**R315. Environmental Quality, Waste Management and Radiation Control, Waste Management.**

**R315-265. Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities.**

**R315-265-1. Incorporation, General -- Purpose, Scope, and Applicability.**

40 CFR 265.270 through 265.282, 265.370 through 265.383, 265.400 through 265.406, 265.430, 265.1200 through 265.1202, 265.1300 through 265.1316 and Appendices I and III through IV and VI of 40 CFR 265, 2024 edition, are incorporated by reference except that "director" is substituted for references to "Regional Administrator", and for references to "EPA" or "Environmental Protection Agency" except for references to "EPA identification number" and when EPA is used in reference to actions under Subsection R315-268-42(b) and in Subsection R315-265-71(a)(3).

(a) The purpose of Rule R315-265 is to establish minimum standards that define the acceptable management of hazardous waste during the period of interim status and until certification of final closure or, if the facility is subject to post-closure requirements, until post-closure responsibilities are fulfilled.

(b) Except as provided in Subsection R315-265-1080(b), the standards of Rule R315-265, and of Sections R315-264-552, R315-264-553, and R315-264-554, 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 Section R315-270-10 until either a permit is issued under Rule R315-270 or until applicable Rule R315-265 closure and post-closure responsibilities are fulfilled, and to those owners and operators of facilities in existence on November 19, 1980 who have failed to provide timely notification as required by Section 3010(a) of RCRA, failed to file Part A of the permit application as required by Subsections R315-270-10(e) and R315-270-10(g), or both. These standards apply to treatment, storage and disposal of hazardous waste at these facilities after the effective date of Title R315, except as specifically provided otherwise in Rule R315-265 or Rule R315-261.

(1) As stated in Section 3005(a) of RCRA, after the effective date of regulations under that section, which are Rules R315-270 and R315-124, 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 Rule R315-265 do not apply to the following:

(1) A person disposing of hazardous waste by ocean disposal subject to a permit issued under the Marine Protection, Research, and Sanctuaries Act.

(i) Rule R315-265 does 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 R315-265-1(b).

(2) Reserved.

(3) The owner or operator of a POTW that treats, stores, or disposes of hazardous waste.

(i) The owner or operator of a facility under Subsections R315-265-1(c)(1) through R315-265-1(c)(3) is subject to the requirements of Rule R315-264 to the extent they are included in a permit by rule granted to the owner or operator under 40 CFR 122, or are required by 40 CFR 144.14.

(4) Reserved.

(5) The owner or operator of a facility permitted under Rules R315-301 through R315-320 to manage municipal or industrial solid waste, if the only hazardous waste the facility treats, stores, or disposes of is excluded from regulation under Rule R315-265 by Section R315-262-14.

(6) The owner or operator of a facility managing recyclable materials described in Subsections R315-261-6(a)(2), R315-261-6(a)(3), and R315-261-6(a)(4), except to the extent they are referred to in Rule R315-15 or Sections R315-266-20 through R315-266-23, R315-266-70, R315-266-80, or R315-266-100 through R315-266-112.

(7) A generator accumulating waste on-site in compliance with applicable conditions for exemption in Sections R315-262-14 through R315-262-17 and Sections R315-262-200 through R315-262-216 and R315-262-230 through R315-262-233, except to the extent the requirements of Rule R315-265 are included in those sections.

(8) A farmer disposing of waste pesticides from the farmer's own use in compliance with Section R315-262-70.

(9) The owner or operator of a totally enclosed treatment facility, as defined in Section R315-260-10.

(10) The owner or operator of an elementary neutralization unit or a wastewater treatment unit as defined in Section R315-260-10, except that if the owner or operator is diluting hazardous ignitable (D001) wastes, other than the D001 High TOC Subcategory defined in Section R315-268-40, Table Treatment Standards for Hazardous Wastes, or reactive (D003) waste, to remove the characteristic before land disposal, the owner or operator shall comply with the requirements set out in Subsection R315-265-17(b).

(11)(i) Except as provided in Subsection R315-265-1(c)(11)(ii), a person engaged in treatment or containment activities during immediate response to any of the following situations:

(A) a discharge of a hazardous waste;

(B) an imminent and substantial threat of a discharge of a hazardous waste; or

(C) a discharge of a material that, if discharged, becomes a hazardous waste.

(ii) An owner or operator of a facility otherwise regulated by this Rule R315-265 shall comply with the applicable requirements of Sections R315-265-30 through R315-265-37 and Sections R315-265-50 through R315-265-56.

(iii) Any person who is covered by Subsection R315-265-1(c)(11)(i) and who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to the applicable requirements of Rule R315-265 and Rule R315-124 for those activities.

(iv) In the case of an explosives or munitions emergency response, if a federal, state, tribal or local official acting within the scope of their 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 shall keep records for three years identifying the dates of the response, the responsible persons responding, the type and description of material addressed, and its disposition.

(12) A transporter storing manifested shipments of hazardous waste in containers meeting the requirements of Section R315-262-30 at a transfer facility for a period of ten days or less.

(13) The addition of absorbent material to waste in a container, as defined in Section R315-260-10, or the addition of waste to the absorbent material in a container if these actions occur when waste is first placed in the containers, and Subsection R315-265-17(b) and Sections R315-265-171 and R315-265-172 are complied with.

(14) Universal waste handlers and universal waste transporters, as defined in Section R315-260-10, handling the wastes listed in Subsections R315-265-1(c)(14)(i) through R315-265-1(c)(14)(vi). These handlers are subject to regulation under Rule R315-273, if handling the following universal wastes:

(i) batteries as described in Section R315-273-2;

(ii) pesticides as described in Section R315-273-3;

(iii) mercury-containing equipment as described in Section R315-273-4;

(iv) lamps as described in Section R315-273-5;

(v) aerosol cans as described in Section R315-273-6; and

(vi) antifreeze as described in Section R315-273-7.

(15) Reserved

(16) Reverse distributors accumulating potentially creditable hazardous waste pharmaceuticals and evaluated hazardous waste pharmaceuticals, as defined in Section R315-266-500. Reverse distributors are subject to regulation under Sections R315-266-500 through R315-266-510 in lieu of Rule R315-265 for the accumulation of potentially creditable hazardous waste pharmaceuticals and evaluated hazardous waste pharmaceuticals.

(d) The following hazardous wastes may not be managed at facilities subject to regulation under Rule R315-265.

(1) EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, or F027 unless:

(i) the wastewater treatment sludge is generated in a surface impoundment as part of the plant's wastewater treatment system;

(ii) the waste is stored in tanks or containers;

(iii) the waste is stored or treated in waste piles that meet the requirements of Subsection R315-264-250(c) as well as other applicable requirements of Sections R315-265-250 through R315-265-260;

(iv) the waste is burned in incinerators that are certified pursuant to the standards and procedures in Section R315-265-352; or

(v) the waste is burned in facilities that thermally treat the waste in a device other than an incinerator and that are certified pursuant to the standards and procedures in 40 CFR 265.383, which is incorporated by reference.

(e) The requirements of Rule R315-265 apply to owners or operators of facilities that treat, store or dispose of hazardous waste referred to in Rule R315-268, and the Rule R315-268 standards are considered material conditions or requirements of the Rule R315-265 interim status standards.

**R315-265-4. General -- Imminent Hazard Action.**

Notwithstanding any other provisions of these regulations, enforcement actions may be brought pursuant to Section 19-5-115.

**R315-265-10. General Facility Standards -- Applicability.**

The regulations in Section R315-262-10 through 262-19 apply to owners and operators of all hazardous waste facilities, except as Section R315-265-1 provides otherwise.

**R315-265-11. General Facility Standards -- Identification Number.**

Every facility owner or operator shall apply to the Director for an EPA identification number using EPA form 8700-12. Information on obtaining this number can be acquired by contacting the Utah Division of Waste Management and Radiation Control.

**R315-265-12. General Facility Standards -- Required Notices.**

(a) The owner or operator of a facility that is arranging or has arranged to receive hazardous waste subject to Sections R315-262-80 through R315-262-84 from a foreign source shall submit the following required notices:

(1) As per Subsection R315-262-84(b), for imports where the competent authority of the country of export does not require the foreign exporter to submit to it a notification proposing export and get consent from EPA and the competent authorities for the countries of transit, the owner or operator of the facility, if acting as the importer, shall provide notification of the proposed transboundary movement in English to EPA using the allowable methods listed in Subsection R315-262-84(b)(1) at least 60 days before the first shipment is expected to depart the country of export. The notification may cover up to one year of shipments of wastes having similar physical and chemical characteristics, the identical United Nations classification, the identical RCRA waste codes and OECD waste codes, and being sent from the same foreign exporter.

(2) As per Subsection R315-262-84(d)(2)(xv), a copy of the movement document bearing the required signatures within three working days of receipt of the shipment to the foreign exporter, to the competent authorities of the countries of export and transit that control the shipment as an export and transit shipment of hazardous waste respectively, and on or after the electronic import-export reporting compliance date, to EPA electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system. The original of the signed movement document shall be maintained at the facility for at least three years. The owner or operator of a facility may satisfy this recordkeeping requirement by keeping electronically submitted documents in the facility's account on EPA's Waste Import Export Tracking System (WIETS), or its successor system, copies shall be readily available for viewing and production if requested by any EPA or Utah inspector. No owner or operator of a facility may be held liable for the inability to produce the documents for inspection under this section if the owner or operator of a facility can demonstrate that the inability to produce the document is due exclusively to technical difficulty with EPA's Waste Import Export Tracking System (WIETS), or its successor system, for which the owner or operator of a facility bears no responsibility.

(3) As per Subsection R315-262-84(f)(4), if the facility has physical control of the waste and it must be sent to an alternate facility or returned to the country of export, the owner or operator of the facility shall inform EPA, using the allowable methods listed in Subsection R315-262-84(b)(1) of the need to return or arrange alternate management of the shipment.

(4) As per Subsection R315-262-84(g), the owner or operator shall:

(i) Send copies of the signed and dated confirmation of recovery or disposal, as soon as possible, but no later than 30 days after completing recovery or disposal on the waste in the shipment and no later than one calendar year following receipt of the waste, to the foreign exporter, to the competent authority of the country of export that controls the shipment as an export of hazardous waste, and on or after the electronic import-export reporting compliance date, to EPA electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system.

(ii) If the facility performed any of recovery operations R12, R13, or RC3, or disposal operations D13 through D15, promptly send copies of the confirmation of recovery or disposal that it receives from the final recovery or disposal facility within one year of shipment delivery to the final recovery or disposal facility that performed one of recovery operations R1 through R11, or RC1, or one of disposal operations D1 through D12, or DC1 to DC2, to the competent authority of the country of export that controls the shipment as an export of hazardous waste, and on or after the electronic import-export reporting compliance date, to EPA electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system. The recovery and disposal operations in Subsection R315-265-12(a)(4)(ii) are defined in Section R315-262-81.

(b) Before transferring ownership or operation of a facility during its operating life, or of a disposal facility during the post-closure care period, the owner or operator shall notify the new owner or operator in writing of the requirements of Rule R315-265 and Rule R315-270. Also see Section R315-270-72.

(i) An owner's or operator's failure to notify the new owner or operator of the requirements of Rule R315-265 in no way relieves the new owner or operator of their obligation to comply with the applicable requirements.

**R315-265-13. General Facility Standards -- General Waste Analysis.**

(a)(1) Before an owner or operator treats, stores, or disposes of any hazardous wastes, or nonhazardous wastes if applicable under Subsection R315-265-113(d), he shall obtain a detailed chemical and physical analysis of a representative sample of the wastes. At a minimum, the analysis shall contain all the information which must be known to treat, store, or dispose of the waste in accordance with Rule R315-265 and Rule R315-268.

(2) The analysis may include data developed under Rule R315-261, and existing published or documented data on the hazardous waste or on waste generated from similar processes.

Comment: For example, the facility's records of analyses performed on the waste before the effective date of these regulations, or studies conducted on hazardous waste generated from processes similar to that which generated the waste to be managed at the facility, may be included in the data base required to comply with Subsection R315-265-13(a)(1). 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 Subsection R315-265-13(a)(1), except as otherwise specified in Subsections R315-268-7(b) and (c). If the generator does not supply the information, and the owner or operator chooses to accept a hazardous waste, the owner or operator is responsible for obtaining the information required to comply with Section R315-265-13.

(3) The analysis shall be repeated as necessary to ensure that it is accurate and up to date. At a minimum, the analysis shall be repeated:

(i) When the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous wastes or non-hazardous wastes, if applicable, under Subsection R315-265-113(d) has changed; and

(ii) For off-site facilities, when the results of the inspection required in Subsection R315-265-13(a)(4) indicate that the hazardous waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

(4) The owner or operator of an off-site facility shall inspect and, if necessary, analyze each hazardous waste movement received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.

(b) The owner or operator shall develop and follow a written waste analysis plan which describes the procedures which he will carry out to comply with Subsection R315-265-13(a). He shall keep this plan at the facility. At a minimum, the plan shall specify:

(1) The parameters for which each hazardous waste, or non-hazardous waste if applicable under Subsection R315-265-113(d), will be analyzed and the rationale for the selection of these parameters, i.e., how analysis for these parameters will provide sufficient information on the waste's properties to comply with Subsection R315-265-13(a);

(2) The test methods which will be used to test for these parameters;

(3) The sampling method which will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using either:

(i) One of the sampling methods described in Section R315-261-1090; or

(ii) An equivalent sampling method.

Comment: See Subsection R315-260-20(c) for related discussion.

(4) The frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date;

(5) For off-site facilities, the waste analyses that hazardous waste generators have agreed to supply; and

(6) Where applicable, the methods that will be used to meet the additional waste analysis requirements for specific waste management methods as specified in Sections R315-265-200, R315-265-225, and R315-265-252, and 40 CFR 265.273, 265.314, 265.341, 265.375, 265.402, 265.1034(d), 265.1063(d), 265.1084, which are adopted and incorporated by reference and Section R315-268-7.

(7) For surface impoundments exempted from land disposal restrictions under Subsection R315-268-4(a), the procedures and schedule for:

(i) The sampling of impoundment contents;

(ii) The analysis of test data; and,

(iii) The annual removal of residues which are not delisted under Section R315-260-22 or which exhibit a characteristic of hazardous waste and either:

(A) Do not meet applicable treatment standards of Sections R315-268-40 through R315-268-49; or

(B) Where no treatment standards have been established;

(I) Such residues are prohibited from land disposal under Section R315-268-32 or RCRA section 3004(d); or

(II) Such residues are prohibited from land disposal under Subsection R315-268-33(f).

(8) For owners and operators seeking an exemption to the air emission standards of 40 CFR 265 Subpart CC, in accordance with 40 CFR 265.1083, which are adopted and incorporated by reference.

(i) If direct measurement is used for the waste determination, the procedures and schedules for waste sampling and analysis, and the results of the analysis of test data to verify the exemption.

(ii) If knowledge of the waste is used for the waste determination, any information prepared by the facility owner or operator or by the generator of the hazardous waste, if the waste is received from off-site, that is used as the basis for knowledge of the waste.

(c) For off-site facilities, the waste analysis plan required in Subsection R315-265-13(b) shall 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 shall describe:

(1) The procedures which will be used to determine the identity of each movement of waste managed at the facility; and

(2) The sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling.

(3) The procedures that the owner or operator of an off-site landfill receiving containerized hazardous waste will use to determine whether a hazardous waste generator or treater has added a biodegradable sorbent to the waste in the container.

**R315-265-14. General Facility Standards -- Security.**

(a) The owner or operator shall 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 Rule R315-265.

(b) Unless exempt under Subsections R315-265-14(a)(1) and (2), a facility shall ha ve:

(1) A 24-hour surveillance system, for example, television monitoring or surveillance by guards or facility personnel, which continuously monitors and controls entry onto the active portion of the facility; or

(2)(i) An artificial or natural barrier, for example, a fence in good repair or a fence combined with a cliff, which completely surrounds the active portion of the facility; and

(ii) A means to control entry, at all times, through the gates or other entrances to the active portion of the facility, for example, an attendant, television monitors, locked entrance, or controlled roadway access to the facility.

