulations. If constituent levels in any representative sample equal or exceed any of the delisting levels set in condition (3), the Dynawave Scrubber Effluent must be immediately resampled and reanalyzed for the constituent(s) that exceeded the delisting levels. If the repeat analysis is less than the delisting levels, then DuPont Dow shall resume the normal sampling and analysis schedule as described in condition (1). If the results of the reanalysis equal or exceed any of the delisting levels, then within 45 days DuPont Dow shall submit a report to the department that outlines the probable causes for exceeding the constituent level and recommends corrective action measures. The department shall determine the necessary corrective action and shall notify DuPont Dow of the corrective action needed. DuPont Dow shall implement the corrective action and resume sampling and analysis for the constituent per the schedule in condition (1). Within 30 days after receiving written notification, DuPont Dow may appeal the corrective action determined by the department. During the full period of corrective action determination and implementation, the exclusion of the Dynawave Scrubber Effluent shall remain in force unless the department notifies DuPont Dow in writing of a temporary rescission of the exclusion. Normal sampling and analysis shall continue through this period as long as the exclusion remains in force.
(3). Delisting Levels The following delisting levels have been determined safe by taking into account health-based criteria and limits of detection. Concentrations in conditions (3)(A) and (3)(B) must be measured in the extract from the samples by the method specified in LAC 33:V. 4903.E. Concentrations in the extract must be less than the following levels (all units are milligrams per liter).
(3)(A). Inorganic Constituents Chromium—2.0; Nickel—2.0; Zinc—200.
(3)(B). Organic Constituents Acetone—80; Chlorobenzene—2.0; Chloroform—0.2; Chloroprene—14; Ethylbenzene—14; Methylene Chloride—0.1; Styrene—2.0; Toluene—20; Xylenes—200.
(3)(C). Dioxins and Furans The 15 congeners listed in Section 1.1 of EPA Publication Number SW-846 Method 8290—Monitor only.

Table 1 - Wastes Excluded DuPont Dow Elastomers LLC, LaPlace, LA
(4). Changes in Operating Conditions or Feed Streams If DuPont Dow either significantly changes the operating conditions specified in the petition or adds any previously unspecified feed streams and either of these actions would justify a Class 3 modification to its combustion permit, DuPont Dow must notify the department in writing. Following receipt of written acknowledgement by the department, DuPont Dow must collect a grab sample and analyze it for the full universe of constituents found in 40 CFR Part 264, Appendix IX—Groundwater Monitoring List (LAC 33:V.3325). If the results of the Appendix IX analyses identify no new hazardous constituents, then DuPont Dow must reinstitute the testing required in condition (1)(A) for a minimum of 12 monthly operating periods. During the full period described in this condition, the delisting of the Dynawave Scrubber Effluent shall remain in force unless a new hazardous constituent is identified or the waste volume exceeds 25,000 cubic yards per year; at this time the delisting petition shall be reopened. DuPont Dow may eliminate feeding any stream to the combustion unit at any time without affecting the delisting of the Dynawave Scrubber Effluent or the sampling schedule.

Table 1 – Wastes Excluded Lyondell Chemical Company, Lake Charles, LA
Incinerator direct contact cooling wastewater and fire suppression automatic sprinkler ("deluge") system wastewater are generated at a maximum annual generation rate of 800,000 cubic yards (162 million gallons) per year. Lyondell's wastestream includes the United States Environmental Protection Agency (USEPA) hazardous waste codes D001, D019, D021, D030, F002, F003, K027, K112-114, U037, U221, and U223. The constituents of concern for these waste codes are listed in LAC 33:V.4901. This exclusion applies only to incinerator direct contact cooling wastewater and fire suppression automatic sprinkler ("deluge") system wastewater at the Lake Charles, LA facility. The cooling wastewater effluent is currently being discharged after treatment under the facility's LPDES permit. After delisting, this effluent will continue to be discharged under the facility's LPDES permit.
(1). Testing Sample collection and analyses, including quality control (QC) procedures, must be performed according to methods described in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA Publication SW-846*, as incorporated by reference in LAC 33:V.110.
(1)(A). Inorganic Testing During the first 12 consecutive months of this exclusion, Lyondell must collect and analyze one monthly grab water sample from the fire water pond and one monthly grab water sample from the incinerator blowdown stream. These two monthly samples must be analyzed for the constituents listed in condition (3)(A) prior to disposal of the source water. Lyondell must report to the department the unit operating conditions and analytical data (reported in milligrams per liter), for arsenic, barium, chromium, lead, nickel, vanadium, and zinc, including quality control information. If the department and Lyondell concur that the analytical results obtained during the 12 monthly testing periods have been significantly below the delisting levels in condition (3)(A), Lyondell may replace the testing required in condition (1)(A) with the testing required in condition (1)(B).
(1)(B). Subsequent Inorganic Testing After concurrence by the department, Lyondell may substitute the following testing conditions for those in condition (1)(A). Lyondell must continue to analyze quarterly grab water samples from the fire water pond and the incinerator blowdown stream. Lyondell must report to the department the unit operating conditions and analytical data (reported in milligrams per liter), for arsenic, barium, chromium, lead, nickel, vanadium, and zinc, including quality control information. Grab water samples from the fire water pond and the incinerator blowdown stream must be taken during the first month of each quarterly period. These quarterly samples must be analyzed for the constituents listed in condition (3)(A) prior to disposal of the source water. If delisting levels for any constituents listed in condition (3)(A) are exceeded in any quarterly sample, Lyondell must re-institute testing as required in condition (1)(A).
(1)(C). Organic Testing During the first 12 consecutive months of this exclusion, Lyondell must collect and analyze one monthly grab water sample from the fire water pond and one monthly grab water sample from the incinerator blowdown stream. These two monthly samples must be analyzed for the constituents listed in condition (3)(B) prior to disposal of the source water. Lyondell must report to the department the unit operating conditions and analytical data (reported in milligrams per liter), for 2,4-dinitrotoluene, bromoform, chloroform, and hexachlorobenzene, including quality control information. If the department and Lyondell concur that the analytical results obtained during the 12 monthly testing periods have been significantly below the delisting levels in condition (3)(B), Lyondell may replace the testing required in condition (1)(C) with the testing required in condition (1)(D).
(1)(D). Subsequent Organic Testing After concurrence by the department, Lyondell may substitute the following testing conditions for those in condition (1)(C). Lyondell must continue to analyze quarterly grab water samples from the fire water pond and the incinerator blowdown stream. Lyondell must report to the department the unit operating