Comment: The requirements of Subsection R315-265-14(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 Subsections R315-265-14(b)(1) or (2).

(c) Unless exempt under Subsections R315-265-14(a)(1) and (a)(2), a sign with the legend, "Danger---Unauthorized Personnel Keep Out," shall 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 shall be written in English and in any other language predominant in the area surrounding the facility, for example, facilities in counties bordering the Canadian province of Quebec shall post signs in French; facilities in counties bordering Mexico shall post signs in Spanish, and shall be legible from a distance of at least 25 feet. Existing signs with a legend other than "Danger---Unauthorized Personnel Keep Out" may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous.

Comment: See Subsection R315-265-117(b) for discussion of security requirements at disposal facilities during the post-closure care period.

**R315-265-15. General Facility Standards -- General Inspection Requirements.**

(a) The owner or operator shall inspect his facility for malfunctions and deterioration, operator errors, and discharges which may be causing, or may lead to: (1) Release of hazardous waste constituents to the environment or (2) a threat to human health. The owner or operator shall conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

(b)(1) The owner or operator shall develop and follow a written schedule for inspecting all monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment, such as dikes and sump pumps, that are important to preventing, detecting, or responding to environmental or human health hazards.

(2) He shall keep this schedule at the facility.

(3) The schedule shall identify the types of problems, for example, malfunctions or deterioration, which are to be looked for during the inspection, for example, inoperative sump pump, leaking fitting, eroding dike, etc.

(4) The frequency of inspection may vary for the items on the schedule. However, the frequency 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 operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, shall be inspected daily when in use. At a minimum, the inspection schedule shall include the items and frequencies called for in Sections R315-265-174, R315-265-193, R315-265-195, R315-265-226, and R315-265-260, 40 CFR 265.278, 265.304, 265.347, 265.377, 265.403, 265.1033, 265.1052, 265.1053, 265.1058, and 265.1084 through 265.1090, which are adopted and incorporated by reference, where applicable.

(c) The owner or operator shall 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 shall be taken immediately.

(d) The owner or operator shall record inspections in an inspection log or summary. He shall keep these records for at least three years from the date of inspection. At a minimum, these records shall 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.

**R315-265-16. General Facility Standards -- Personnel Training.**

(a)(1) Facility personnel shall successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of Rule R315-265. The owner or operator shall ensure that this program includes all the elements described in the document required under Subsection R315-265-16(d)(3).

(2) This program shall be directed by a person trained in hazardous waste management procedures, and shall include instruction which teaches facility personnel hazardous waste management procedures, including contingency plan implementation, relevant to the positions in which they are employed.

(3) At a minimum, the training program shall be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including where applicable:

(i) Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;

(ii) Key parameters for automatic waste feed cut-off systems;

(iii) Communications or alarm systems;

(iv) Response to fires or explosions;

(v) Response to ground-water contamination incidents; and

(vi) Shutdown of operations.

(4) For facility employees that receive emergency response training pursuant to Occupational Safety and Health Administration (OSHA) regulations 29 CFR 1910.120(p)(8) and 1910.120(q), the facility is not required to provide separate emergency response training pursuant to Section R315-265-16, provided that the overall facility training meets all the requirements of Section R315-265-16.

(b) Facility personnel shall successfully complete the program required in Subsection R315-265-16(a) within six months after the effective date of these regulations or six months after the date of their employment or assignment to a facility, or to a new position at a facility, whichever is later. Employees hired after the effective date of these regulations shall not work in unsupervised positions until they have completed the training requirements of Subsection R315-265-16(a).

(c) Facility personnel shall take part in an annual review of the initial training required in Subsection R315-265-16(a).

(d) The owner or operator shall maintain the following documents and records at the facility:

(1) The job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job;

(2) A written job description for each position listed under Subsection R315-265-16(d)(1). This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but shall include the requisite skill, education, or other qualifications, and duties of facility personnel assigned to each position;

(3) A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under Subsection R315-265-16(d)(1);

(4) Records that document that the training or job experience required under Subsections R315-265-16(a), (b), and (c) has been given to, and completed by, facility personnel.

(e) Training records on current personnel shall be kept until closure of the facility. Training records on former employees shall be kept for at least three years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

**R315-265-17. General Facility Standards -- General Requirements for Ignitable, Reactive, or Incompatible Wastes.**

(a) The owner or operator shall take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste shall be separated and protected from sources of ignition or reaction including but not limited to: Open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks; static, electrical, or mechanical, spontaneous ignition, for example, from heat-producing chemical reactions, and radiant heat. While ignitable or reactive waste is being handled, the owner or operator shall confine smoking and open flame to specially designated locations. "No Smoking" signs shall be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

(b) Where specifically required by other sections of Rule R315-265, the treatment, storage, or disposal of ignitable or reactive waste, and the mixture or commingling of incompatible wastes, or incompatible wastes and materials, shall be conducted so that it does not:

(1) Generate extreme heat or pressure, fire or explosion, or violent reaction;

(2) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health;

(3) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;

(4) Damage the structural integrity of the device or facility containing the waste; or

(5) Through other like means threaten human health or the environment.

**R315-265-18. General Facility Standards -- Location Standards.**

The placement of any hazardous waste in a salt dome, salt bed formation, underground mine or cave is prohibited, except for the Department of Energy Waste Isolation Pilot Project in New Mexico.

**R315-265-19. General Facility Standards -- 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 Subsection R315-265-221(a), Section R315-265-254, and 40 CFR 265.301(a), which is adopted and incorporated by reference. The program shall ensure that the constructed unit meets or exceeds all design criteria and specifications in the permit. The program shall be developed and implemented under the direction of a CQA officer who is a registered professional engineer.

(2) The CQA program shall address the following physical components, where applicable:

(i) Foundations;

(ii) Dikes;

(iii) Low-permeability soil liners;

(iv) Geomembranes (flexible membrane liners);

(v) Leachate collection and removal systems and leak detection systems; and

(vi) Final cover systems.

(b) Written CQA plan. Before construction begins on a unit subject to the CQA program under Subsection R315-265-19(a), the owner or operator shall develop a written CQA plan. The plan shall 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 shall include:

(1) Identification of applicable units, and a description of how they will be constructed.

(2) Identification of key personnel in the development and implementation of the CQA plan, and CQA officer qualifications.

(3) A description of inspection and sampling activities for all unit components identified in Subsection R315-265-19(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 shall 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 Section R315-265-73.

(c) Contents of program.

(1) The CQA program shall include observations, inspections, tests, and measurements sufficient to ensure:

(i) Structural stability and integrity of all components of the unit identified in Subsection R315-265-19(a)(2);

(ii) Proper construction of all components of the liners, leachate collection and removal system, leak detection system, and final cover system, according to permit specifications and good engineering practices, and proper installation of all components, for example, pipes, according to design specifications;

(iii) Conformity of all materials used with design and other material specifications under Sections R315-264-221, R315-264-251, and R315-264-301.

(2) The CQA program shall include test fills for compacted soil liners, using the same compaction methods as in the full-scale unit, to ensure that the liners are constructed to meet the hydraulic conductivity requirements of Subsections R315-264-221(c)(1), R315-264-251(c)(1), and R315-264-301(c)(1) in the field. Compliance with the hydraulic conductivity requirements shall 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 Subsections R315-264-221(c)(1), R315-264-251(c)(1), and R315-264-301(c)(1) in the field.

(d) Certification. The owner or operator of units subject to Section R315-265-19 shall submit to the Director 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 Subsections R315-265-221(a), Section R315-265-254, or 40 CFR 265.301(a), which is adopted and incorporated by reference. The owner or operator may receive waste in the unit after 30 days from the Director's receipt of the CQA certification unless the Director 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 shall be furnished to the Director upon request.

**R315-265-30. Preparedness and Prevention -- Applicability.**

The regulations in Section R315-265-30 through 37 apply to owners and operators of all hazardous waste facilities, except as Section R315-265-1 provides otherwise.

**R315-265-31. Preparedness and Prevention -- Maintenance and Operation of Facility.**

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

**R315-265-32. Preparedness and Prevention -- Required Equipment.**

All facilities shall be equipped with the following, unless none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below:

(a) An internal communications or alarm system capable of providing immediate emergency instruction, voice or signal, to facility personnel;

(b) A device, such as a telephone, immediately available at the scene of operations, or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams;

(c) Portable fire extinguishers, fire control equipment, including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals, spill control equipment, and decontamination equipment; and

(d) Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.

**R315-265-33. Preparedness and Prevention -- Testing and Maintenance of Equipment.**

All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, shall be tested and maintained as necessary to assure its proper operation in time of emergency.

**R315-265-34. Preparedness and Prevention -- Access to Communications or Alarm System.**

(a) Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation shall have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless such a device is not required under Section R315-265-32.

(b) If there is ever just one employee on the premises while the facility is operating, he shall have immediate access to a device, such as a telephone, immediately available at the scene of operation, or a hand-held two-way radio, capable of summoning external emergency assistance, unless such a device is not required under Section R315-265-32.

**R315-265-35. Preparedness and Prevention -- Required Aisle Space.**

The owner or operator shall maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes.

**R315-265-37. Preparedness and Prevention -- Arrangements with Local Authorities.**

(a) The owner or operator shall attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations:

(1) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes;

(2) Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;

(3) Agreements with State emergency response teams, emergency response contractors, and equipment suppliers; and

(4) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

(b) Where State or local authorities decline to enter into such arrangements, the owner or operator shall document the refusal in the operating record.

**R315-265-50. Contingency Plan and Emergency Procedures -- Applicability.**

The regulations in Sections R315-265-50 through 56 apply to owners and operators of all hazardous waste facilities, except as Section R315-265-1 provides otherwise.

**R315-265-51. Contingency Plan and Emergency Procedures -- Purpose and Implementation of Contingency Plan.**

(a) Each owner or operator shall have a contingency plan for his facility. The contingency plan shall be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.

(b) The provisions of the plan shall be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

**R315-265-52. Contingency Plan and Emergency Procedures -- Content of Contingency Plan.**

(a) The contingency plan shall describe the actions facility personnel shall take to comply with Sections R315-265-51 and R315-265-56 in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility.

(b) If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with 40 CFR 112, or some other emergency or contingency plan, he need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of Rule R315-265. The owner or operator may develop one contingency plan which meets all regulatory requirements. EPA recommends that the plan be based on the National Response Team's Integrated Contingency Plan Guidance ("One Plan"). When modifications are made to non-RCRA provisions in an integrated contingency plan, the changes do not trigger the need for a RCRA permit modification.

(c) The plan shall describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and State and local emergency response teams to coordinate emergency services, pursuant to Section R315-265-37.

(d) The plan shall list names, addresses, and phone numbers, office and home, of all persons qualified to act as emergency coordinator, see Section R315-265-55, and this list shall be kept up to date. Where more than one person is listed, one shall be named as primary emergency coordinator and others shall be listed in the order in which they will assume responsibility as alternates.

(e) The plan shall include a list of all emergency equipment at the facility, such as fire extinguishing systems, spill control equipment, communications and alarm systems, internal and external, and decontamination equipment, where this equipment is required. This list shall be kept up to date. In addition, the plan shall include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(f) The plan shall include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan shall describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes, in cases where the primary routes could be blocked by releases of hazardous waste or fires.

**R315-265-53. Contingency Plan and Emergency Procedures -- Copies of Contingency Plan.**

A copy of the contingency plan and all revisions to the plan shall be:

(a) Maintained at the facility; and

(b) Submitted to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide emergency services.

**R315-265-54. Contingency Plan and Emergency Procedures --Amendment of Contingency Plan.**

The contingency plan shall be reviewed, and immediately amended, if necessary, whenever:

(a) Applicable regulations are revised;

(b) The plan fails in an emergency;

(c) The facility changes-in its design, construction, operation, maintenance, or other circumstances-in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;

(d) The list of emergency coordinators changes; or

(e) The list of emergency equipment changes.

**R315-265-55. Contingency Plan and Emergency Procedures --Emergency Coordinator.**

At all times, there shall be at least one employee either on the facility premises or on call, i.e., available to respond to an emergency by reaching the facility within a short period of time, with the responsibility for coordinating all emergency response measures. This emergency coordinator shall be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person shall have the authority to commit the resources needed to carry out the contingency plan. Comment: The emergency coordinator's responsibilities are more fully spelled out in Section R315-265-56. Applicable responsibilities for the emergency coordinator vary, depending on factors such as type and variety of waste(s) handled by the facility, and type and complexity of the facility.

**R315-265-56. Contingency Plan and Emergency Procedures --Emergency Procedures.**

(a) Whenever there is an imminent or actual emergency situation, the emergency coordinator, or his designee when the emergency coordinator is on call, shall immediately:

(1) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

(2) Notify appropriate State or local agencies with designated response roles if their help is needed.

(b) Whenever there is a release, fire, or explosion, the emergency coordinator shall immediately identify the character, exact source, amount, and areal extent of any released materials. He may do this by observation or review of facility records or manifests and, if necessary, by chemical analysis.

(c) Concurrently, the emergency coordinator shall assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment shall consider both direct and indirect effects of the release, fire, or explosion, for example, the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-offs from water or chemical agents used to control fire and heat-induced explosions.

(d) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he shall report his findings as follows:

(1) If his assessment indicates that evacuation of local areas may be advisable, he shall immediately notify appropriate local authorities. He shall be available to help appropriate officials decide whether local areas should be evacuated; and

(2) He shall immediately notify the Utah Department of Environmental Quality as specified in Section R315-263-30 and either the government official designated as the on-scene coordinator for that geographical area, or the National Response Center, using their 24-hour toll free number 800/424-8802. The report shall include:

(i) Name and telephone number of reporter;

(ii) Name and address of facility;

(iii) Time and type of incident, for example, release, fire;

(iv) Name and quantity of material(s) involved, to the extent known;

(v) The extent of injuries, if any; and

(vi) The possible hazards to human health, or the environment, outside the facility.

(e) During an emergency, the emergency coordinator shall take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures shall include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers.

(f) If the facility stops operations in response to a fire, explosion or release, the emergency coordinator shall monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

(g) Immediately after an emergency, the emergency coordinator shall provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

Comment: Unless the owner or operator can demonstrate, in accordance with Subsections R315-261-3(c) or (d), that the recovered material is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and shall manage it in accordance with all applicable requirements of Rules R315-262, R315-263, and R315-265.

(h) The emergency coordinator shall ensure that, in the affected area(s) of the facility:

(1) No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and

(2) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

(i) The owner or operator shall note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, he shall submit a written report on the incident to the Director. The report shall include:

(1) Name, address, and telephone number of the owner or operator;

(2) Name, address, and telephone number of the facility;

(3) Date, time, and type of incident, for example, fire, explosion;

(4) Name and quantity of material(s) involved;

(5) The extent of injuries, if any;

(6) An assessment of actual or potential hazards to human health or the environment, where this is applicable; and

(7) Estimated quantity and disposition of recovered material that resulted from the incident.

**R315-265-70. Manifest System, Recordkeeping, and Reporting --Applicability.**

(a) The regulations in R315-265-70 through R315-265-77 apply to owners and operators of both on-site and off-site facilities, except as Section R315-265-1 provides otherwise. Sections R315-265-71, R315-265-72, and R315-265-76 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources.

**R315-265-71. Manifest System, Recordkeeping, and Reporting --Use of Manifest System.**

(a)(1) If a facility receives hazardous waste accompanied by a manifest, the owner, operator or the owner or operator's agent shall sign and date the manifest as indicated in Subsection R315-265-71(a)(2) to certify that the hazardous waste covered by the manifest was received, that the hazardous waste was received except as noted in the discrepancy space of the manifest, or that the hazardous waste was rejected as noted in the manifest discrepancy space.