Table 1 – Wastes Excluded **Lyondell Chemical Company, Lake Charles, LA**
conditions and analytical data (reported in milligrams per liter), for 2,4-dinitrotoluene, bromoform, chloroform, and hexachlorobenzene, including quality control information. Grab water samples from the fire water pond and the incinerator blowdown stream must be taken during the first month of each quarterly period. These quarterly samples must be analyzed for the constituents listed in condition (3)(B) prior to disposal of the source water. If delisting levels for any constituents listed in condition (3)(B) are exceeded in any quarterly sample, Lyondell must re-institute testing as required in condition (1)(C).
(2). Waste Holding and Handling Lyondell must treat water in the fire water pond and the incinerator blowdown stream as hazardous wastes until the verification testing is completed, as specified in conditions (1)(A) - (1)(D), and the wastewater has satisfied the delisting criteria, as specified in condition (3). If the levels of constituents in the samples from the fire water pond and the incinerator blowdown stream are below all of the applicable levels set forth in condition (3), then the incinerator direct contact cooling wastewater and the fire suppression automatic sprinkler ("deluge") system wastewater thereby become nonhazardous. If hazardous constituent levels in any monthly grab sample equal or exceed any of the delisting levels set in condition (3), the wastewater must be managed and disposed of in accordance with Subtitle C of RCRA until the wastewater meets the delisting levels. Lyondell must repeat the analyses for the constituents listed in conditions (3)(A) and (3)(B) prior to disposal.
(3). Delisting Levels Concentrations in conditions (3)(A) and (3)(B) must be measured in the extract from the samples by the method specified in LAC 33:V.4903.E. All concentrations in the wastewater must be less than the following levels (all units are milligrams per liter).
(3)(A). Inorganic Constituents (all units are milligrams per liter) arsenic—0.5; barium—50.0; chromium—1.0; lead—1.0; nickel—10.0; vanadium—15; and zinc—200.
(3)(B). Organic Constituents (all units are milligrams per liter) 2,4-dinitroluene-—0.02; bromoform—10.0, chloroform—0.14; hexachlorobenzene—0.13.
(4). Changes in Operating Conditions If Lyondell significantly changes the operating conditions specified in the petition, Lyondell must notify the department in writing. Following receipt of written approval by the department, Lyondell must re-institute the testing required in conditions (1)(A) and (1)(C) for a minimum of four consecutive months. Lyondell must report unit operating conditions and test data required by conditions (1)(A) and (1)(C), including quality control data, obtained during this period no later than 60 days after the changes take place. Following written notification by the department, Lyondell may replace testing conditions (1)(A) and (1)(C) with (1)(B) and (1)(D). Lyondell must fulfill all other requirements in condition (1).

Table 1 - Wastes Excluded **Marathon Oil Co., Garyville, LA**
Residual solids are generated from the thermal desorption treatment of the following wastes: EPA Hazardous Waste Number K048, dissolved air flotation (DAF) float; K049, slop oil emulsion solids; K050, heat exchanger bundle cleaning sludge; K051, American Petroleum Institute (API) separator sludge; F037, primary oil/water/solids separation sludge; and F038, secondary emulsified oil/water/solids separation sludge. The constituents of concern for K048-K051 wastes are listed as hexavalent chromium and lead (see LAC 33:V. 4901). The constituents of concern for F037 and F038 wastes are listed as hexavalent chromium, lead, benzene, benzo(a)pyrene, and chrysene (see LAC 33:V.4901). 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 methodologies described in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, EPA Publication Number SW-846, as incorporated by reference in LAC 33:V.110. If the department judges the desorption 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) until and unless notified by the department in writing that testing in condition (1)(A) may be replaced by condition (1)(B), or that testing requirements may be reduced or terminated as described in conditions (1)(C) and (1)(D) to the extent directed by the department.
(1)(A). Initial Verification Testing During at least the first four weekly operating periods of full-scale operation of the thermal desorption unit, Marathon must monitor the operating conditions of the thermal desorption unit to maintain a minimum residual solids temperature throughout the high temperature unit of 870°F. The residual solids must be analyzed as weekly composites. The weekly composites must be composed of a minimum of two representative grab samples from each operating day during each weekly period of operation. The samples must be analyzed for the constituents listed in condition (3) prior to disposal of the residual solids. Marathon must report the operational and analytical test data, including quality control information, obtained during this initial period, no later than 90 days after initiating full-scale processing.