(2) If the facility receives a hazardous waste shipment accompanied by a manifest, the owner, operator, or the owner or operator's agent shall:

(i) sign and date each copy of the manifest;

(ii) note any discrepancies, as defined in Subsection R315-265-72(a), on each copy of the manifest;

(iii) immediately give the transporter at least one copy of the manifest;

(iv) within 30 days of delivery, send a copy, Page 2, of the manifest to the generator;

(v) paper manifest submission requirements are:

(A) Options for compliance on June 30, 2018. Beginning on June 30, 2018, send the top copy, Page 1, of any paper manifest and any paper continuation sheet to the e-Manifest system for data entry and processing, or in lieu of submitting the paper copy to EPA, the owner or operator may transmit to the EPA system an image file of Page 1 of the manifest and any continuation sheet, or both a data file and image file corresponding to Page 1 of the manifest and any continuation sheet, within 30 days of the date of delivery. Submissions of copies to the e-Manifest system shall be made at the mailing address or electronic mail or submission address specified at the e-Manifest program website's directory of services. Beginning on June 30, 2021, EPA will not accept mailed paper manifests from facilities for processing in e-Manifest.

(B) Options for compliance on June 30, 2021. Beginning on June 30, 2021, the requirement to submit the top copy, Page1, of the paper manifest and any paper continuation sheet to the e-Manifest system for data entry and processing may be met by the owner or operator only by transmitting to the EPA system an image file of Page 1 of the manifest and any continuation sheet, or by transmitting to the EPA system both a data file and the image file corresponding to Page 1 of the manifest and any continuation sheet, within 30 days of the date of delivery. Submissions of copies to the e-Manifest system shall be made to the electronic mail or submission address specified at the e-Manifest program website's directory of services; and

(vi) keep at the facility a copy of each manifest for at least three years from the date of delivery.

(3) The owner or operator of a facility that receives hazardous waste subject to Sections R315-262-80 through R315-265-84 from a foreign source shall:

(i) additionally list the relevant consent number from consent documentation supplied by EPA to the facility for each waste listed on the manifest, matched to the relevant list number for the waste from block 9b. If additional space is needed, the owner or operator should use a continuation sheet or sheets, EPA Form 8700-22A; and

(ii) send a copy of the manifest to EPA using the addresses listed in Subsection R315-262-82(e) within 30 days of delivery until the facility can submit a copy to the e-Manifest system per Subsection R315-265-71(a)(2)(v).

(b) If a facility receives, from a rail or water, bulk shipment, transporter, hazardous waste that is accompanied by a shipping paper containing the information required on the manifest, excluding the EPA identification numbers, generator's certification, and signatures, the owner or operator, or the owner or operator's agent, shall:

(1) sign and date each copy of the manifest or shipping paper, if the manifest has not been received, to certify that the hazardous waste covered by the manifest or shipping paper was received;

(2) note any significant discrepancies, as defined in Subsection R315-265-72(a), in the manifest or shipping paper, if the manifest has not been received, on each copy of the manifest or shipping paper;

(i) The director does not intend that the owner or operator of a facility whose procedures under Subsection R315-265-13(c) include waste analysis shall perform that analysis before signing the shipping paper and giving it to the transporter. Subsection R315-265-72(b), however, requires reporting an unreconciled discrepancy discovered during later analysis.

(3) immediately give the rail or water, bulk shipment, transporter at least one copy of the manifest or shipping paper, if the manifest has not been received;

(4) within 30 days after the delivery, send a copy of the signed and dated manifest or a signed and dated copy of the shipping paper, if the manifest has not been received within 30 days after delivery, to the generator; and

(i) Subsection R315-262-23(c) requires the generator to send three copies of the manifest to the facility when hazardous waste is sent by rail or water, bulk shipment.

(5) keep at the facility a copy of the manifest and shipping paper, if signed in lieu of the manifest when delivered, for at least three years from the date of delivery.

(c) When a shipment of hazardous waste is initiated from a facility, the owner or operator of that facility shall comply with the requirements of Rule R315-262. Sections R315-262-15, R315-262-16, and R315-262-17 are applicable to the on-site accumulation of hazardous wastes by generators. Therefore, Sections R315-262-15, R315-262-16, and R315-262-17 only apply to owners or operators who are shipping hazardous waste that they generated at that facility or operating as a large quantity generator consolidating hazardous waste from very small quantity generators under Subsection R315-262-17(f).

(d) As per Subsection R315-262-84(d)(2)(xv), within three working days of the receipt of a shipment subject to Sections R315-262-80 through R315-262-84, the owner or operator of a facility shall provide a copy of the movement document bearing the required signatures to the foreign exporter, to the competent authorities of the countries of export and transit that control the shipment as an export and transit shipment of hazardous waste respectively, and on or after the electronic import-export reporting compliance date, to EPA electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system. The original copy of the movement document shall be maintained at the facility for at least three years from the date of signature. The owner or operator of a facility may satisfy this recordkeeping requirement by keeping electronically submitted documents in the facility's account on EPA's Waste Import Export Tracking System (WIETS), or its successor system, if the copies are readily available for viewing and production if requested by any EPA or Utah inspector. No owner or operator of a facility may be held liable for the inability to produce the documents for inspection under this section if the owner or operator of a facility can demonstrate that the inability to produce the document is due exclusively to technical difficulty with EPA's Waste Import Export Tracking System (WIETS), or its successor system, for which the owner or operator of a facility bears no responsibility.

(e) A facility shall determine whether the consignment state for a shipment regulates any additional wastes, beyond those regulated federally, as hazardous wastes under its state hazardous waste program. Facilities shall also determine whether the consignment state or generator state requires the facility to submit any copies of the manifest to these states.

(f) Legal equivalence to paper manifests. Electronic manifests that are procured, finished, and transmitted in accordance with Subsection R315-262-20(a)(3), and used in accordance with this Section R315-265-71 in lieu of the paper manifest form are the legal equivalent of paper manifest forms bearing handwritten signatures, and satisfy any requirement in Title R315 to get, finish, sign, provide, use, or keep a manifest.

(1) Any requirement in Rules R315-260 through R315-266, R315-268, R315-270, and R315-273 for the owner or operator of a facility to sign a manifest or manifest certification by hand, or to get a handwritten signature, is satisfied by signing with or getting a valid and enforceable electronic signature within the meaning of Section R315-262-25.

(2) Any requirement in Title R315 to give, provide, send, forward, or to return to another person a copy of the manifest is satisfied if a copy of an electronic manifest is transmitted to the other person.

(3) Any requirement in Title R315 for a manifest to accompany a hazardous waste shipment is satisfied if a copy of an electronic manifest is accessible during transportation and forwarded to the person who is scheduled to receive delivery of the hazardous waste shipment.

(4) Any requirement in Title R315 for an owner or operator to keep or keep a copy of each manifest is satisfied by the retention of the facility's electronic manifest copies in its account on the e-Manifest system, if the copies are readily available for viewing and production if requested by any EPA or Utah inspector.

(5) No owner or operator may be held liable for the inability to produce an electronic manifest for inspection under this Section R315-265-71 if the owner or operator can demonstrate that the inability to produce the electronic manifest is due exclusively to a technical difficulty with the EPA system, for which the owner or operator bears no responsibility.

(g) An owner or operator may participate in the electronic manifest system either by accessing the electronic manifest system from the owner's or operator's electronic equipment, or by accessing the electronic manifest system from portable equipment brought to the owner's or operator's site by the transporter who delivers the waste shipment to the facility.

(h) Special procedures applicable to replacement manifests. If a facility receives hazardous waste that is accompanied by a paper replacement manifest for a manifest that was originated electronically, the following procedures apply to the delivery of the hazardous waste by the final transporter:

(1) Upon delivery of the hazardous waste to the designated facility, the owner or operator shall sign and date each copy of the paper replacement manifest by hand in Item 20, Designated Facility Certification of Receipt, and note any discrepancies in Item 18, Discrepancy Indication Space, of the replacement manifest.

(2) The owner or operator of the facility shall give back to the final transporter one copy of the paper replacement manifest.

(3) Within 30 days of delivery of the hazardous waste to the designated facility, the owner or operator of the facility shall send one signed and dated copy of the paper replacement manifest to the generator, and send an additional signed and dated copy of the paper replacement manifest to the EPA e-Manifest system.

(4) The owner or operator of the facility shall keep at the facility one copy of the paper replacement manifest for at least three years from the date of delivery.

(i) Special procedures applicable to electronic signature methods undergoing tests. If an owner or operator using an electronic manifest signs this manifest electronically using an electronic signature method that is undergoing pilot or demonstration tests aimed at demonstrating the practicality or legal dependability of the signature method, then the owner or operator shall also sign with an ink signature the facility's certification of receipt or discrepancies on the printed copy of the manifest provided by the transporter. Upon executing its ink signature on this printed copy, the owner or operator shall keep this original copy among its records for at least three years from the date of delivery of the waste.

(j) Imposition of user fee for electronic manifest use.

(1) As prescribed in 40 CFR 265.1311, and determined in 40 CFR 265.1312, which are incorporated by reference, an owner or operator who is a user of the electronic manifest system shall be assessed a user fee by EPA for the submission and processing of each electronic and paper manifest. EPA shall update the schedule of user fees and publish them to the user community, as provided in 40 CFR 265.1313, which is incorporated by reference.

(2) An owner or operator subject to user fees under Section R315-265-71 shall make user fee payments in accordance with the requirements of 40 CFR 265.1314, subject to the informal fee dispute resolution process of 40 CFR 265.1316, and subject to the sanctions for delinquent payments under 40 CFR 265.1315, which are incorporated by reference.

(k) Electronic manifest signatures.

(1) Electronic manifest signatures shall meet the criteria described in Section R315-262-25.

(l) Post-receipt manifest data corrections. After facilities have certified to the receipt of hazardous wastes by signing Item 20 of the manifest, any post-receipt data corrections may be submitted at any time by any interested person, for example, waste handler, shown on the manifest.

(1) Interested persons shall make each correction to manifest data by electronic submission, either by directly entering corrected data to the web based service provided in e-Manifest for corrections, or by an upload of a data file containing data corrections relating to one or more previously submitted manifests.

(2) Each correction submission shall include the following information:

(i) the Manifest Tracking Number and date of receipt by the facility of the original manifest or manifests for which data are being corrected;

(ii) the Item Numbers of the original manifest that is the subject of the submitted corrections; and

(iii) for each Item Number with corrected data, the data previously entered and the corresponding data as corrected by the correction submission.

(3) Each correction submission shall include a statement that the person submitting the corrections certifies that to the best of their knowledge or belief, the corrections that are included in the submission will cause the information reported about the previously received hazardous wastes to be true, accurate, and complete.

(i) The certification statement shall be executed with a valid electronic signature; and

(ii) A batch upload of data corrections may be submitted under one certification statement.

(4) Upon receipt by the system of any correction submission, other interested persons shown on the manifest will be provided electronic notice of the submitter's corrections.

(5) Other interested persons shown on the manifest may respond to the submitter's corrections with comments to the submitter, or by submitting another correction to the system, certified by the respondent as specified in Subsection R315-265-71(l)(3), and with notice of the corrections to other interested persons shown on the manifest.

**R315-265-72. Manifest System, Recordkeeping, and Reporting -- Manifest Discrepancies.**

(a) Manifest discrepancies are:

(1) significant differences, as defined by Subsection R315-265-72(b), between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity and type of hazardous waste a facility actually receives;

(2) rejected wastes, which may be a full or partial shipment of hazardous waste that the TSDF cannot accept; or

(3) container residues, which are residues that exceed the quantity limits for "empty" containers set forth in Subsection R315-261-7(b) and Section R315-266-507.

(b) Significant differences in quantity are: For bulk waste, variations greater than 10% in weight; for batch waste, any variation in piece count, such as a discrepancy of one drum in a truckload. Significant differences in type are obvious differences that can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper.

(c) Upon discovering a significant difference in quantity or type, the owner or operator shall try to reconcile the discrepancy with the waste generator or transporter, for example, with telephone conversations. If the discrepancy is not resolved within 15 days after receiving the waste, the owner or operator shall immediately submit to the director a letter describing the discrepancy and attempts to reconcile it, and a copy of the manifest or shipping paper at issue.

(d)(1) Upon rejecting waste or identifying a container residue that exceeds the quantity limits for "empty" containers set forth in Subsection R315-261-7(b), the facility shall consult with the generator before forwarding the waste to another facility that can manage the waste. If it is impossible to locate an alternative facility that can receive the waste, the facility may return the rejected waste or residue to the generator. The facility shall send the waste to the alternative facility or to the generator within 60 days of the rejection or the container residue identification.

(2) While the facility is making arrangements for forwarding rejected wastes or residues to another facility under this Section R315-265-72, it shall ensure that either the delivering transporter keeps custody of the waste, or the facility shall provide for secure, temporary custody of the waste, pending delivery of the waste to the first transporter designated on the manifest prepared under Subsection R315-265-72(e) or R315-265-72(f).

(e) Except as provided in Subsection R315-265-72(e)(7), for full or partial load rejections and residues that are to be sent off-site to an alternate facility, the facility shall prepare a new manifest in accordance with Subsection R315-262-20(a) and the following instructions:

(1) Write the generator's U.S. EPA ID number in Item 1 of the new manifest. Write the generator's name and mailing address in Item 5 of the new manifest. If the mailing address is different from the generator's site address, then write the generator's site address in the designated space in Item 5.

(2) Write the name of the alternate designated facility and the facility's U.S. EPA ID number in the designated facility block, Item 8, of the new manifest.

(3) Copy the manifest tracking number found in Item 4 of the old manifest to the Special Handling and Additional Information Block of the new manifest, and state that the shipment is a residue or rejected waste from the previous shipment.

(4) Copy the manifest tracking number found in Item 4 of the new manifest to the manifest reference number line in the Discrepancy Block of the old manifest, Item 18a.

(5) Write the DOT description for the rejected load or the residue in Item 9, U.S. DOT Description, of the new manifest and write the container types, quantity, and volumes of waste.

(6) Sign the Generator's/Offeror's Certification to certify, as the offeror of the shipment, that the waste has been properly packaged, marked and labeled and is in proper condition for transportation, and mail a signed copy of the manifest to the generator identified in Item 5 of the new manifest.

(7) For full load rejections that are made while the transporter remains present at the facility, the facility may forward the rejected shipment to the alternate facility by completing Item 18b of the original manifest and supplying the information on the next destination facility in the Alternate Facility space. The facility shall keep a copy of this manifest for its records, and then give the remaining copies of the manifest to the transporter to accompany the shipment. If the original manifest is not used, then the facility shall use a new manifest and comply with Subsections R315-265-72(e)(1), R315-265-72(e)(2), R315-265-72(e)(3), R315-265-72(e)(4), R315-265-72(e)(5), and R315-265-72(e)(6).

(f) Except as provided in Subsection R315-265-72(f)(7), for rejected wastes and residues that must be sent back to the generator, the facility shall prepare a new manifest in accordance with Subsection R315-262-20(a) and the following instructions:

(1) Write the facility's U.S. EPA ID number in Item 1 of the new manifest. Write the facility's name and mailing address in Item 5 of the new manifest. If the mailing address is different from the facility's site address, then write the facility's site address in the designated space for Item 5 of the new manifest.

(2) Write the name of the initial generator and the generator's U.S. EPA ID number in the designated facility block, Item 8, of the new manifest.

(3) Copy the manifest tracking number found in Item 4 of the old manifest to the Special Handling and Additional Information Block of the new manifest, and state that the shipment is a residue or rejected waste from the previous shipment.

(4) Copy the manifest tracking number found in Item 4 of the new manifest to the manifest reference number line in the Discrepancy Block of the old manifest, Item 18a.

(5) Write the DOT description for the rejected load or the residue in Item 9, U.S. DOT Description, of the new manifest and write the container types, quantity, and volumes of waste.

(6) Sign the Generator's/Offeror's Certification to certify, as offeror of the shipment, that the waste has been properly packaged, marked and labeled and is in proper condition for transportation.

(7) For full load rejections that are made while the transporter remains at the facility, the facility may return the shipment to the generator with the original manifest by completing Item 18a and 18b of the manifest and supplying the generator's information in the Alternate Facility space. The facility shall keep a copy for its records and then give the remaining copies of the manifest to the transporter to accompany the shipment. If the original manifest is not used, then the facility shall use a new manifest and comply with Subsections R315-265-72(f)(1), R315-265-72(f)(2), R315-265-72(f)(3), R315-265-72(f)(4), R315-265-72(f)(5), R315-265-72(f)(6), and R315-265-72(f)(8).

(8) For full or partial load rejections and container residues contained in non-empty containers that are returned to the generator, the facility shall also comply with the exception reporting requirements in Subsection R315-262-42(a).

(g) If a facility rejects a waste or identifies a container residue that exceeds the quantity limits for "empty" containers set forth in Subsection R315-261-7(b) after it has signed, dated, and returned a copy of the manifest to the delivering transporter or to the generator, the facility shall amend its copy of the manifest to show the rejected wastes or residues in the discrepancy space of the amended manifest. The facility shall also copy the manifest tracking number from Item 4 of the new manifest to the discrepancy space of the amended manifest and shall re-sign and date the manifest to certify to the information as amended. The facility shall keep the amended manifest for at least three years from the date of amendment, and shall within 30 days, send a copy of the amended manifest to the transporter and generator that received copies before their being amended.

**R315-265-73. Manifest System, Recordkeeping, and Reporting -- Operating Record.**

(a) The owner or operator shall keep a written operating record at his facility.

(b) The following information shall be recorded, as it becomes available, and maintained in the operating record for three years unless noted below:

(1) A description and the quantity of each hazardous waste received, and the method(s) and date(s) of its treatment, storage, or disposal at the facility as required by Appendix I to 40 CFR part 265, which is adopted and incorporated by reference. This information shall 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 shall be recorded on a map or diagram of each cell or disposal area. For all facilities, this information shall include cross-references to manifest document numbers if the waste was accompanied by a manifest. This information shall be maintained in the operating record until closure of the facility;

Comment: See Section R315-265-119, 40 CFR 265.279, and 40 CFR 265.309, which are adopted and incorporated by reference, for related requirements.

(3) Records and results of waste analysis, waste determinations, and trial tests performed as specified in Sections R315-265-13, R315-265-200, R315-265-225, R315-265-252, 40 CFR 265.273, 265.314, 265.341, 265.375, 265.402, 265.1034, 265.1063, 265.1084, which are adopted and incorporated by reference, Subsection R315-268-4(a), and Section R315-268-7.

(4) Summary reports and details of all incidents that require implementing the contingency plan as specified in Subsection R315-265-56(j);

(5) Records and results of inspections as required by Subsection R315-265-15(d), except these data need be kept only three years;

(6) Monitoring, testing or analytical data, and corrective action where required by Sections R315-265-90 through 265-94 and by Sections R315-265-19, R315-265-94, R315-265-191, R315-265-193, R315-265-195, R315-265-224, R315-265-226, R315-265-255, R315-265-260, 40 CFR 265.276, 265.278, 265.280(d)(1), 265.302, 265.304, 265.347, 265.377, 265.1034(c) through 265.1034(f), 265.1035, 265.1063(d) through 265. 265.1063(i), 265.1064, and 265.1083 through 265.1090, which are adopted and incorporated by reference. Maintain in the operating record for three years, except for records and results pertaining to ground-water monitoring and cleanup, and response action plans for surface impoundments, waste piles, and landfills, which shall be maintained in the operating record until closure of the facility.

Comment: As required by Section R315-265-94, monitoring data at disposal facilities shall be kept throughout the post-closure period.

(7) All closure cost estimates under Section R315-265-142 and, for disposal facilities, all post-closure cost estimates under Section R315-265-144 shall be maintained in the operating record until closure of the facility.

(8) Records of the quantities, and date of placement, for each shipment of hazardous waste placed in land disposal units under an extension to the effective date of any land disposal restriction granted pursuant to Section R315-268-5, monitoring data required pursuant to a petition under Section R315-268-6, or a certification under Section R315-268-8, and the applicable notice required by a generator under Subsection R315-268-7(a). All of this information shall be maintained in the operating record until closure of the facility.

(9) For an off-site treatment facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator under Sections R315-268-7 or R315-268-8;

(10) For an on-site treatment facility, the information contained in the notice, except the manifest number, and the certification and demonstration if applicable, required by the generator or the owner or operator under Sections R315-268-7 or R315-268-8;

(11) For an off-site land disposal facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator of a treatment facility under Sections R315-268-7 or R315-268-8;

(12) For an on-site land disposal facility, the information contained in the notice, except the manifest number, and the certification and demonstration if applicable, required by the generator or the owner or operator of a treatment facility under Sections R315-268-7 or R315-268-8.

(13) For an off-site storage facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator under Sections R315-268-7 or R315-268-8; and

(14) For an on-site storage facility, the information contained in the notice, except the manifest number, and the certification and demonstration if applicable, required by the generator or the owner or operator of a treatment facility under Sections R315-268-7 or R315-268-8.

(15) Monitoring, testing or analytical data, and corrective action where required by Section R315-265-90, Subsections R315-265-93(d)(2), and R315-265-93(d)(5), and the certification as required by Subsection R315-265-196(f) shall be maintained in the operating record until closure of the facility.

**R315-265-74. Manifest System, Recordkeeping, and Reporting -- Availability, Retention, and Dispostion of Records.**

(a) All records, including plans, required under Rule R315-265 shall be furnished upon request, and made available at all reasonable times for inspection, by any officer, employee, or representative of the Director.

(b) The retention period for all records required under Rule R315-265 is extended automatically during the course of any unresolved enforcement action regarding the facility or as requested by the Director.

(c) A copy of records of waste disposal locations and quantities under Subsection R315-265-73(b)(2) shall be submitted to the Director and local land authority upon closure of the facility, see Section R315-265-119.

**R315-265-75. Manifest System, Recordkeeping, and Reporting -- Biennial Report.**

The owner or operator shall complete and submit EPA Form 8700-13 A/B to the Director by March 1 of the following even numbered year and shall cover activities during the previous year.

**R315-265-76. Manifest System, Recordkeeping, and Reporting -- Unmanifested Waste Report.**

(a) If a facility accepts for treatment, storage, or disposal any hazardous waste from an off-site source without an accompanying manifest, or without an accompanying shipping paper as described by Subsection R315-263-20(e), and if the waste is not excluded from the manifest requirement by Rules R315-260 through R315-266, R315-268, R315-270 or R315-273, then the owner or operator shall prepare and submit a letter to the Director within fifteen days after receiving the waste. The unmanifested waste report shall contain the following information:

(1) The EPA identification number, name and address of the facility;

(2) The date the facility received the waste;

(3) The EPA identification number, name and address of the generator and the transporter, if available;

(4) A description and the quantity of each unmanifested hazardous waste the facility received;

(5) The method of treatment, storage, or disposal for each hazardous waste;

(6) The certification signed by the owner or operator of the facility or his authorized representative; and

(7) A brief explanation of why the waste was unmanifested, if known.

**R315-265-77. Manifest System, Recordkeeping, and Reporting -- Additional Reports.**

In addition to submitting the biennial report and unmanifested waste reports described in Sections R315-265-75 and 265-76, the owner or operator shall also report to the Director:

(a) Releases, fires, and explosions as specified in Subsection R315-265-56(j);

(b) Ground-water contamination and monitoring data as specified in Sections R315-265-93 and R315-265-94; and

(c) Facility closure as specified in Section R315-265-115.

(d) As otherwise required by 40 CFR 265 Subparts AA, BB, and CC, which are adopted and incorporated by reference.

**R315-265-90. Ground-Water Monitoring - Applicability.**

(a) Within one year after the effective date of these regulations, the owner or operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste shall implement a ground-water monitoring program capable of determining the facility's impact on the quality of ground water in the uppermost aquifer underlying the facility, except as Section R315-265-1 and Subsection R315-265-90(c) provide otherwise.

(b) Except as Subsections R315-265-90(c) and (d) provide otherwise, the owner or operator shall install, operate, and maintain a ground-water monitoring system which meets the requirements of Section R315-265-91, and shall comply with Sections R315-265-92 through 265-94. This ground-water monitoring program shall be carried out during the active life of the facility, and for disposal facilities, during the post-closure care period as well.

(c) All or part of the ground-water monitoring requirements of Sections R315-265-90 through 265-94 may be waived if the owner or operator can demonstrate that there is a low potential for migration of hazardous waste or hazardous waste constituents from the facility via the uppermost aquifer to water supply wells, domestic, industrial, or agricultural, or to surface water. This demonstration shall be in writing, and shall be kept at the facility. This demonstration shall be certified by a qualified geologist or geotechnical engineer and shall establish the following:

(1) The potential for migration of hazardous waste or hazardous waste constituents from the facility to the uppermost aquifer, by an evaluation of:

(i) A water balance of precipitation, evapotranspiration, runoff, and infiltration; and

(ii) Unsaturated zone characteristics, i.e., geologic materials, physical properties, and depth to ground water; and

(2) The potential for hazardous waste or hazardous waste constituents which enter the uppermost aquifer to migrate to a water supply well or surface water, by an evaluation of:

(i) Saturated zone characteristics, i.e., geologic materials, physical properties, and rate of ground-water flow; and

(ii) The proximity of the facility to water supply wells or surface water.

(d) If an owner or operator assumes, or knows, that ground-water monitoring of indicator parameters in accordance with Sections R315-265-91 and 265-92 would show statistically significant increases, or decreases in the case of pH, when evaluated under Subsection R315-265-93(b), he may install, operate, and maintain an alternate ground-water monitoring system, other than the one described in Sections R315-265-91 and 265-92. If the owner or operator decides to use an alternate ground-water monitoring system he shall:

(1) Within one year after the effective date of these regulations, develop a specific plan, certified by a qualified geologist or geotechnical engineer, which satisfies the requirements of Subsection R315-265-93(d)(3), for an alternate ground-water 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 Subsection R315-265-93(d)(4);

(3) Prepare a report in accordance with Subsection R315-265-93(d)(5) and place it in the facility's operating record and maintain until closure of the facility.

(4) Continue to make the determinations specified in Subsection R315-265-93(d)(4) on a quarterly basis until final closure of the facility; and

(5) Comply with the recordkeeping and reporting requirements in Subsection R315-265-94(b).

(e) The ground-water monitoring requirements of this Sections R315-265-90 through 265-94 may be waived with respect to any surface impoundment that (1) Is used to neutralize wastes which are hazardous solely because they exhibit the corrosivity characteristic under Section R315-261-22 or are listed as hazardous wastes in Sections R315-261-30 through 261-35 only for this reason, and (2) contains no other hazardous wastes, if the owner or operator can demonstrate that there is no potential for migration of hazardous wastes from the impoundment. The demonstration shall 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 shall be in writing and shall be certified by a qualified professional.

(f) The Director may replace all or part of the requirements of Sections R315-265-90 through 265-94 applying to a regulated unit, as defined in Section R315-264-90, 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 Subsection R315-270-1(c)(7), where the Director 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 Sections R315-265-90 through 265-94 because the alternative requirements will protect human health and the environment. The alternative standards for the regulated unit shall meet the requirements of Subsection R315-264-101(a).

**R315-265-91. Ground-Water Monitoring -- Ground-Water Monitoring System.**

(a) A ground-water monitoring system shall be capable of yielding ground-water samples for analysis and shall 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 shall be sufficient to yield ground-water samples that are:

(i) Representative of background ground-water quality in the uppermost aquifer near the facility; and

(ii) Not affected by the facility; and

(2) Monitoring wells, at least three, installed hydraulically downgradient, i.e., in the direction of decreasing static head, at the limit of the waste management area. Their number, locations, and depths shall 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 shall be in writing and kept at the facility. The demonstration shall be certified by a qualified ground-water scientist and establish that:

(i) An existing physical obstacle prevents monitoring well installation at the hydraulically downgradient limit of the waste management area; and

(ii) The selected alternate downgradient location is as close to the limit of the waste management area as practical; and

(iii) The location ensures detection that, given the alternate location, is as early as possible of any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer.

(iv) Lateral expansion, new, or replacement units are not eligible for an alternate downgradient location under Section R315-265-91.

(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 shall be cased in a manner that maintains the integrity of the monitoring well bore hole. This casing shall 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 shall be sealed with a suitable material, for example, cement grout or bentonite slurry, to prevent contamination of samples and the ground water.

**R315-265-92. Ground-Water Monitoring -- Sampling and Analysis.**

(a) The owner or operator shall obtain and analyze samples from the installed ground-water monitoring system. The owner or operator shall develop and follow a ground-water sampling and analysis plan. He shall keep this plan at the facility. The plan shall include procedures and techniques for:

(1) Sample collection;

(2) Sample preservation and shipment;

(3) Analytical procedures; and

(4) Chain of custody control.

Comment: See "Procedures Manual For Ground-water Monitoring At Solid Waste Disposal Facilities," EPA-530/SW-611, August 1977 and "Methods for Chemical Analysis of Water and Wastes," EPA-600/4-79-020, March 1979 for discussions of sampling and analysis procedures.

(b) The owner or operator shall determine the concentration or value of the following parameters in ground-water samples in accordance with Subsections R315-265-92(c) and (d):

(1) Parameters characterizing the suitability of the ground water as a drinking water supply, as specified in Appendix III to 40 CFR 265, which is adopted and incorporated by reference.

(2) Parameters establishing ground-water quality:

(i) Chloride

(ii) Iron

(iii) Manganese

(iv) Phenols

(v) Sodium

(vi) Sulfate

Comment: These parameters are to be used as a basis for comparison in the event a ground-water quality assessment is required under Subsection R315-265-93(d).

(3) Parameters used as indicators of ground-water contamination:

(i) pH

(ii) Specific Conductance

(iii) Total Organic Carbon

(iv) Total Organic Halogen

(c)(1) For all monitoring wells, the owner or operator shall establish initial background concentrations or values of all parameters specified in Subsection R315-265-92(b). He shall do this quarterly for one year.

(2) For each of the indicator parameters specified in Subsection R315-265-92(b)(3), at least four replicate measurements shall be obtained for each sample and the initial background arithmetic mean and variance shall be determined by pooling the replicate measurements for the respective parameter concentrations or values in samples obtained from upgradient wells during the first year.

(d) After the first year, all monitoring wells shall be sampled and the samples analyzed with the following frequencies:

(1) Samples collected to establish ground-water quality shall be obtained and analyzed for the parameters specified in Subsection R315-265-92(b)(2) at least annually.

(2) Samples collected to indicate ground-water contamination shall be obtained and analyzed for the parameters specified in Subsection R315-265-92(b)(3) at least semi-annually.

(e) Elevation of the ground-water surface at each monitoring well shall be determined each time a sample is obtained.

**R315-265-93. Ground-Water Monitoring -- Preparation, Evaluation, and Response.**

(a) Within one year after the effective date of these regulations, the owner or operator shall prepare an outline of a ground-water quality assessment program. The outline shall describe a more comprehensive ground-water monitoring program, than that described in Sections R315-265-91 and 265-92, capable of determining:

(1) Whether hazardous waste or hazardous waste constituents have entered the ground water;

(2) The rate and extent of migration of hazardous waste or hazardous waste constituents in the ground water; and

(3) The concentrations of hazardous waste or hazardous waste constituents in the ground water.

(b) For each indicator parameter specified in Subsection R315-265-92(b)(3), the owner or operator shall calculate the arithmetic mean and variance, based on at least four replicate measurements on each sample, for each well monitored in accordance with Subsection R315-265-92(d)(2), and compare these results with its initial background arithmetic mean. The comparison shall consider individually each of the wells in the monitoring system, and shall use the Student's t-test at the 0.01 level of significance, see Appendix IV to 40 CFR 265, which is adopted and incorporated by reference, to determine statistically significant increases, and decreases, in the case of pH, over initial background.

(c)(1) If the comparisons for the upgradient wells made under Subsection R315-265-93(b) show a significant increase, or pH decrease, the owner or operator shall submit this information in accordance with Subsection R315-265-94(a)(2)(ii).