Table 1 - Wastes Excluded **Marathon Oil Co., Garyville, LA**
(1)(B). Subsequent Verification Testing Following notification of approval by the department, Marathon may substitute the following testing conditions for those in condition (1)(A). Marathon must continue to monitor operating conditions and analyze samples representative of each month of operation. The samples must be composed of eight representative samples from randomly chosen operating days during the four-week period of operation of each month. These monthly representative composite 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.
(1)(C). Termination of Monthly Organic Testing Marathon must continue to monitor unit operating conditions and perform testing as required under condition (1)(B), for the constituents listed in condition (3)(B), until the analyses submitted under condition (1)(B) show a minimum of three consecutive monthly representative samples with levels of constituents significantly below delisting levels listed in condition (3)(B). Following notification of approval by the department, Marathon may terminate monthly testing for the organic constituents found in condition (3)(B). Following termination of monthly testing for organic constituents, Marathon must test a representative composite sample, composited over a one-week time period, for all constituents listed in condition (3)(B) on a quarterly basis. If delisting levels for any organic constituents listed in condition (3)(B) are exceeded in the quarterly sample, Marathon must re-institute testing as required in condition (1)(B).
(1)(D). Termination of Monthly Inorganic Testing Marathon must continue to monitor unit operating conditions and perform testing as required under condition (1)(B), for the constituents listed in condition (3)(A), until the analyses submitted under condition (1)(B) show a minimum of three consecutive monthly representative samples with levels of constituents significantly below delisting levels listed in condition (3)(A). Following notification of approval by the department, Marathon may terminate monthly testing for the inorganic constituents found in condition (3)(A). Following termination of monthly testing for inorganic constituents, Marathon must test a representative composite sample, composited over a one-week time period, for all constituents listed in condition (3)(A) on a quarterly basis. If delisting levels for any inorganic constituents listed in condition (3)(A) are exceeded in the quarterly sample, Marathon must re-institute testing as required in condition (1)(B).
(2). Waste Holding and Handling Marathon must store as hazardous wastes all residual solids generated until each batch has completed verification testing, as specified in conditions (1)(A)-(1)(D), and has satisfied the delisting criteria, as specified in condition (3). If the levels of constituents in the samples of residual solids are below all of the applicable levels set forth in condition (3), then the residual solids thereby become nonhazardous solid wastes and may be managed and disposed of in accordance with all applicable solid waste regulations. If constituent levels in any weekly composite or other representative sample equal or exceed any of the delisting levels set in condition (3), the residual solids generated during the corresponding period must be retreated to meet the delisting levels or managed and disposed of in accordance with subtitle C of RCRA.
(3). Delisting Levels The following delisting levels have been determined safe by taking into account health-based criteria and limits of detection. Concentrations in conditions (3)(A) and (3)(B) must be measured in the extract from the samples by the method specified in LAC 33:V.4903.E. Concentrations in the extract must be less than the following levels (all units are milligrams per liter).
(3)(A). Inorganic Constituents Antimony—0.22; Arsenic—0.40; Barium—72; Beryllium—0.14; Cadmium—0.18; Chromium—3.6; Lead—0.54; Mercury—0.072; Nickel—3.6; Selenium—1.0; Silver—5.0; Vanadium—7.2.
(3)(B). Organic Constituents Acenapthene—72; Benzene—0.18; Benzo(a)anthracene—0.050; Benzo(a)pyrene—0.050; Benzo(b)fluoranthrene—0.050; Bis(2-ethylhexyl)phthalate—0.22; Chrysene—0.05; Ethylbenzene—25; Fluoranthrene—72; Fluorene—72; Naphthalene—36; Pyrene—72; Toluene—36.
(4). Changes in Operating Conditions After completing the initial verification test period in condition (1)(A), if Marathon significantly changes the operating conditions specified in the petition, Marathon must notify the department in writing. Following receipt of written approval by the department, Marathon must re-institute the testing required in condition (1)(A) for a minimum of four weekly operating periods. Marathon must report unit operating conditions 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 the department, Marathon may replace testing condition (1)(A) with (1)(B), or reduce or terminate testing requirements as described in conditions (1)(C) and (1)(D) to the extent directed by the department. Marathon must fulfill all other requirements in condition (1).

Table 1 - Wastes Excluded Marathon Oil Co., Garyville, LA
(4)(A). Processing Equipment Marathon may elect to change thermal desorption processing equipment based on operational performance and economic considerations. In the event that Marathon changes operating equipment, i.e., generic thermal desorption units, Marathon must re-institute processing and initiate testing required in condition (1)(A) for a minimum of four weekly operating periods. Marathon must report unit operating conditions and test data required in 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 the department, Marathon may replace testing condition (1)(A) with (1)(B), or reduce or terminate testing requirements as described in conditions (1)(C) and (1)(D) to the extent directed by the department. Marathon must fulfill all other requirements in condition (1).
(4)(B). Batch Processing Marathon may periodically elect to change operating conditions to accommodate batch processing of single-event waste generations. In the event that Marathon initiates batch processing and changes the operating conditions established under condition (1), Marathon must re-institute the testing required in condition (1)(A) during such batch processing events and monitor unit operating conditions and perform testing required by condition (1)(A), as appropriate. Following the completion of batch processing operations, Marathon must return to the operating conditions applicable prior to initiation of the batch processing and may return to the testing conditions that were applicable prior to the initiation of the batch processing activities.

Table 1 - Wastes Excluded Motiva Enterprises LLC, Norco, LA
Residual solids, at a maximum annual generation rate of 10,000 cubic yards per year (7,500 tons/year), are generated from the thermal desorption recycling of oil-bearing secondary materials resulting from petroleum processing operations, which are classified as newly generated EPA Hazardous Waste Number F037, petroleum refinery primary oil/water/solids separation sludge (effective February 8, 1999, per the updated definition promulgated on August 6, 1998, and the corrected definition dated June 8, 2000). For the purpose of this exclusion, oil-bearing hazardous secondary materials resulting from petroleum refining operations include EPA Hazardous Waste Numbers K048-K052, K169-K170, F037, and F038. The constituents of concern for F037 waste are listed as hexavalent chromium, lead, benzene, benzo(a)pyrene, and chrysene (see LAC 33:V.4901). Motiva must implement a testing and management 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 methodologies described in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, EPA Publication Number SW-846, as incorporated by reference in LAC 33:V.110.
(1)(A). Inorganic Testing During the first 12 months of this exclusion, Motiva must collect and analyze a monthly composite sample of the residual solids. Composite samples must be composed of a minimum of two representative grab samples from each operating day during a representative week of operation. The samples must be analyzed for the constituents listed in condition (3)(A) prior to disposal of the residual solids. Motiva must report to the department the unit operating conditions and analytical data (reported in milligrams per liter) for antimony, arsenic, barium, chromium, lead, mercury, nickel, selenium, silver, vanadium, and zinc, including quality control information. If the department and Motiva concur that the analytical results obtained during the 12 monthly testing periods have been significantly below the delisting levels in condition (3)(A), then Motiva may replace the inorganic testing required in condition (1)(A) with the inorganic testing required in condition (1)(B). Condition (1)(A) shall remain effective until this concurrence is reached.
(1)(B). Subsequent Inorganic Testing Following concurrence by the department, Motiva may substitute the following testing conditions for those in condition (1)(A). Motiva must continue to monitor operating conditions and analyze quarterly composite samples representative of normal operations. The samples must be composed of representative grab samples from each operating day during a representative week of operation, during the first month of each quarterly period. These quarterly representative composite samples must be analyzed for the constituents listed in condition (3)(A) prior to disposal of the residual solids. If delisting levels for any inorganic constituents listed in condition (3)(A) are exceeded in the quarterly sample, Motiva must re-institute testing as required in condition (1)(A). Motiva may, at its discretion, analyze composite samples gathered more frequently to demonstrate that smaller batches of waste are nonhazardous.
(1)(C). Organic Testing During the first 12 months of this exclusion, Motiva must collect and analyze two monthly grab samples of the residual solids. These two representative grab samples should be collected on different operating days during a representative week of operation. The samples must be analyzed for the constituents listed in condition (3)(B) prior to disposal of the residual solids. Motiva must report to the department the unit