(2) If the comparisons for downgradient wells made under Subsection R315-265-93(b) show a significant increase, or pH decrease, the owner or operator shall then immediately obtain additional ground-water samples from those downgradient wells where a significant difference was detected, split the samples in two, and obtain analyses of all additional samples to determine whether the significant difference was a result of laboratory error.

(d)(1) If the analyses performed under Subsection R315-265-93(c)(2) confirm the significant increase, or pH decrease, the owner or operator shall provide written notice to the Director---within seven days of the date of such confirmation---that the facility may be affecting ground-water quality.

(2) Within 15 days after the notification under Subsection R315-265-93(d)(1), the owner or operator shall develop a specific plan, based on the outline required under Subsection R315-265-93(a) and certified by a qualified geologist or geotechnical engineer, for a ground-water quality assessment at the facility. This plan shall be placed in the facility operating record and be maintained until closure of the facility.

(3) The plan to be submitted under Subsection R315-265-90(d)(1) or Subsection R315-265-93(d)(2)shall specify:

(i) The number, location, and depth of wells;

(ii) Sampling and analytical methods for those hazardous wastes or hazardous waste constituents in the facility;

(iii) Evaluation procedures, including any use of previously-gathered ground-water quality information; and

(iv) A schedule of implementation.

(4) The owner or operator shall implement the ground-water quality assessment plan which satisfies the requirements of Subsection R315-265-93(d)(3), and, at a minimum, determine:

(i) The rate and extent of migration of the hazardous waste or hazardous waste constituents in the ground water; and

(ii) The concentrations of the hazardous waste or hazardous waste constituents in the ground water.

(5) The owner or operator shall make his first determination under Subsection R315-265-93(d)(4), as soon as technically feasible, and prepare a report containing an assessment of ground-water quality. This report shall be placed in the facility operating record and be maintained until closure of the facility.

(6) If the owner or operator determines, based on the results of the first determination under Subsection R315-265-93(d)(4), that no hazardous waste or hazardous waste constituents from the facility have entered the ground water, then he may reinstate the indicator evaluation program described in Section R315-265-92 and Subsection R315-265-93(b). If the owner or operator reinstates the indicator evaluation program, he shall so notify the Director in the report submitted under Subsection R315-265-93(d)(5).

(7) If the owner or operator determines, based on the first determination under Subsection R315-265-93(d)(4), that hazardous waste or hazardous waste constituents from the facility have entered the ground water, then he:

(i) Shall continue to make the determinations required under Subsection R315-265-93(d)(4) on a quarterly basis until final closure of the facility, if the ground-water quality assessment plan was implemented prior to final closure of the facility; or

(ii) May cease to make the determinations required under Subsection R315-265-93(d)(4), if the ground-water quality assessment plan was implemented during the post-closure care period.

(e) Notwithstanding any other provision of Sections R315-265-90 through R315-265-94, any ground-water quality assessment to satisfy the requirements of Subsection R315-265-93(d)(4) which is initiated prior to final closure of the facility shall be completed and reported in accordance with Subsection R315-265-93(d)(5).

(f) Unless the ground water is monitored to satisfy the requirements of Subsection R315-265-93(d)(4), at least annually the owner or operator shall evaluate the data on ground-water surface elevations obtained under Subsection R315-265-92(e) to determine whether the requirements under Subsection R315-265-91(a) for locating the monitoring wells continues to be satisfied. If the evaluation shows that Subsection R315-265-91(a) is no longer satisfied, the owner or operator shall immediately modify the number, location, or depth of the monitoring wells to bring the ground-water monitoring system into compliance with this requirement.

**R315-265-94. Ground-Water Monitoring -- Recordkeeping and Reporting.**

(a) Unless the ground water is monitored to satisfy the requirements of Subsection R315-265-93(d)(4), the owner or operator shall:

(1) Keep records of the analyses required in Subsections R315-265-92(c) and (d), the associated ground-water surface elevations required in Subsection R315-265-92(e), and the evaluations required in Subsection R315-265-93(b) throughout the active life of the facility, and, for disposal facilities, throughout the post-closure care period as well; and

(2) Report the following ground-water monitoring information to the Director:

(i) During the first year when initial background concentrations are being established for the facility: concentrations or values of the parameters listed in Subsection R315-265-92(b)(1) for each ground-water monitoring well within 15 days after completing each quarterly analysis. The owner or operator shall separately identify for each monitoring well any parameters whose concentration or value has been found to exceed the maximum contaminant levels listed in Appendix III to 40 CFR 265, which is adopted and incorporated by reference.

(ii) Annually: Concentrations or values of the parameters listed in Subsection R315-265-92(b)(3) for each ground-water monitoring well, along with the required evaluations for these parameters under Subsection R315-265-93(b). The owner or operator shall separately identify any significant differences from initial background found in the upgradient wells, in accordance with Subsection R315-265-93(c)(1). During the active life of the facility, this information shall be submitted no later than March 1 following each calendar year.

(iii) No later than March 1 following each calendar year: Results of the evaluations of ground-water surface elevations under Subsection R315-265-93(f), and a description of the response to that evaluation, where applicable.

(b) If the ground water is monitored to satisfy the requirements of Subsection R315-265-93(d)(4), the owner or operator shall:

(1) Keep records of the analyses and evaluations specified in the plan, which satisfies the requirements of Subsection R315-265-93(d)(3), throughout the active life of the facility, and, for disposal facilities, throughout the post-closure care period as well; and

(2) Annually, until final closure of the facility, submit to the Director a report containing the results of his or her ground-water quality assessment program which includes, but is not limited to, the calculated, or measured, rate of migration of hazardous waste or hazardous waste constituents in the ground water during the reporting period. This information shall be submitted no later than March 1 following each calendar year.

**R315-265-110. Closure and Post-Closure -- Applicability.**

Except as Section R315-265-1 provides otherwise:

(a) Sections R315-265-111 through 265-115, which concern closure, apply to the owners and operators of all hazardous waste management facilities; and

(b) Sections R315-265-116 through R315-265-120, which concern post-closure care, apply to the owners and operators of:

(1) All hazardous waste disposal facilities;

(2) Waste piles and surface impoundments for which the owner or operator intends to remove the wastes at closure to the extent that these sections are made applicable to such facilities in Sections R315-265-228 or R315-265-258;

(3) Tank systems that are required under Section R315-265-197 to meet requirements for landfills; and

(4) Containment buildings that are required under 40 CFR 265.1102, which is adopted and incorporated by reference, to meet the requirement for landfills.

(c) Section R315-265-121 applies to owners and operators of units that are subject to the requirements of Subsection R315-270-1(c)(7) and are regulated under an enforceable document, as defined in Subsection R315-270-1(c)(7).

(d) The Director may replace all or part of the requirements of Sections R315-265-110 through 265-121, and the unit-specific standards in Subsection R315-265-111(c), applying to a regulated unit, as defined in Section R315-264-90, with alternative requirements for closure set out in an approved closure or post-closure plan, or in an enforceable document, as defined in Subsection R315-270-1(c)(7), where the Director 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 Sections R315-265-110 through 265-121, those referenced herein, or both, because the alternative requirements will protect human health and the environment, and will satisfy the closure performance standard of Subsections R315-265-111(a) and (b).

**R315-265-111. Closure and Post-Closure -- Closure Performance Standard.**

The owner or operator shall close the facility in a manner that:

(a) Minimizes the need for further maintenance, and

(b) Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere, and

(c) Complies with the closure requirements of Sections R315-110 through 121, including, but not limited to, the requirements of Sections R315-265-197, R315-265-228, R315-265-258, and 40 CFR 265.280, 265.310, 265.351, 265.381, 265.404, and 265.1102, which are adopted and incorporated by reference.

**R315-265-112. Closure and Post-Closure -- Closure Plan; Amendment of Plan.**

(a) Written plan. By May 19, 1981, or by six months after the effective date of the rule that first subjects a facility to provisions of Section R315-265-112, the owner or operator of a hazardous waste management facility shall have a written closure plan. Until final closure is completed and certified in accordance with Section R315-265-115, a copy of the most current plan shall be furnished to the Director upon request, including request by mail. In addition, for facilities without approved plans, it shall also be provided during site inspections, on the day of inspection, to any officer, employee, or representative of the Director who is duly designated by the Director.

(b) Content of plan. The plan shall identify steps necessary to perform partial, final, or both, closure of the facility at any point during its active life. The closure plan shall include, at least:

(1) A description of how each hazardous waste management unit at the facility will be closed in accordance with Section R315-265-111; and

(2) A description of how final closure of the facility will be conducted in accordance with Section R315-265-111. The description shall identify the maximum extent of the operation which will be unclosed during the active life of the facility; and

(3) An estimate of the maximum inventory of hazardous wastes ever on-site over the active life of the facility and a detailed description of the methods to be used during partial and final closure, including, but not limited to methods for removing, transporting, treating, storing or disposing of all hazardous waste, identification of and the type(s) of off-site hazardous waste management unit(s) to be used, if applicable; and

(4) A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial and final closure including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination necessary to satisfy the closure performance standard; and

(5) A detailed description of other activities necessary during the partial and final closure periods to ensure that all partial closures and final closure satisfy the closure performance standards, including, but not limited to, ground-water monitoring, leachate collection, and run-on and run-off control; and

(6) A schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule shall include, at a minimum, the total time required to close each hazardous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure. For example, in the case of a landfill unit, estimates of the time required to treat or dispose of all hazardous waste inventory and of the time required to place a final cover shall be included.; and

(7) An estimate of the expected year of final closure for facilities that use trust funds to demonstrate financial assurance under Sections R315-265-143 or 265-145 and whose remaining operating life is less than twenty years, and for facilities without approved closure plans.

(8) For facilities where the Director has applied alternative requirements at a regulated unit under Subsections R315-265-90(f), R315-265-110(d), R315-265-140(d), or all three, 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 shall submit a written request to the Director to authorize a change to the approved closure plan. The written request shall include a copy of the amended closure plan for approval by the Director.

(1) The owner or operator shall amend the closure plan whenever:

(i) Changes in operating plans or facility design affect the closure plan, or

(ii) There is a change in the expected year of closure, if applicable, or

(iii) In conducting partial or final closure activities, unexpected events require a modification of the closure plan.

(iv) The owner or operator requests the Director to apply alternative requirements to a regulated unit under Subsections R315-265-90(f), R315-265-110(d), R315-265-140(d), or all three.

(2) The owner or operator shall amend the closure plan at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the closure plan. If an unexpected event occurs during the partial or final closure period, the owner or operator shall 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 40 CFR 265.310, which is adopted and incorporated by reference.

(3) An owner or operator with an approved closure plan shall submit the modified plan to the Director at least 60 days prior to the proposed change in facility design or operation, or no more than 60 days after an unexpected event has occurred which has affected the closure plan. If an unexpected event has occurred during the partial or final closure period, the owner or operator shall 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 40 CFR 265.310, which is adopted and incorporated by reference. If the amendment to the plan is a Class 2 or 3 modification according to the criteria in Section R315-270-42, the modification to the plan will be approved according to the procedures in Subsection R315-265-112(d)(4).

(4) The Director may request modifications to the plan under the conditions described in Subsection R315-265-112(c)(1). An owner or operator with an approved closure plan shall submit the modified plan within 60 days of the request from the Director, 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 Section R315-270-42, the modification to the plan will be approved in accordance with the procedures in Subsection R315-265-112(d)(4).

(d) Notification of partial closure and final closure.

(1) The owner or operator shall submit the closure plan to the Director 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 shall submit the closure plan to the Director 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 shall submit the closure plan to the Director 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 shall notify the Director in writing at least 60 days prior to the date on which he expects to begin closure of a surface impoundment, waste pile, landfill, or land treatment unit, or final closure of a facility involving such a unit. Owners or operators with approved closure plans shall notify the Director in writing at least 45 days prior to the date on which he expects to begin partial or final closure of a boiler or industrial furnace. Owners or operators with approved closure plans shall notify the Director in writing at least 45 days prior to the date on which he expects to begin final closure of a facility with only tanks, container storage, or incinerator units.

(2) The date when he "expects to begin closure" shall be either:

(i) Within 30 days after the date on which any hazardous waste management unit receives the known final volume of hazardous wastes, or, if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, no later than one year after the date on which the unit received the most recent volume of hazardous waste. If the owner or operator of a hazardous waste management unit can demonstrate to the Director that the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes and he has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all interim status requirements, the Director may approve an extension to this one-year limit; or

(ii) For units meeting the requirements of Subsection R315-265-113(d), no later than 30 days after the date on which the hazardous waste management unit receives the known final volume of nonhazardous wastes, or if there is a reasonable possibility that the hazardous waste management unit will receive additional nonhazardous wastes, no later than one year after the date on which the unit received the most recent volume of nonhazardous wastes. If the owner or operator can demonstrate to the Director 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 Director may approve an extension to this one-year limit.

(3) The owner or operator shall submit his closure plan to the Director no later than 15 days after:

(i) Termination of interim status except when a permit is issued simultaneously with termination of interim status; or

(ii) Issuance of a judicial decree or final order under section 3008 of RCRA to cease receiving hazardous wastes or close.

(4) The Director 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 Director 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 Director will approve, modify, or disapprove the plan within 90 days of its receipt. If the Director 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 shall modify the plan or submit a new plan for approval within 30 days after receiving such written statement. The Director will approve or modify this plan in writing within 60 days. If the Director modifies the plan, this modified plan becomes the approved closure plan. The Director shallt assure that the approved plan is consistent with Sections R315-265-111 through 265-115 and the applicable requirements of Sections R315-265-90 through 265-94, and Sections R315-265-197, R315-265-228, R315-265-258, and 40 CFR 265.280, 265.310, 265.351, 265.381, 265.404, and 265.1102, which are adopted and incorporated by reference. A copy of the modified plan with a detailed statement of reasons for the modifications shall be mailed to the owner or operator.

(e) Removal of wastes and decontamination or dismantling of equipment. Nothing in Section R315-265-112 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.

**R315-265-113. Closure and Post-Closure -- 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 Subsections R315-265-113(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 shall treat, remove from the unit or facility, or dispose of on-site, all hazardous wastes in accordance with the approved closure plan. The Director may approve a longer period if the owner or operator demonstrates that:

(1)(i) The activities required to comply with this Subsection R315-265-113(a) will, of necessity, take longer than 90 days to complete; or

(ii)(A) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive non-hazardous wastes if the facility owner or operator complies with Subsections R315-265-113(d) and (e); and

(B) There is a reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and

(C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(2) He has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with all applicable interim status requirements.

(b) The owner or operator shall 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 Subsections R315-265-113(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 Director may approve an extension to the closure period if the owner or operator demonstrates that:

(1)(i) The partial or final closure activities will, of necessity, take longer than 180 days to complete; or

(ii)(A) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive non-hazardous wastes if the facility owner or operator complies with Subsections R315-265-113(d) and (e); and

(B) There is reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and

(C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(2) He has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed but not operating hazardous waste management unit or facility, including compliance with all applicable interim status requirements.

(c) The demonstrations referred to in Subsections R315-265-113(a)(1) and (b)(1) shall be made as follows:

(1) The demonstrations in Subsection R315-265-113(a)(1) shall be made at least 30 days prior to the expiration of the 90-day period in Subsection R315-265-113(a); and

(2) The demonstration in Subsection R315-265-113(b)(1) shall be made at least 30 days prior to the expiration of the 180-day period in Subsection R315-265-113(b), unless the owner or operator is otherwise subject to the deadlines in Subsection R315-265-113(d).