Table 1 - Wastes Excluded
Motiva Enterprises LLC, Norco, LA
operating conditions and analytical data (reported in milligrams per liter) for anthracene, benzene, toluene, xylenes, carbon disulfide, chrysene, naphthalene, and pyrene, including quality control information. If the department and Motiva concur that the analytical results obtained during the 12 monthly testing periods have been significantly below the delisting levels in condition (3)(B), then Motiva may replace the organic testing required in condition (1)(C) with the organic testing required in condition (1)(D). Condition (1)(C) shall remain effective until this concurrence is reached.
(1)(D). Subsequent Organic Testing Following concurrence by the department, Motiva may substitute the following testing conditions for those in condition (1)(C). Motiva must continue to monitor operating conditions and analyze two annual grab samples representative of normal operations. The samples must be representative grab samples from different operating days during a representative week of operation, during the first month of each annual period. These annual representative grab samples must be analyzed for the constituents listed in condition (3)(B) prior to disposal of the residual solids. If delisting levels for any organic constituents listed in condition (3)(B) are exceeded in the annual sample, Motiva must re-institute testing as required in condition (1)(C). Motiva may, at its discretion, analyze grab samples gathered more frequently to demonstrate that smaller batches of waste are nonhazardous.
(2). Waste Holding and Handling Motiva must store as hazardous wastes all residual solids generated until each batch has completed verification testing, as specified in conditions (1)(A) - (1)(D), and has satisfied the delisting criteria, as specified in condition (3). If the levels of constituents in the samples of residual solids are below all of the applicable levels set forth in condition (3), then the residual solids thereby become nonhazardous solid wastes and may be managed and disposed of in accordance with all applicable solid waste regulations. If hazardous constituent levels in any monthly composite or other representative sample equal or exceed any of the delisting levels set in condition (3), the residual solids generated during the corresponding period must be retreated and/or stabilized as allowed below until the residual solids meet the delisting 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 Motiva may stabilize the material with Type 1 portland cement and/or hydrated lime, as demonstrated in the petition, to immobilize the metals. Following stabilization, Motiva must repeat analyses in condition (3)(A) prior to disposal.
(3). Delisting Levels Concentrations in conditions (3)(A) and (3)(B) must be measured in the extract from the samples by the method specified in LAC 33:V.4903.E. All leachable concentrations in the extract must be less than the following levels (all units are milligrams per liter).
(3)(A). Inorganic Constituents Antimony—0.50; Arsenic—0.50; Barium—50.0; Chromium—0.50; Lead—0.50; Mercury—0.05; Nickel—5.0; Selenium—1.0; Silver—0.5; Vanadium—1.6; Zinc—50.0.
(3)(B). Organic Constituents Anthracene—0.20; Benzene—0.10; Carbon disulfide—4.8; Chrysene—0.05; Naphthalene—0.05; Pyrene—0.05; Toluene—0.10; Xylenes—0.10.
(4). Changes in Operating Conditions If Motiva significantly changes the operating conditions specified in the petition, Motiva must notify the department in writing. Following receipt of written approval by the department, Motiva must re-institute the testing required in conditions (1)(A) and (1)(C) for a minimum of four months. Motiva must report unit operating conditions and test data required by conditions (1)(A) and (1)(C), including quality control data, obtained during this period no later than 60 days after the changes take place. Following written notification by the department, Motiva may replace testing conditions (1)(A) and (1)(C) with (1)(B) and (1)(D). Motiva must fulfill all other requirements in condition (1).
(4)(A). Processing Equipment Motiva may elect to change thermal desorption processing equipment based on operational performance and economic considerations. In the event that Motiva changes operating equipment, i.e., generic thermal desorption units, Motiva must re-institute processing and initiate testing required in conditions (1)(A) and (1)(C) for a minimum of four months. Motiva must report unit operating conditions and test data required in conditions (1)(A) and (1)(C), including quality control data, obtained during this period, no later than 60 days after the changes take place. Following written notification by the department, Motiva may replace testing conditions (1)(A) and (1)(C) with (1)(B) and (1)(D). Motiva must fulfill all other requirements in condition (1).
(4)(B). Batch Processing Motiva may periodically elect to change operating conditions to accommodate batch processing of single-event waste generations. In the event that Motiva initiates batch processing and changes the operating conditions established under condition (1), Motiva must re-institute the testing required in conditions (1)(A) and (1)(C) during such batch processing events, monitor unit operating conditions, and perform testing required by conditions (1)(A) and (1)(C), as appropriate. Following the completion of batch processing operations, Motiva must return to the operating conditions applicable prior to initiation of the

Table 1 - Wastes Excluded
Motiva Enterprises LLC, Norco, LA
batch processing and may return to the testing conditions that were applicable prior to the initiation of the batch processing activities.

Table 1 - Wastes Excluded
Syngenta Crop Protection, Inc., St. Gabriel, LA
Incinerator ash, at a maximum annual generation rate of 3,600 cubic yards per year, and incinerator scrubber water, at a maximum annual generation rate of 420,000 cubic yards per year (approximately 85 million gallons per year), result from incineration at the Syngenta Crop Protection, Inc., facility in St. Gabriel, Louisiana. Syngenta's waste stream includes the United States Environmental Protection Agency (USEPA) hazardous waste codes F001-F005, F024, K157-K159, and all P and U codes. The constituents of concern for these waste codes are listed in LAC 33:V.4901. This exclusion applies only to incinerator ash and incinerator scrubber water resulting from incineration conducted at Syngenta's St. Gabriel facility. Syngenta must implement a testing and management 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 methods described in *Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, EPA Publication Number SW-846*, as incorporated by reference in LAC 33:V.110.
(1)(A). Inorganic Testing During the first 12 consecutive months of this exclusion, Syngenta must collect and analyze one monthly composite sample of the incinerator ash and two grab samples of the scrubber water. Composite samples of incinerator ash must be composed of one grab sample from each of two different days during a representative week of operation. The grab samples of scrubber water must be collected on two different days during a representative week of operation. The monthly samples must be analyzed for the constituents listed in condition (3)(A) prior to disposal of the source incinerator ash and scrubber water. Syngenta must report to the department the unit operating conditions and analytical data (reported in milligrams per liter), including quality control information. If the department and Syngenta concur that the analytical results obtained during the 12 monthly testing periods have been significantly below the delisting levels in condition (3)(A), Syngenta may replace the inorganic testing required in condition (1)(A) with the inorganic testing required in condition (1)(B). Condition (1)(A) shall remain effective until this concurrence is reached.
(1)(B). Subsequent Inorganic Testing After concurrence by the department, Syngenta may substitute the following testing conditions for those in condition (1)(A). Syngenta must continue to monitor operating conditions and analyze quarterly samples representative of normal operations. Syngenta must report to the department the unit operating conditions and analytical data (reported in milligrams per liter), including quality control information. Composite samples of incinerator ash must be composed of one grab sample from each of two different days during a representative week of operation, during the first month of each quarterly period. The grab samples of scrubber water must be collected on two different days during a representative week of operation, during the first month of each quarterly period. These quarterly representative samples of incinerator ash and scrubber water must be analyzed for the constituents listed in condition (3)(A) prior to disposal of the source incinerator ash and scrubber water. If delisting levels for any inorganic constituents listed in condition (3)(A) are exceeded in any quarterly sample, Syngenta must re-institute testing as required in condition (1)(A). Syngenta may, at its discretion, analyze incinerator ash composite samples or scrubber water grab samples gathered more frequently than quarterly to demonstrate that smaller batches of waste are nonhazardous.
(1)(C). Organic Testing During the first 12 consecutive months of this exclusion, Syngenta must collect and analyze monthly one grab sample of incinerator ash and one grab sample of scrubber water. These monthly representative grab samples must be analyzed for the constituents listed in condition (3)(B) prior to disposal of the source incinerator ash and scrubber water. Syngenta must report to the department the incinerator operating conditions and analytical data (reported in milligrams per liter), including quality control information. If the department and Syngenta concur that the analytical results obtained during the 12 monthly testing periods have been significantly below the delisting levels in condition (3)(B), Syngenta may replace the organic testing required in condition (1)(C) with the organic testing required in condition (1)(D). Condition (1)(C) shall remain effective until this concurrence is reached.

Table 1 - Wastes Excluded **Syngenta Crop Protection, Inc., St. Gabriel, LA**
(1)(D). Subsequent Organic Testing After concurrence by the department, Syngenta may substitute the following testing conditions for those in condition (1)(C). Syngenta must continue to monitor operating conditions and analyze one quarterly grab sample of incinerator ash and one quarterly grab sample of scrubber water representative of normal operations. Syngenta must report to the department the unit operating conditions and analytical data (reported in milligrams per liter), including quality control information. These quarterly representative grab samples of incinerator ash and scrubber water must be collected during the first month of each quarterly period and analyzed for the constituents listed in condition (3)(B) prior to disposal of the source incinerator ash and scrubber water. If delisting levels for any organic constituents listed in condition (3)(B) are exceeded in the quarterly sample, Syngenta must re-institute testing as required in condition (1)(C). Syngenta may, at its discretion, analyze incinerator ash composite samples or scrubber water grab samples gathered more frequently than quarterly to demonstrate that smaller batches of waste are nonhazardous.
(2). Waste Holding and Handling Syngenta must treat the incinerator ash and scrubber water as hazardous wastes until the verification testing is completed, as specified in conditions (1)(A) - (1)(D), and the incinerator ash and scrubber water have satisfied the delisting criteria, as specified in condition (3). If the levels of constituents in the samples of incinerator ash and scrubber water are below all of the applicable levels set forth in condition (3), then the incinerator ash and scrubber water thereby become nonhazardous solid wastes and may be managed and disposed of in accordance with all applicable solid waste regulations. If hazardous constituent levels in any monthly composite or other representative sample equal or exceed any of the delisting levels set in condition (3), the incinerator ash and scrubber water must be managed and disposed of in accordance with Subtitle C of RCRA until the incinerator ash and scrubber water meet the delisting levels. Syngenta must repeat the analyses for the constituents listed in conditions (3)(A) and (3)(B) prior to disposal.
(3). Delisting Levels Concentrations in conditions (3)(A) and (3)(B) must be measured in an extract from the waste samples by the method specified in LAC 33:V.4903.E. All leachable concentrations in the waste extract must be less than the following levels (all units are milligrams per liter).
(3)(A). Inorganic Constituents (all units are milligrams per liter) antimony—0.15; arsenic—0.50; barium—39.0; cadmium—0.11; chromium—5.0; copper—0.50; lead—5.0; nickel—20.0; vanadium—15; and zinc—200.
(3)(B). Organic Constituents (all units are milligrams per liter) acetone—26.0; benzene—0.05; carbon tetrachloride—0.18; chloroform—0.14; 1,2-dichlorobenzene—0.77; hexachlorobenzene—0.13; nitrobenzene—0.14; pentachlorobenzene—0.04; pyridine—0.26; toluene—10.0; toxaphene—0.089; and vinyl chloride—0.05.
(4). Changes in Operating Conditions If Syngenta significantly changes the operating conditions specified in the petition, Syngenta must notify the department in writing. After receipt of written approval by the department, Syngenta must re-institute the testing required in conditions (1)(A) and (1)(C) for a minimum of four consecutive months. Syngenta must report unit operating conditions and test data required by conditions (1)(A) and (1)(C), including quality control data, obtained during this period no later than 60 days after the changes take place. After written notification by the department, Syngenta may replace testing conditions (1)(A) and (1)(C) with (1)(B) and (1)(D). Syngenta must fulfill all other requirements in condition (1).
(4)(A). Processing Equipment Syngenta may elect to change processing equipment based on operational performance and economic considerations. In the event that Syngenta changes operating equipment, Syngenta must re-institute processing and initiate testing required in conditions (1)(A) and (1)(C) for a minimum of four consecutive months. Syngenta must report unit operating conditions and test data required in conditions (1)(A) and (1)(C), including quality control data, obtained during this period, no later than 60 days after the changes take place. Following written notification by the department, Syngenta may replace testing conditions (1)(A) and (1)(C) with (1)(B) and (1)(D). Syngenta must fulfill all other requirements in condition (1).