(d) The Director may allow an owner or operator to receive non-hazardous wastes in a landfill, land treatment, or surface impoundment unit after the final receipt of hazardous wastes at that unit if:

(1) The owner or operator submits an amended part B application, or a part B application, if not previously required, and demonstrates that:

(i) The unit has the existing design capacity as indicated on the part A application to receive non-hazardous wastes; and

(ii) There is a reasonable likelihood that the owner or operator or another person will receive non-hazardous wastes in the unit within one year after the final receipt of hazardous wastes; and

(iii) The non-hazardous wastes will not be incompatible with any remaining wastes in the unit or with the facility design and operating requirements of the unit or facility under Rule R315-265; and

(iv) Closure of the hazardous waste management unit would be incompatible with continued operation of the unit or facility; and

(v) The owner or operator is operating and will continue to operate in compliance with all applicable interim status requirements; and

(2) The part B application includes an amended waste analysis plan, ground-water monitoring and response program, human exposure assessment required under RCRA section 3019, and closure and post-closure plans, and updated cost estimates and demonstrations of financial assurance for closure and post-closure care as necessary and appropriate to reflect any changes due to the presence of hazardous constituents in the non-hazardous wastes, and changes in closure activities, including the expected year of closure if applicable under Subsection R315-265-112(b)(7), as a result of the receipt of non-hazardous wastes following the final receipt of hazardous wastes; and

(3) The part B application is amended, as necessary and appropriate, to account for the receipt of non-hazardous wastes following receipt of the final volume of hazardous wastes; and

(4) The part B application and the demonstrations referred to in Subsections R315-265-113(d)(1) and (d)(2) are submitted to the Director 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 Rule R315-265, whichever is later.

(e) In addition to the requirements in Subsection R315-265-113(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 42 U.S.C. 3004(o)(1) and 3005(j)(1) or 42 U.S.C. 3004(o)(2) or (3) or 3005(j) (2), (3), (4) or (13) shall:

(1) Submit with the part B application:

(i) A contingent corrective measures plan; and

(ii) A plan for removing hazardous wastes in compliance with Subsection R315-265-113(e)(2); and

(2) Remove all hazardous wastes from the unit by removing all hazardous liquids and removing all hazardous sludges to the extent practicable without impairing the integrity of the liner(s), if any.

(3) Removal of hazardous wastes shall be completed no later than 90 days after the final receipt of hazardous wastes. The Director 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 Sections R315-265-90 through 265-94, the owner or operator of the unit:

(i) Shall implement corrective measures in accordance with the approved contingent corrective measures plan required by Subsection R315-265-113(e)(1) no later than one year after detection of the release, or approval of the contingent corrective measures plan, whichever is later;

(ii) May receive wastes at the unit following detection of the release only if the approved corrective measures plan includes a demonstration that continued receipt of wastes will not impede corrective action; and

(iii) May be required by the Director 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 annual reports to the Director describing the progress of the corrective action program, compile all ground-water monitoring data, and evaluate the effect of the continued receipt of non-hazardous wastes on the effectiveness of the corrective action.

(6) The Director 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 Subsection R315-265-113(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 Subsection R315-265-113(e)(4), or if the Director determines that substantial progress has not been made pursuant to Subsection R315-265-113(e)(6) he shall:

(i) Notify the owner or operator in writing that the owner or operator shall begin closure in accordance with the deadline in Subsections R315-265-113(a) and (b) and provide a detailed statement of reasons for this determination, and

(ii) Provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the decision no later than 20 days after the date of the notice.

(iii) If the Director receives no written comments, the decision will become final five days after the close of the comment period. The Director will notify the owner or operator that the decision is final, and that a revised closure plan, if necessary, shall be submitted within 15 days of the final notice and that closure shall begin in accordance with the deadlines in Subsections R315-265-113(a) and (b).

(iv) If the Director receives written comments on the decision, he shall make a final decision within 30 days after the end of the comment period, and provide the owner or operator in writing and the public through a newspaper notice, a detailed statement of reasons for the final decision. If the Director determines that substantial progress has not been made, closure shall be initiated in accordance with the deadlines in Subsections R315-265-113(a) and (b).

(v) The final determinations made by the Director under Subsections R315-265-113(e)(7)(iii) and (iv) are not subject to administrative appeal.

**R315-265-114. Closure and Post-Closure -- Disposal or Decontamination of Equipment, Structures and Soils.**

During the partial and final closure periods, all contaminated equipment, structures and soil shall be properly disposed of, or decontaminated unless specified otherwise in Sections R315-265-197, 265-228, 265-258, or 40 CFR 265.280, or 265.310, which are adopted and incorporated by reference. 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 shall handle that hazardous waste in accordance with all applicable requirements of Rule R315-262.

**R315-265-115. Closure and Post-Closure -- Certification of Closure.**

Within 60 days of completion of closure of each hazardous waste surface impoundment, waste pile, land treatment, and landfill unit, and within 60 days of completion of final closure, the owner or operator shall submit to the Director, 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 shall be signed by the owner or operator and by a qualified Professional Engineer. Documentation supporting the Professional Engineer's certification shall be furnished to the Director upon request until he releases the owner or operator from the financial assurance requirements for closure under Subsection R315-265-143(h).

**R315-265-116. Closure and Post-Closure -- Survey Plat.**

No later than the submission of the certification of closure of each hazardous waste disposal unit, an owner or operator shall submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Director, 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 shall 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 shall contain a note, prominently displayed, which states the owner's or operator's obligation to restrict disturbance of the hazardous waste disposal unit in accordance with the applicable regulations in Sections R315-265-110 through 265-121.

**R315-265-117. Closure and Post-Closure -- Post-Closure Care and Use of Property.**

(a)(1) Post-closure care for each hazardous waste management unit subject to the requirements of Sections R315-265-117 through 265-120 shall begin after completion of closure of the unit and continue for 30 years after that date. It shall consist of at least the following:

(i) Monitoring and reporting in accordance with the requirements of Sections R315-265-90 through 265-94, R315-265-220 through 265-231, R315-265-250 through 265-260, and subparts M, and N of 40 CFR 265, which are adopted and incorporated by reference; and

(ii) Maintenance and monitoring of waste containment systems in accordance with the requirements of Sections R315-265-90 through 265-94, R315-265-220 through 265-231, R315-265-250 through 265-260, and subparts M, and N of 40 CFR 265, which are adopted and incorporated by reference.

(2) Any time preceding closure of a hazardous waste management unit subject to post-closure care requirements or final closure, or any time during the post-closure period for a particular hazardous waste disposal unit, the Director may:

(i) Shorten the post-closure care period applicable to the hazardous waste management unit, or facility, if all disposal units have been closed, if he finds that the reduced period is sufficient to protect human health and the environment, for example, leachate or ground-water monitoring results, characteristics of the hazardous waste, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the hazardous waste management unit or facility is secure; or

(ii) Extend the post-closure care period applicable to the hazardous waste management unit or facility, if he finds that the extended period is necessary to protect human health and the environment, for example, leachate or ground-water monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment.

(b) The Director may require, at partial and final closure, continuation of any of the security requirements of Section R315-265-14 during part or all of the post-closure period when:

(1) Hazardous wastes may remain exposed after completion of partial or final closure; or

(2) Access by the public or domestic livestock may pose a hazard to human health.

(c) Post-closure use of property on or in which hazardous wastes remain after partial or final closure shall 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 Director finds that the disturbance:

(1) Is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or

(2) Is necessary to reduce a threat to human health or the environment.

(d) All post-closure care activities shall be in accordance with the provisions of the approved post-closure plan as specified in Section R315-265-118.

**R315-265-118. Closure and Post-Closure -- Post-Closure Plan; Amendment of Plan.**

(a) Written plan. By May 19, 1981, the owner or operator of a hazardous waste disposal unit shall 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 shall prepare a post-closure plan and submit it to the Director within 90 days of the date that the owner or operator or Director determines that the hazardous waste management unit or facility shall be closed as a landfill, subject to the requirements of Sections R315-265-117 through 265-120.

(b) Until final closure of the facility, a copy of the most current post-closure plan shall be furnished to the Director upon request, including request by mail. In addition, for facilities without approved post-closure plans, it shall also be provided during site inspections, on the day of inspection, to any officer, employee or representative of the Director. After final closure has been certified, the person or office specified in Subsection R315-265-118(c)(3) shall keep the approved post-closure plan during the post-closure period.

(c) For each hazardous waste management unit subject to the requirements of this Section R315-265-118, the post-closure plan shall 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 Sections R315-265-90 through 265-94, R315-265-220 through 265-231, R315-265-250 through 265-260, and subparts M, and N of 40 CFR 265, which are adopted and incorporated by reference, during the post-closure care period; and

(2) A description of the planned maintenance activities, and frequencies at which they will be performed, to ensure:

(i) The integrity of the cap and final cover or other containment systems in accordance with the requirements of Sections R315-265-90 through 265-94, R315-265-220 through 265-231, R315-265-250 through 265-260, and subparts M, and N of 40 CFR 265, which are adopted and incorporated by reference; and

(ii) The function of the monitoring equipment in accordance with the requirements of Sections R315-265-90 through 265-94, R315-265-220 through 265-231, R315-265-250 through 265-260, and subparts M, and N of 40 CFR 265, which are adopted and incorporated by reference; 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 Section R315-265-121, provisions that satisfy the requirements of Subsections R315-265-121(a)(1) and (3).

(5) For facilities where the Director has applied alternative requirements at a regulated unit under Subsections R315-265-90(f), R315-265-110(d), R315-265-140(d), or all three, 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 shall submit a written request to the Director to authorize a change to the approved plan. The written request shall include a copy of the amended post-closure plan for approval by the Director.

(1) The owner or operator shall amend the post-closure plan whenever:

(i) Changes in operating plans or facility design affect the post-closure plan, or

(ii) Events which occur during the active life of the facility, including partial and final closures, affect the post-closure plan.

(iii) The owner or operator requests the Director to apply alternative requirements to a regulated unit under Subsections R315-265.90(f), R315-265.110(d), R315-265.140(d) or all three.

(2) The owner or operator shall 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 shall submit the modified plan to the Director at least 60 days prior to the proposed change in facility design or operation, or no more than 60 days after an unexpected event has occurred which has affected the post-closure plan. If an owner or operator of a surface impoundment or a waste pile who intended to remove all hazardous wastes at closure in accordance with Subsections R315-265-228(b) or R315-265-258(a) is required to close as a landfill in accordance with 40 CFR 265.310, which is adopted and incorporated by reference, the owner or operator shall submit a post-closure plan within 90 days of the determination by the owner or operator or Director that the unit shall 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 Section R315-270-42, the modification to the plan will be approved according to the procedures in Subsection R315-265-118(f).

(4) The Director may request modifications to the plan under the conditions described in Section R315-265-118(d)(1). An owner or operator with an approved post-closure plan shall submit the modified plan no later than 60 days of the request from the Director. If the amendment to the plan is considered a Class 2 or 3 modification according to the criteria in Section R315-270-42, the modifications to the post-closure plan will be approved in accordance with the procedures in Subsection R315-265-118(f). If the Director determines that an owner or operator of a surface impoundment or waste pile who intended to remove all hazardous wastes at closure shall close the facility as a landfill, the owner or operator shall submit a post-closure plan for approval to the Director within 90 days of the determination.

(e) The owner or operator of a facility with hazardous waste management units subject to these requirements shall submit his post-closure plan to the Director 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 shall 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 shall submit the post-closure plan to the Director no later than 15 days after:

(1) Termination of interim status, except when a permit is issued to the facility simultaneously with termination of interim status; or

(2) Issuance of a judicial decree or final orders under section 3008 of RCRA to cease receiving wastes or close.

(f) The Director will provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the post-closure plan and request modifications to the plan no later than 30 days from the date of the notice. He will also, in response to a request or at his own discretion, hold a public hearing whenever such a hearing might clarify one or more issues concerning a post-closure plan. The Director 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 Director will approve, modify, or disapprove the plan within 90 days of its receipt. If the Director 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 shall modify the plan or submit a new plan for approval within 30 days after receiving such written statement. The Director will approve or modify this plan in writing within 60 days. If the Director modifies the plan, this modified plan becomes the approved post-closure plan. The Director shall ensure that the approved post-closure plan is consistent with Sections R315-265-117 through 265-120. A copy of the modified plan with a detailed statement of reasons for the modifications shall 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 Director to extend or reduce the post-closure care period applicable to a hazardous waste management unit or facility based on cause, or alter the requirements of the post-closure care period based on cause.

(i) The petition shall include evidence demonstrating that:

(A) The secure nature of the hazardous waste management unit or facility makes the post-closure care requirement(s) unnecessary or supports reduction of the post-closure care period specified in the current post-closure plan, for example, leachate or ground-water monitoring results, characteristics of the wastes, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the facility is secure, or

(B) The requested extension in the post-closure care period or alteration of post-closure care requirements is necessary to prevent threats to human health and the environment, e.g., leachate or ground-water monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment.

(ii) These petitions will be considered by the Director only when they present new and relevant information not previously considered by the Director. Whenever the Director is considering a petition, he will provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments within 30 days of the date of the notice. He will also, in response to a request or at his own discretion, hold a public hearing whenever a hearing might clarify one or more issues concerning the post-closure plan. The Director will give the public notice of the hearing at least 30 days before it occurs. Public notice of the hearing may be given at the same time as notice of the opportunity for written public comments, and the two notices may be combined. After considering the comments, he will issue a final determination, based upon the criteria set forth in Subsection R315-265-118(g)(1).

(iii) If the Director denies the petition, he will send the petitioner a brief written response giving a reason for the denial.

(2) The Director may tentatively decide to modify the post-closure plan if he deems it necessary to prevent threats to human health and the environment. He may propose to extend or reduce the post-closure care period applicable to a hazardous waste management unit or facility based on cause or alter the requirements of the post-closure care period based on cause.

(i) The Director 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 Subsection R315-265-118(g)(1)(ii). After considering the comments, he will issue a final determination.

(ii) The Director will base his final determination upon the same criteria as required for petitions under Subsection R315-265-118(g)(1)(i). A modification of the post-closure plan may include, where appropriate, the temporary suspension rather than permanent deletion of one or more post-closure care requirements. At the end of the specified period of suspension, the Director would then determine whether the requirement(s) should be permanently discontinued or reinstated to prevent threats to human health and the environment.

**R315-265-119. Closure and Post-Closure -- Post-Closure Notices.**

(a) No later than 60 days after certification of closure of each hazardous waste disposal unit, the owner or operator shall submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Director, 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 shall 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 shall:

(1) Record, in accordance with Utah law, a notation on the deed to the facility property---or on some other instrument which is normally examined during title search---that will in perpetuity notify any potential purchaser of the property that:

(i) The land has been used to manage hazardous wastes; and

(ii) Its use is restricted under regulations in Sections R315-265-110 through 265-121; and

(iii) The survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell or other hazardous waste disposal unit of the facility required by Section R315-265-116 and Subsection R315-265-119(a) have been filed with the local zoning authority or the authority with jurisdiction over local land use and with the Director; and

(2) Submit a certification signed by the owner or operator that he has recorded the notation specified in Subsection R315-265-119(b)(1) and a copy of the document in which the notation has been placed, to the Director.

(c) If the owner or operator or any subsequent owner of the land upon which a hazardous waste disposal unit was located wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, and all contaminated structures, equipment, and soils, he shall request a modification to the approved post-closure plan in accordance with the requirements of Subsection R315-265-118(g). The owner or operator shall demonstrate that the removal of hazardous wastes will satisfy the criteria of Subsection R315-265-117(c). By removing hazardous waste, the owner or operator may become a generator of hazardous waste and shall manage it in accordance with all applicable requirements of Rules R315-260 through 266, R315-268, R315-270 and R315-273. If the owner or operator is granted approval to conduct the removal activities, the owner or operator may request that the Director 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.

**R315-265-120. Closure and Post-Closure -- Certification of Completion of Post-Closure Care.**

No later than 60 days after the completion of the established post-closure care period for each hazardous waste disposal unit, the owner or operator shall submit to the Director, 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 shall be signed by the owner or operator and a qualified Professional Engineer. Documentation supporting the Professional Engineer's certification shall be furnished to the Director upon request until he releases the owner or operator from the financial assurance requirements for post-closure care under Subsection R315-265-145(h).