Table 2 – One-Time Wastes Excluded **Murphy Exploration and Production Company, Amelia, LA**
Hazardous waste incinerator ash was generated by the combustion of hazardous wastes and nonhazardous wastes in a rotary kiln incinerator at Marine Shale Processors in Amelia, Louisiana. In 1986 and 1987, this ash was used as fill material for the Rim Tide barge slip area at Murphy Exploration and Production Company (Murphy) in Amelia, Louisiana. For the purpose of this exclusion, ash used as fill material by Murphy includes all hazardous waste codes listed in LAC 33:V.4901. This is a one-time exclusion for a maximum volume of 6,200 cubic yards of ash subsequent to its excavation from the Rim Tide barge slip area at Murphy for the purpose of transportation and disposal in a Subtitle D landfill after June 20, 2007.

Table 2—Handling Codes for Treatment, Storage, and Disposal Methods	
Handling Code	**Technique**
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)
3. Physical Treatment	
a. 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)
b. 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)
4. 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	Trickling filter
T76	Waste stabilization pond
T77	Other (specify)
T78-T79	[Reserved]
5. Boilers and Industrial Furnaces	
T80	Boiler
T81	Cement Kiln
T82	Lime Kiln
T83	Aggregate Kiln

Table 2—Handling Codes for Treatment, Storage, and Disposal Methods	
Handling Code	**Technique**
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 Furnace
T93	Other Industrial Furnaces Listed in 40 CFR 260.10 (specify)
6. Other Treatment	
T94	Containment Building (Treatment)
C. 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)
D. Miscellaneous	
X01	Open Burning/Open Detonation
X02	Mechanical Processing
X03	Thermal Unit
X04	Geologic Repository
X99	Other (specify)

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, LR 20:1000 (September 1994), amended by the Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 21:944 (September 1995), LR 22:830 (September 1996), amended by the Office of Waste Services, Hazardous Waste Division, LR 23:952 (August 1997), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 25:2397 (December 1999), LR 26:2509 (November 2000), LR 29:1084 (July 2003), repromulgated LR 29:1475 (August 2003), amended by the Office of Environmental Assessment, LR 30:2464 (November 2004), amended by the Office of the Secretary, Legal Affairs Division, LR 33:445 (March 2007), LR 33:825 (May 2007), LR 33:1016 (June 2007), LR 34:73 (January 2008), LR 34:1021 (June 2008), LR 34:1613 (August 2008).

Chapter 51. Fee Schedules

§5101. Applicability

A. The regulations in this Chapter apply to generators of hazardous waste as well as treaters, storers, and disposers of hazardous waste except as provided in LAC 33:V.1101 and LAC 33:V.1501.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2014 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 11:533 (May 1985), LR 12:676 (October 1986), LR 18:724 (July 1992).

~~LR 18:725 (July 1992), LR 18:1256 (November 1992), amended by~~ the Office of Environmental Assessment, Environmental Planning Division, LR 29:687 (May 2003), LR 29:2050 (October 2003).

§5141. Incinerator and Boiler/Industrial Furnace Inspection and Monitoring Fee

A. Trial Burn or Test Burn Observer Fee. This is a special fee charged at a daily rate to cover the cost to the department of providing and placing on site a regulatory observer team during incinerator trial burns, boiler/industrial furnace trial burns, or other types of test burns required by regulations or the administrative authority when an observer team is required by regulations, specified by permit conditions, or considered necessary to ensure that human health and the environment are adequately protected.

1. This fee will be $660 for each day of the test burn or trial burn.

2. This fee will be billed following completion of the trial burn or test burn and must be paid by the due date indicated on the invoice.

B. Annual Monitoring and Maintenance Fee for Incinerators, Boilers, Industrial Furnaces, and Commercial Recycling Furnaces. This is an annual fee applied to defray the cost of annually inspecting the required continuous monitors and recording devices for each incinerator, boiler, or industrial furnace to determine whether they are being properly maintained and calibrated. This fee will annually be a flat $1,320.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2014 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 16:1057 (December 1990), amended LR 18:1375 (December 1992), amended by the Office of Management and Finance, Fiscal Services Division, LR 22:18 (January 1996), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2510 (November 2000), LR 29:687 (May 2003), LR 29:2050 (October 2003).

§5143. Annual Landfill Inspection and Monitoring Fee

A. An annual fee shall be charged for the inspection of the regulatory requirement for leak detection and leachate collection systems associated with hazardous waste landfills to determine operational status and degree of proper maintenance. For each landfill unit or cell with a separate leak detection and leachate collection system, the annual fee will be $132.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2014 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 16:1057 (December 1990), amended LR 18:725 (July 1992), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 29:688 (May 2003), LR 29:2050 (October 2003).

§5145. Annual Land Treatment Unsaturated Zone Monitoring Inspection Fee

A. Semiannual Zone of Incorporation (ZOI) Inspection Fee. This fee covers the cost of inspection and random sampling and laboratory analysis of the zone of incorporation.

ZOI soil samples	$1,320 each acre
Soil-pore liquid monitors (Lysimeters)	$3,300 each monitor

B. Annual Land Treatment Unit Report Review Fee. This fee covers the cost of reviewing the report required by final permits for land treatment. Included in the annual land treatment unit report are the results of the unsaturated zone monitoring. Included are the semiannual soil core sample analyses and the quarterly soil-pore liquid quality analyses from below the treatment zone. Also included are soil moisture tensiometer readings of the ZOI.

Hazardous Waste Facilities	$1,320 each report

C. Permit Review Fee. This fee covers the cost of reviewing permits for geology, geotechnical design, and hydrological separation requirements of these regulations.

Initial Permit	$6,600 each
Permit Modifications:	
Class 1	$264 each
Class 2 or 3	$990 each

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2014 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 16:1057 (December 1990), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 29:688 (May 2003), LR 29:2050 (October 2003).

§5147. Fee for NHEM Determination for Contaminated Environmental Media

A. A fee of $3,000 shall be submitted at the time a request for a review of contaminated environmental media for a NHEM determination is made in accordance with LAC 33:V.106.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq. and, in particular, 2186(A)(2).

HISTORICAL NOTE: Promulgated by the Office of the ~~Secretary, Legal Affairs Division, LR 33:455 (March 2007).~~

Chapter 53. Military Munitions

§5301. Applicability

A. The regulations in this Chapter identify when military munitions become a solid waste and if these wastes are also hazardous under this Chapter or LAC 33:V.Chapter 1 and the management standards that apply to these wastes.

B. Unless otherwise specified in this Chapter, all applicable requirements in these regulations apply to waste military munitions.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous Waste Division, LR 24:1756 (September 1998).

§5303. Definition of Military Munitions as a Solid Waste

A. A military munition is not a solid waste when:

1. used for its intended purpose, including:

a. use in training military personnel or explosives and munitions emergency response specialists (including training in proper destruction of unused propellant or other munitions);

b. use in research, development, testing, and evaluation of military munitions, weapons, or weapon systems; or

c. recovery, collection, and on-range destruction of unexploded ordnance and munitions fragments during range clearance activities at active or inactive ranges. However, "use for intended purpose" does not include the on-range disposal or burial of unexploded ordnance and contaminants when the burial is not a result of product use;

2. an unused munition, or component thereof, is being repaired, reused, recycled, reclaimed, disassembled, reconfigured, or otherwise subjected to materials recovery activities, unless such activities involve use constituting disposal as defined in LAC 33:V.109.*Solid Waste*, or burning for energy recovery as defined in LAC 33:V.109.*Solid Waste*.

B. An unused military munition is a solid waste when any of the following occurs:

1. the munition is abandoned by being disposed of, burned, detonated (except during intended use as specified in Subsection A of this Section), incinerated, or treated prior to disposal;

2. the munition is removed from storage in a military magazine or other storage area for the purpose of being disposed of, burned, or incinerated, or treated prior to disposal;

3. the munition is deteriorated or damaged (e.g., the integrity of the munition is compromised by cracks, leaks, or other damage) to the point that it cannot be put into serviceable condition and cannot reasonably be recycled or used for other purposes; or

4. the munition has been declared a solid waste by an authorized military official.

C. A used or fired military munition is a solid waste:

1. when transported off range or from the site of use, where the site of use is not a range, for the purposes of storage, reclamation, treatment, disposal, or treatment prior to disposal; or

2. if recovered, collected, and then disposed of by burial, or landfilling either on or off a range.

D. For purposes of RCRA Section 1004(27), a used or fired military munition is a solid waste and, therefore, is potentially subject to RCRA corrective action authorities under Sections 3004(u) and (v), and 3008(h) or imminent and substantial endangerment authorities under Section 7003, if the munition lands off-range and is not promptly rendered safe and/or retrieved. Any imminent and substantial threats associated with any remaining material must be addressed. If remedial action is infeasible, the operator of the range must maintain a record of the event for as long as any threat remains. The record must include the type of munition and its location (to the extent the location is known).

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous Waste Division, LR 24:1756 (September 1998).

§5305. Standards Applicable to the Transportation of Solid Waste Military Munitions

A. Criteria for Hazardous Waste Regulation of Waste Non-Chemical Military Munitions in Transportation

1. Waste military munitions that are being transported and that exhibit a hazardous waste characteristic or are listed as hazardous waste under LAC 33:V.Chapter 49 are listed or identified as a hazardous waste (and thus are subject to regulation under LAC 33:V.Subpart 1) unless all the following conditions are met:

a. the waste military munitions are not chemical agents or chemical munitions;

b. the waste military munitions must be transported in accordance with the Department of Defense (DOD) shipping controls applicable to the transport of military munitions;

c. the waste military munitions must be transported from a military owned or operated installation to a military owned or operated treatment, storage, or disposal facility; and

d. the transporter of the waste must provide oral notice to the administrative authority within 24 hours from the time the transporter becomes aware of any loss or theft of the waste military munitions or any failure to meet a condition of Paragraph A.1 of this Section that may endanger health or the environment. In addition, a written submission describing the circumstances shall be provided within five days from the time the transporter becomes aware of any loss or theft of the waste military munitions or any failure to meet a condition of Paragraph A.1 of this Section.

2. If any waste military munitions shipped under Paragraph A.1 of this Section are not received by the receiving facility within 45 days of the day the waste was shipped, the owner or operator of the receiving facility must report this non-receipt to the administrative authority within five days.

3. The exemption in Paragraph A.1 of this Section from regulation as hazardous waste shall apply only to the transportation of non-chemical waste military munitions. It does not affect the regulatory status of waste military munitions as hazardous wastes with regard to storage, treatment, or disposal.

4. The conditional exemption in Paragraph A.1 of this Section applies only so long as all of the conditions in Paragraph A.1 of this Section are met.

B. Reinstatement of Exemption. If any waste military munition loses its exemption under Paragraph A.1 of this Section, an application may be filed with the administrative authority for reinstatement of the exemption from hazardous waste transportation regulation with respect to such munition as soon as the munition is returned to compliance with the conditions of Paragraph A.1 of this Section. If the administrative authority finds that reinstatement of the exemption is appropriate based on factors such as the transporter's provision of a satisfactory explanation of the circumstances of the violation or a demonstration that the violations are not likely to recur, the administrative authority may reinstate the exemption under Paragraph A.1 of this Section. If the administrative authority does not take action on the reinstatement application within 60 days after receipt of the application, then reinstatement shall be deemed granted, retroactive to the date of the application. However, the administrative authority may terminate a conditional exemption reinstated by default in the preceding sentence if the administrative authority finds that reinstatement is inappropriate based on factors such as the transporter's failure to provide a satisfactory explanation of the circumstances of the violation or failure to demonstrate that the violations are not likely to recur. In reinstating the exemption under Paragraph A.1 of this Section, the administrative authority may specify additional conditions as are necessary to ensure and document proper transportation to protect human health and the environment.