**R315-265-121. Closure and Post-Closure -- 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 Subsection R315-270-1(c), but who obtain enforceable documents in lieu of post-closure permits, as provided under Subsection R315-270-1(c)(7), shall comply with the following requirements:

(1) The requirements to submit information about the facility in Section R315-270-28;

(2) The requirements for facility-wide corrective action in Section R315-264-101;

(3) The requirements of Sections R315-264-91 through 264-100.

(b)(1) The Director, in issuing enforceable documents under Section R315-265-121 in lieu of permits, will assure a meaningful opportunity for public involvement which, at a minimum, includes public notice and opportunity for public comment:

(i) When the Director becomes involved in a remediation at the facility as a regulatory or enforcement matter;

(ii) 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

(iii) At the time of a proposed decision that remedial action is complete at the facility. These requirements shall be met before the Director may consider that the facility has met the requirements of Subsection R315-270-1(c)(7), unless the facility qualifies for a modification to these public involvement procedures under Subsections R315-265-121(b)(2) or (3).

(2) If the Director determines that even a short delay in the implementation of a remedy would adversely affect human health or the environment, the Director may delay compliance with the requirements of Subsection R315-265-121(b)(1) and implement the remedy immediately. However, the Director shall 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 Director 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 Subsection R315-265-121(b)(1) have not been met so long as the Director 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.

**R315-265-140. Financial Requirements -- Applicability.**

(a) The requirements of Sections R315-265-142, R315-265-143, R315-265-147 and R315-265-148 apply to owners or operators of all hazardous waste facilities, except as provided otherwise in this Section R315-265-140 or in Section R315-265-1.

(b) The requirements of Sections R315-265-144 and R315-265-145 apply only to owners and operators of:

(1) Disposal facilities;

(2) Tank systems that are required under Section R315-265-197 to meet the requirements for landfills; and

(3) Containment buildings that are required under 40 CFR 265.1102, which is adopted and incorporated by reference, to meet the requirements for landfills.

(c) States and the Federal government are exempt from the requirements of Sections R315-265-140 through 265-148.

(d) The Director may replace all or part of the requirements of Sections R315-265-140 through 265-148 applying to a regulated unit with alternative requirements for financial assurance set out in the permit or in an enforceable document, as defined in Subsection R315-270-1(c)(7), where the Director:

(1) Prescribes alternative requirements for the regulated unit under Subsection R315-265-90(f), Subsection R315-265-110(d), or both, and

(2) Determines that it is not necessary to apply the requirements of Sections R315-265-140 through 265-148 because the alternative financial assurance requirements will protect human health and the environment.

**R315-265-141. Financial Requirements -- Definitions of Terms as Used in Sections R315-265-140 through R315-265-148.**

(a) Closure plan means the plan for closure prepared in accordance with the requirements of Section R315-265-112.

(b) Current closure cost estimate means the most recent of the estimates prepared in accordance with Subsections R315-265-142(a), (b), and (c).

(c) Current post-closure cost estimate means the most recent of the estimates prepared in accordance with Subsections R315-265-144(a), (b), and (c).

(d) Parent corporation means a corporation which directly owns at least 50 percent of the voting stock of the corporation which is the facility owner or operator; the latter corporation is deemed a "subsidiary" of the parent corporation.

(e) Post-closure plan means the plan for post-closure care prepared in accordance with the requirements of Sections R315-265-117 through 265-120.

(f) The following terms are used in the specifications for the financial tests for closure, post-closure care, and liability coverage. The definitions are intended to assist in the understanding of these regulations and are not intended to limit the meanings of terms in a way that conflicts with generally accepted accounting practices.

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

Current assets means cash or other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.

Current liabilities means obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities.

Current plugging and abandonment cost estimate means the most recent of the estimates prepared in accordance with 40 CFR 144.62(a), (b), and (c).

Independently audited refers to an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.

Liabilities means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.

Net working capital means current assets minus current liabilities.

Net worth means total assets minus total liabilities and is equivalent to owner's equity.

Tangible net worth means the tangible assets that remain after deducting liabilities; such assets would not include intangibles such as goodwill and rights to patents or royalties.

(g) In the liability insurance requirements the terms bodily injury and property damage shall have the meanings given these terms by applicable Utah 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 Director intends the meanings of other terms used in the liability insurance requirements to be consistent with their common meanings within the insurance industry. The definitions given below of several of the terms are intended to assist in the understanding of these regulations and are not intended to limit their meanings in a way that conflicts with general insurance industry usage.

Accidental occurrence means an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage neither expected nor intended from the standpoint of the insured.

Legal defense costs means any expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

Nonsudden accidental occurrence means an occurrence which takes place over time and involves continuous or repeated exposure.

Sudden accidental occurrence means an occurrence which is not continuous or repeated in nature.

(h) Substantial business relationship means the extent of a business relationship necessary under applicable Utah 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 Director.

**R315-265-142. Financial Requirements -- Cost Estimate for Closure.**

(a) The owner or operator shall have a detailed written estimate, in current dollars, of the cost of closing the facility in accordance with the requirements in Sections R315-265-111 through R315-265-115 and applicable closure requirements in Sections R315-265-197, R315-265-228, R315-265-258, and 40 CFR 265.280, 265.310, 265.351, 265.381, 265.404, and 265.1102, which are adopted and incorporated by reference.

(1) The estimate shall 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 Subsection R315-265-112(b); and

(2) The closure cost estimate shall be based on the costs to the owner or operator of hiring a third party to close the facility. A third party is a party who is neither a parent nor a subsidiary of the owner or operator. See definition of parent corporation in Subsection R315-265-141(d). The owner or operator may use costs for on-site disposal if he can demonstrate that on-site disposal capacity will exist at all times over the life of the facility.

(3) The closure cost estimate may not incorporate any salvage value that may be realized with the sale of hazardous wastes, or non-hazardous wastes if applicable under Subsection R315-265-113(d), facility structures or equipment, land, or other assets associated with the facility at the time of partial or final closure.

(4) The owner or operator may not incorporate a zero cost for hazardous wastes, or non-hazardous wastes if applicable under Subsection R315-265-113(d), that might have economic value.

(b) During the active life of the facility, the owner or operator shall adjust the closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with Section R315-265-143. For owners and operators using the financial test or corporate guarantee, the closure cost estimate shall be updated for inflation within 30 days after the close of the firm's fiscal year and before submission of updated information to the Director as specified in Subsection R315-265-143(e)(3). The adjustment may be made by recalculating the closure cost estimate in current dollars, or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its Survey of Current Business, as specified in Subsections R315-265-142(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 shall revise the closure cost estimate no later than 30 days after a revision has been made to the closure plan which increases the cost of closure. If the owner or operator has an approved closure plan, the closure cost estimate shall be revised no later than 30 days after the Director 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 shall be adjusted for inflation as specified in Subsection R315-265-142(b).

(d) The owner or operator shall keep the following at the facility during the operating life of the facility: The latest closure cost estimate prepared in accordance with Subssections R315-265-142(a) and (c) and, when this estimate has been adjusted in accordance with Subsection R315-265-142(b), the latest adjusted closure cost estimate.

**R315-265-143. Financial Requirements -- Financial Assurance for Closure.**

By the effective date of these regulations, an owner or operator of each facility shall establish financial assurance for closure of the facility. He shall choose from the options as specified in Subsections R315-265-143(a) through (e).

(a) Closure trust fund.

(1) An owner or operator may satisfy the requirements of Section R315-265-143 by establishing a closure trust fund which conforms to the requirements of Subsection R315-265-143(a) and submitting an originally signed duplicate of the trust agreement to the Director. The trustee shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or Utah agency.

(2) The wording of the trust agreement shall be identical to the wording specified in Subsection R315-264-151(a)(1), and the trust agreement shall be accompanied by a formal certification of acknowledgment, for example, see Subsection R315-264-151(a)(2). Schedule A of the trust agreement shall 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 shall 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 shall be made as follows:

(i) The first payment shall be made by the effective date of these regulations, except as provided in Subsection R315-265-143(a)(5). The first payment shall be at least equal to the current closure cost estimate, except as provided in Subsection R315-265-143(f), divided by the number of years in the pay-in period.

(ii) Subsequent payments shall be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment shall be determined by this formula: Next payment=(CE-CV)/Y, where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the current closure cost estimate at the time the fund is established. However, he shall 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 Subsection R315-265-143(a)(3).

(5) If the owner or operator establishes a closure trust fund after having used one or more alternate mechanisms specified in Section R315-265-143, his first payment shall 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 Subsection R315-265-143(a)(3).

(6) After the pay-in period is completed, whenever the current closure cost estimate changes, the owner or operator shall 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, shall 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 Section R315-265-143 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 Director 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 Section R315-265-143 for all or part of the trust fund, he may submit a written request to the Director 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 Subsections R315-265-143(a) (7) or (8), the Director will instruct the trustee to release to the owner or operator such funds as the Director 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 Director. The owner or operator may request reimbursements for partial closure only if sufficient funds are remaining in the trust fund to cover the maximum costs of closing the facility over its remaining operating life. No later than 60 days after receiving bills for partial or final closure activities, the Director will instruct the trustee to make reimbursements in those amounts as the Director specifies in writing, if the Director determines that the partial or final closure expenditures are in accordance with the approved closure plan, or otherwise justified. If the Director 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 Subsection R315-265-143(h) that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the Director 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 Director will agree to termination of the trust when:

(i) An owner or operator substitutes alternate financial assurance as specified in Section R315-265-143; or

(ii) The Director releases the owner or operator from the requirements of Section R315-265-143 in accordance with Subsection R315-265-143(h).

(b) Surety bond guaranteeing payment into a closure trust fund.

(1) An owner or operator may satisfy the requirements of Section R315-265-143 by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Director. The surety company issuing the bond shall, 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 shall be identical to the wording specified in Subsection R315-264-151(b).

(3) The owner or operator who uses a surety bond to satisfy the requirements of Section R315-265-143 shall 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 Director. This standby trust fund shall meet the requirements specified in Subsection R315-265-143(a), except that:

(i) An originally signed duplicate of the trust agreement shall be submitted to the Director with the surety bond; and

(ii) Until the standby trust fund is funded pursuant to the requirements of Section R315-265-143, the following are not required by these regulations:

(A) Payments into the trust fund as specified in Subsection R315-265-143(a);

(B) Updating of Schedule A of the trust agreement, see Subsection R315-264-151(a), to show current closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond shall guarantee that the owner or operator will:

(i) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(ii) Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin final closure issued by the Director becomes final, or within 15 days after an order to begin final closure is issued by a U.S. district court or other court of competent jurisdiction; or

(iii) Provide alternate financial assurance as specified in Section R315-265-143, and obtain the Director's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Director 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 shall be in an amount at least equal to the current closure cost estimate, except as provided in Subsection R315-265-143(f).

(7) Whenever the current closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, shall 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 Director, or obtain other financial assurance as specified in Section R315-265-143 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 Director.

(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 Director. 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 Director, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the Director has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in Section R315-265-143.

(c) Closure letter of credit.

(1) An owner or operator may satisfy the requirements of Section R315-265-143 by obtaining an irrevocable standby letter of credit which conforms to the requirements of Subsection R315-265-143(c) and submitting the letter to the Director. The issuing institution shall be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or Utah agency.

(2) The wording of the letter of credit shall be identical to the wording specified in Subsection R315-264-151(d).

(3) An owner or operator who uses a letter of credit to satisfy the requirements of Section R315-265-143 shall also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Director will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Director. This standby trust fund shall meet the requirements of the trust fund specified in Subsection R315-265-143(a), except that:

(i) An originally signed duplicate of the trust agreement shall be submitted to the Director with the letter of credit; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of Section R315-265-143, the following are not required by these regulations:

(A) Payments into the trust fund as specified in Subsection R315-265-143(a);

(B) Updating of Schedule A of the trust agreement, see Subsection R315-264-151(a), to show current closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The letter of credit shall be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: The EPA Identification Number, name, and address of the facility, and the amount of funds assured for closure of the facility by the letter of credit.

(5) The letter of credit shall be irrevocable and issued for a period of at least 1 year. The letter of credit shall provide that the expiration date will be automatically extended for a period of at least 1 year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the Director 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 Director have received the notice, as evidenced by the return receipts.

(6) The letter of credit shall be issued in an amount at least equal to the current closure cost estimate, except as provided in Subsection R315-265-143(f).

(7) Whenever the current closure cost estimate increases to an amount greater than the amount of the credit, the owner or operator, within 60 days after the increase, shall 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 Director, or obtain other financial assurance as specified in Section R315-265-143 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 Director.

(8) Following a final administrative determination that the owner or operator has failed to perform final closure in accordance with the approved closure plan when required to do so, the Director may draw on the letter of credit.

(9) If the owner or operator does not establish alternate financial assurance as specified in Section R315-265-143 and obtain written approval of such alternate assurance from the Director within 90 days after receipt by both the owner or operator and the Director of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Director will draw on the letter of credit. The Director 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 Director will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in Section R315-265-143 and obtain written approval of such assurance from the Director.

(10) The Director will return the letter of credit to the issuing institution for termination when:

(i) An owner or operator substitutes alternate financial assurance as specified in Section R315-265-143; or

(ii) The Director releases the owner or operator from the requirements of Section R315-265-143 in accordance with Subsection R315-265-143(h).

(d) Closure insurance.

(1) An owner or operator may satisfy the requirements of Section R315-265-143 by obtaining closure insurance which conforms to the requirements of Subsection R315-265-143(d) and submitting a certificate of such insurance to the Director. By the effective date of these regulations the owner or operator shall submit to the Director 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 shall submit the certificate of insurance to the Director or establish other financial assurance as specified in Section R315-265-143. At a minimum, the insurer shall be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) The wording of the certificate of insurance shall be identical to the wording specified in Subsection R315-264-151(e).

(3) The closure insurance policy shall be issued for a face amount at least equal to the current closure cost estimate, except as provided in Subsection R315-265-143(f). The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) The closure insurance policy shall guarantee that funds will be available to close the facility whenever final closure occurs. The policy shall 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 Director, to such party or parties as the Director specifies.

(5) After beginning partial or final closure, an owner or operator or any other person authorized to conduct closure may request reimbursements for closure expenditures by submitting itemized bills to the Director. 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 Director will instruct the insurer to make reimbursements in such amounts as the Director specifies in writing if the Director determines that the partial or final closure expenditures are in accordance with the approved closure plan or otherwise justified. If the Director has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the face amount of the policy, he may withhold reimbursement of such amounts as he deems prudent until he determines, in accordance with Subsection R315-265-143(h), that the owner or operator is no longer required to maintain financial assurance for final closure of the particular facility. If the Director 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 shall maintain the policy in full force and effect until the Director consents to termination of the policy by the owner or operator as specified in Subsection R315-265-143(d)(10). 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 Director deems necessary. Such violation will be deemed to begin upon receipt by the Director 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 shall 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 shall 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 shall, 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 Director. 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 Director and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

(i) The Director deems the facility abandoned; or

(ii) Interim status is terminated or revoked; or

(iii) Closure is ordered by the Director or a U.S. district court or other court of competent jurisdiction; or

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

(v) The premium due is paid.

(9) Whenever the current closure cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within 60 days after the increase, shall 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 Director, or obtain other financial assurance as specified in Section R315-265-143 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 Director.

(10) The Director will give written consent to the owner or operator that he may terminate the insurance policy when:

(i) An owner or operator substitutes alternate financial assurance as specified in Section R315-265-143; or

(ii) The Director releases the owner or operator from the requirements of Section R315-265-143 in accordance with Subsection R315-265-143(h).

(e) Financial test and corporate guarantee for closure.

(1) An owner or operator may satisfy the requirements of Section R315-265-143 by demonstrating that he passes a financial test as specified in Subsection R315-265-143(e). To pass this test the owner or operator shall meet the criteria of either Subsection R315-265-143(e)(1)(i) or (ii):

(i) The owner or operator shall have:

(A) Two of the following three ratios: A ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(B) Net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(ii) The owner or operator shall have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) Tangible net worth at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(2) The phrase "current closure and post-closure cost estimates" as used in Subsection R315-265-143(e)(1) 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, for example see Subsection R315-264-151(f). The phrase "current plugging and abandonment cost estimates" as used in Subsection R315-265-143(e)(1) 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, for example see 40 CFR 144.70(f).