C. Amendments to DOD Shipping Controls. The Department of Defense shipping controls applicable to the transport of military munitions referenced in Subparagraph A.1.b of this Section are Government Bill of Lading (GBL) (GSA Standard Form 1109), requisition-tracking form DD Form 1348, the Signature and Talley Record (DD Form 1907), Special Instructions for Motor Vehicle Drivers (DD Form 836), and the Motor Vehicle Inspection Report (DD Form 626) in effect on November 8, 1995, except as provided in the following sentence. Any amendments to the Department of Defense shipping controls shall become effective for purposes of Paragraph A.1 of this Section on the date the Department of Defense publishes notice in the Federal Register that the shipping controls referenced in Subparagraph A.1.b of this Section have been amended.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous Waste Division, LR 24:1756 (September 1998).

§5307. Standards Applicable to Emergency Responses

A. Explosives and munitions emergencies involving military munitions or explosives are subject to LAC 33:V.1101.H, 1301.G, 1501.7.a, and 4307, or alternatively to LAC 33:V.701.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous Waste Division, LR 24:1757 (September 1998).

§5309. Standards Applicable to the Storage of Solid Waste Military Munitions

A. Criteria for Hazardous Waste Regulation of Waste Non-Chemical Military Munitions in Storage

1. Waste military munitions in storage that exhibit a hazardous waste characteristic or are listed as hazardous waste under LAC 33:V.Chapter 49 are listed or identified as a hazardous waste (and thus are subject to regulation under LAC 33:V.Subpart 1), unless all the following conditions are met:

a. the waste military munitions are not chemical agents or chemical munitions;

b. the waste military munitions must be subject to the jurisdiction of the Department of Defense Explosives Safety Board (DDESB);

c. the waste military munitions must be stored in accordance with the DDESB storage standards applicable to waste military munitions;

d. within 90 days of when a storage unit is first used to store waste military munitions, whichever is later, the owner or operator must notify the Office of Environmental Services of the location of any waste storage unit used to store waste military munitions for which the conditional exemption in Paragraph A.1 of this Section is claimed;

e. the owner or operator must provide prompt notice to the Office of Environmental Compliance in the manner provided in LAC 33:I.3923 within 24 hours from the time the owner or operator becomes aware of any loss or theft of the waste military munitions or any failure to meet a condition of Paragraph A.1 of this Section that may endanger health or the environment. In addition, a written submission, using the procedures provided in LAC 33:I.3925, describing the circumstances shall be provided within five days from the time the owner or operator becomes aware of any loss or theft of the waste military munitions or any failure to meet a condition of Paragraph A.1 of this Section;

f. the owner or operator must inventory the waste military munitions at least annually, must inspect the waste military munitions at least quarterly for compliance with the conditions of Paragraph A.1 of this Section, and must maintain records of the findings of these inventories and inspections for at least three years; and

g. access to the stored waste military munitions must be limited to appropriately trained and authorized personnel.

2. The conditional exemption in Paragraph A.1 of this Section from regulation as hazardous waste shall apply only to the storage of non-chemical waste military munitions. It does not affect the regulatory status of waste military munitions as hazardous wastes with regard to transportation, treatment or disposal.

3. The conditional exemption in Paragraph A.1 of this Section applies only so long as all of the conditions in Paragraph A.1 of this Section are met.

B. Notice of Termination of Waste Storage. The owner or operator must notify the Office of Environmental Services when a storage unit identified in Subparagraph A.1.d of this Section will no longer be used to store waste military munitions.

C. Reinstatement of Conditional Exemption. If any waste military munition loses its conditional exemption under Paragraph A.1 of this Section, an application may be filed with the administrative authority for reinstatement of the conditional exemption from hazardous waste storage regulation with respect to such munition as soon as the munition is returned to compliance with the conditions of Paragraph A.1 of this Section. If the administrative authority finds that reinstatement of the conditional exemption is appropriate based on factors such as the owner's or operator's provision of a satisfactory explanation of the circumstances of the violation or a demonstration that the violations are not likely to recur, the administrative authority may reinstate the conditional exemption under Paragraph A.1 of this Section. If the administrative authority does not take action on the reinstatement application within 60 days after receipt of the application, then reinstatement shall be deemed granted, retroactive to the date of the application. However, the administrative authority may terminate a conditional exemption reinstated by default in the preceding sentence if he/she finds that reinstatement is inappropriate based on factors such as the owner's or operator's failure to provide a satisfactory explanation of the circumstances of the violation or failure to demonstrate that the violations are not likely to recur. In reinstating the conditional exemption under Paragraph A.1 of this Section, the administrative authority may specify additional conditions as are necessary to ensure and document proper storage to protect human health and the environment.

D. Waste Chemical Munitions

1. Waste military munitions that are chemical agents or chemical munitions and that exhibit a hazardous waste characteristic or are listed as hazardous waste under LAC 33:V.Chapter 49 are listed or identified as a hazardous waste and shall be subject to the applicable regulatory requirements of RCRA Subtitle C.

2. Waste military munitions that are chemical agents or chemical munitions and that exhibit a hazardous waste characteristic or are listed as hazardous waste under LAC 33:V.Chapter 49 are not subject to the storage prohibition in RCRA Section 3004(j), codified at LAC 33:V.2205.

E. Amendments to DDESB Storage Standards. The DDESB storage standards applicable to waste military munitions, referenced in Subparagraph A.1.c of this Section, are DOD 6055.9-STD (*DOD Ammunition and Explosive Safety Standards*), in effect on November 8, 1995, except as provided in the following sentence. Any amendments to the DDESB storage standards shall become effective for purposes of Paragraph A.1 of this Section on the date the Department of Defense publishes notice in the Federal Register that the DDESB standards referenced in Paragraph A.1 of this Section have been amended.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous Waste Division, LR 24:1757 (September 1998), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2510 (November 2000), LR 30:1675 (August 2004), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2484 (October 2005), LR 33:2136 (October 2007).

§5311. Standards Applicable to the Treatment and Disposal of Waste Military Munitions

A. The treatment and disposal of hazardous waste military munitions are subject to the applicable permitting, procedural, and technical standards in LAC 33:V.Subpart 1.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Waste Services, Hazardous Waste Division, LR 24:1758 (September 1998).