(3) To demonstrate that he meets this test, the owner or operator shall submit the following items to the Director:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in Subsection R314-264-151(f); and

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) The owner or operator may obtain an extension of the time allowed for submission of the documents specified in Subsection R315-265-143(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 owner's or operator's chief financial officer shall send, by the effective date of these regulations, a letter to the Director. This letter from the chief financial officer shall:

(i) Request the extension;

(ii) Certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

(iii) Specify for each facility to be covered by the test the EPA Identification Number, name, address, and current closure and post-closure cost estimates to be covered by the test;

(iv) Specify the date ending the owner's or operator's last complete fiscal year before the effective date of these regulations;

(v) Specify the date, no later than 90 days after the end of such fiscal year, when he will submit the documents specified in Subsection R315-265-143(e)(3); and

(vi) Certify that the year-end financial statements of the owner or operator for such fiscal year will be audited by an independent certified public accountant.

(5) After the initial submission of items specified in Subsection R315-265-143(e)(3), the owner or operator shall send updated information to the Director within 90 days after the close of each succeeding fiscal year. This information shall consist of all three items specified in Subsection R315-265-143(e)(3).

(6) If the owner or operator no longer meets the requirements of Subsection R315-265-143(e)(1), he shall send notice to the Director of intent to establish alternate financial assurance as specified in this section. The notice shall 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 shall provide the alternate financial assurance within 120 days after the end of such fiscal year.

(7) The Director may, based on a reasonable belief that the owner or operator may no longer meet the requirements of Subsection R315-265-143(e)(1), require reports of financial condition at any time from the owner or operator in addition to those specified in Subsection R315-265-143(e)(3). If the Director finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of Subsection R315-265-143(e)(1), the owner or operator shall provide alternate financial assurance as specified in Section R315-265-143 within 30 days after notification of such a finding.

(8) The Director 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 Subsection R315-265-143(e)(3)(ii). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Director will evaluate other qualifications on an individual basis. The owner or operator shall provide alternate financial assurance as specified in this section within 30 days after notification of the disallowance.

(9) The owner or operator is no longer required to submit the items specified in Subsection R315-265-143(e)(3) when:

(i) An owner or operator substitutes alternate financial assurance as specified in Section R315-265-143; or

(ii) The Director releases the owner or operator from the requirements of Section R315-265-143 in accordance with Subsection R315-265-143(h).

(10) An owner or operator may meet the requirements of Section R315-265-143 by obtaining a written guarantee. The guarantor shall 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 shall meet the requirements for owners or operators in Subsections R315-265-143(e)(1) through (8) and shall comply with the terms of the guarantee. The wording of the guarantee shall be identical to the wording specified in Subsection R315-264-151(h). A certified copy of the guarantee shall accompany the items sent to the Director as specified in Subsection R315-265-143(e)(3). One of these items shall 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 shall 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 shall describe this "substantial business relationship" and the value received in consideration of the guarantee. The terms of the guarantee shall provide that:

(i) If the owner or operator fails to perform final closure of a facility covered by the corporate guarantee in accordance with the closure plan and other interim status requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in Subsection R315-265-143(a) in the name of the owner or operator.

(ii) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Director. 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 Director, as evidenced by the return receipts.

(iii) If the owner or operator fails to provide alternate financial assurance as specified in Section R315-265-143 and obtain the written approval of such alternate assurance from the Director within 90 days after receipt by both the owner or operator and the Director 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 Section R315-265-143 by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds, letters of credit, and insurance. The mechanisms shall be as specified in Subsections R315-265-143(a) through (d), respectively, except that it is the combination of mechanisms, rather than the single mechanism, which shall provide financial assurance for an amount at least equal to the current closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The Director 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 Section R315-265-143 to meet the requirements of Section R315-265-143 for more than one facility. Evidence of financial assurance submitted to the Director shall 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 shall be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for closure of any of the facilities covered by the mechanism, the Director may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(h) Release of the owner or operator from the requirements of Section R315-265-143. Within 60 days after receiving certifications from the owner or operator and a qualified Professional Engineer that final closure has been completed in accordance with the approved closure plan, the Director will notify the owner or operator in writing that he is no longer required by Section R315-265-143 to maintain financial assurance for final closure of the facility, unless the Director has reason to believe that final closure has not been in accordance with the approved closure plan. The Director 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.

**R315-265-144. Financial Requirements -- Cost Estimate for Post-Closure Care.**

(a) The owner or operator of a hazardous waste disposal unit shall 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 Sections R315-265-117 through R315-265-120, R315-265-228, R315-265-258, and 40 CFR 265.280 and 265.310, which are adopted and incorporated by reference.

(1) The post-closure cost estimate shall 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 Subsection R315-265-141(d).

(2) The post-closure cost estimate is calculated by multiplying the annual post-closure cost estimate by the number of years of post-closure care required under Section R315-265-117.

(b) During the active life of the facility, the owner or operator shall 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 Section R315-265-145. For owners or operators using the financial test or corporate guarantee, the post-closure care cost estimate shall 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 Director as specified in Subsection R315-265-145(d)(5). The adjustment may be made by recalculating the post-closure cost estimate in current dollars or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its Survey of Current Business as specified in Subsections R315-265-145(b)(1) and (2). The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(1) The first adjustment is made by multiplying the post-closure cost estimate by the inflation factor. The result is the adjusted post-closure cost estimate.

(2) Subsequent adjustments are made by multiplying the latest adjusted post-closure cost estimate by the latest inflation factor.

(c) During the active life of the facility, the owner or operator shall 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 shall be revised no later than 30 days after the Director 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 shall be adjusted for inflation as specified in Subsection R315-265-144(b).

(d) The owner or operator shall keep the following at the facility during the operating life of the facility: the latest post-closure cost estimate prepared in accordance with Subsections R315-265-144(a) and (c) and, when this estimate has been adjusted in accordance with Subsection R315-265-144(b), the latest adjusted post-closure cost estimate.

**R315-265-145. Financial Requirements -- Financial Assurance for Post-Closure Care.**

By the effective date of these regulations, an owner or operator of a facility with a hazardous waste disposal unit must establish financial assurance for post-closure care of the disposal unit(s).

(a) Post-closure trust fund.

(1) An owner or operator may satisfy the requirements of Section R315-265-145 by establishing a post-closure trust fund which conforms to the requirements of Subsection R315-265-145(a) and submitting an originally signed duplicate of the trust agreement to the Director. The trustee shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or Utah agency.

(2) The wording of the trust agreement shall be identical to the wording specified in Subsection R315-264-151(a)(1), and the trust agreement shall be accompanied by a formal certification of acknowledgment, for example see Subsection R315-264-151(a)(2). Schedule A of the trust agreement shall 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 shall be made annually by the owner or operator over the 20 years beginning with the effective date of these regulations or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the "pay-in period." The payments into the post-closure trust fund shall be made as follows:

(i) The first payment shall be made by the effective date of these regulations, except as provided in Subsection R315-265-145(a)(5). The first payment shall be at least equal to the current post-closure cost estimate, except as provided in Subsection R315-265-145(f), divided by the number of years in the pay-in period.

(ii) Subsequent payments shall 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 = (CE-CV)/Y, where CE is the current post-closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the current post-closure cost estimate at the time the fund is established. However, he shall 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 Subsection R315-265-145(a)(3).

(5) If the owner or operator establishes a post-closure trust fund after having used one or more alternate mechanisms specified in this section, his first payment shall 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 Subsection R315-265-145 (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 shall 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, shall 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 Section R315-265-145 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 Director 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 Director 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 Subsections R315-265-145(a) (7) or (8), the Director will instruct the trustee to release to the owner or operator such funds as the Director specifies in writing.

(10) During the period of post-closure care, the Director may approve a release of funds if the owner or operator demonstrates to the Director that the value of the trust fund exceeds the remaining cost of post-closure care.

(11) An owner or operator or any other person authorized to conduct post-closure care may request reimbursements for post-closure expenditures by submitting itemized bills to the Director. Within 60 days after receiving bills for post-closure care activities, the Director will instruct the trustee to make reimbursements in those amounts as the Director specifies in writing, if the Director determines that the post-closure expenditures are in accordance with the approved post-closure plan or otherwise justified. If the Director does not instruct the trustee to make such reimbursements, he will provide the owner or operator with a detailed written statement of reasons.

(12) The Director will agree to termination of the trust when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Director releases the owner or operator from the requirements of Section R315-265-145 in accordance with Subsection R315-265-145(h).

(b) Surety bond guaranteeing payment into a post-closure trust fund.

(1) An owner or operator may satisfy the requirements of Section R315-265-145 by obtaining a surety bond which conforms to the requirements of Subsection R315-265-145(b) and submitting the bond to the Director. 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 Subsection R315-264-151(b).

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section shall 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 Director. This standby trust fund shall meet the requirements specified in Subsection R315-265-145(a), except that:

(i) An originally signed duplicate of the trust agreement shall be submitted to the Director with the surety bond; and

(ii) Until the standby trust fund is funded pursuant to the requirements of Section R315-265-145, the following are not required by these regulations:

(A) Payments into the trust fund as specified in Subsection R315-265-145(a);

(B) Updating of Schedule A of the trust agreement, see Subsection R315-264-151(a), to show current post-closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond shall guarantee that the owner or operator will:

(i) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(ii) Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin final closure issued by the Director becomes final, or within 15 days after an order to begin final closure is issued by a U.S. district court or other court of competent jurisdiction; or

(iii) Provide alternate financial assurance as specified in Section R315-265-145, and obtain the Director's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Director 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 shall be in an amount at least equal to the current post-closure cost estimate, except as provided in Subsection R315-265-145(f).

(7) Whenever the current post-closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, shall 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 Director, or obtain other financial assurance as specified in Section R315-265-145 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 Director.

(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 Director. 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 Director, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the Director has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in Section R315-265-145.

(c) Post-closure letter of credit.

(1) An owner or operator may satisfy the requirements of Section R315-265-145 by obtaining an irrevocable standby letter of credit which conforms to the requirements of Subsection R315-265-145(c) and submitting the letter to the Director. The issuing institution shall be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or Utah agency.

(2) The wording of the letter of credit shall be identical to the wording specified in Subsection R315-264-151(d).

(3) An owner or operator who uses a letter of credit to satisfy the requirements of this section shall also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Director will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Director. This standby trust fund must meet the requirements of the trust fund specified in Subsection R315-265-145(a), except that:

(i) An originally signed duplicate of the trust agreement shall be submitted to the Director with the letter of credit; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of Section R315-265-145, the following are not required by these regulations:

(A) Payments into the trust fund as specified in Subsection R315-265-145(a);

(B) Updating of Schedule A of the trust agreement, see Subsection R315-264-151(a), to show current post-closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

4) The letter of credit shall be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: The EPA Identification Number, name, and address of the facility, and the amount of funds assured for post-closure care of the facility by the letter of credit.

(5) The letter of credit shall be irrevocable and issued for a period of at least one year. The letter of credit shall 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 Director 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 Director have received the notice, as evidenced by the return receipts.

(6) The letter of credit shall be issued in an amount at least equal to the current post-closure cost estimate, except as provided in Subsection R315-265-145(f).

(7) Whenever the current post-closure cost estimate increases to an amount greater than the amount of the credit during the operating life of the facility, the owner or operator, within 60 days after the increase, shall 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 Director, or obtain other financial assurance as specified in Section R315-265-145 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 Director.

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

(9) Following a final administrative determination 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 Director may draw on the letter of credit.

(10) If the owner or operator does not establish alternate financial assurance as specified in Section R315-265-145 and obtain written approval of such alternate assurance from the Director within 90 days after receipt by both the owner or operator and the Director of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Director will draw on the letter of credit. The Director 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 Director will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in Section R315-265-145 and obtain written approval of such assurance from the Director.

(11) The Director will return the letter of credit to the issuing institution for termination when:

(i) An owner or operator substitutes alternate financial assurance as specified in Section R315-265-145; or

(ii) The Director releases the owner or operator from the requirements of Section R315-265-145 in accordance with Subsection R315-265-145(h).

(d) Post-closure insurance.

(1) An owner or operator may satisfy the requirements of Section R315-265-145 by obtaining post-closure insurance which conforms to the requirements of Subsection R315-265-145(d) and submitting a certificate of such insurance to the Director. By the effective date of these regulations the owner or operator shall submit to the Director a letter from an insurer stating that the insurer is considering issuance of post- closure insurance conforming to the requirements of Subsection R315-265-145(d) to the owner or operator. Within 90 days after the effective date of these regulations, the owner or operator shall submit the certificate of insurance to the Director or establish other financial assurance as specified in Section R315-265-145. At a minimum, the insurer shall be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) The wording of the certificate of insurance shall be identical to the wording specified in Subsection R315-264-151(e).

(3) The post-closure insurance policy shall be issued for a face amount at least equal to the current post-closure cost estimate, except as provided in Subsection R315-265-145(f). The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) The post-closure insurance policy shall guarantee that funds will be available to provide post-closure care of the facility whenever the post-closure period begins. The policy shall 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 Director, to such party or parties as the Director specifies.

(5) An owner or operator or any other person authorized to perform post-closure care may request reimbursement for post-closure care expenditures by submitting itemized bills to the Director. Within 60 days after receiving bills for post-closure care activities, the Director will instruct the insurer to make reimbursements in those amounts as the Director specifies in writing, if the Director determines that the post-closure expenditures are in accordance with the approved post-closure plan or otherwise justified. If the Director does not instruct the insurer to make such reimbursements, he will provide a detailed written statement of reasons.

(6) The owner or operator shall maintain the policy in full force and effect until the Director consents to termination of the policy by the owner or operator as specified in Subsection R315-265-145(d)(11). Failure to pay the premium, without substitution of alternate financial assurance as specified in the section, will constitute a significant violation of these regulations, warranting such remedy as the Director deems necessary. Such violation will be deemed to begin upon receipt by the Director 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 shall 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 shall 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 Director. 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 Director and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

(i) The Director deems the facility abandoned; or

(ii) Interim status is terminated or revoked; or

(iii) Closure is ordered by the Director or a U.S. district court or other court of competent jurisdiction; or

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

(v) The premium due is paid.

(9) Whenever the current post-closure cost estimate increases to an amount greater than the face amount of the policy during the operating life of the facility, the owner or operator, within 60 days after the increase, shall 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 Director, or obtain other financial assurance as specified in Section R315-265-145 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 Director.

(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 shall be equivalent to the face amounts of the policy, less any payments made, multiplied by an amount equivalent to 85 percent of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. Treasury for 26-week Treasury securities.

(11) The Director will give written consent to the owner or operator that he may terminate the insurance policy when:

(i) An owner or operator substitutes alternate financial assurance as specified in Section R315-265-145; or

(ii) The Director releases the owner or operator from the requirements of Section R315-265-145 in accordance with Subsection R315-265-145(h).

(e) Financial test and corporate guarantee for post-closure care.

(1) An owner or operator may satisfy the requirements of Section R315-265-145 by demonstrating that he passes a financial test as specified in Subsection R315-265-145(e). To pass this test the owner or operator shall meet the criteria either of Subsections R315-265-145(e)(1)(i) or (ii):

(i) The owner or operator shall have:

(A) Two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(B) Net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(ii) The owner or operator shall have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) Tangible net worth at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets located in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(2) The phrase "current closure and post-closure cost estimates" as used in Subsection R315-265-145(e)(1) 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, for example see Subsection R315-264-151(f). The phrase "current plugging and abandonment cost estimates" as used in Subsection R315-265-145(e)(1) 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, for example see 40 CFR 144.70(f).

(3) To demonstrate that he meets this test, the owner or operator shall submit the following items to the Director:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in Subsection R315-264-151(f); and

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) The owner or operator may obtain an extension of the time allowed for submission of the documents specified in Subsection R315-265-145(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 owner's or operator's chief financial officer shall send, by the effective date of these regulations, a letter to the Director. This letter from the chief financial officer shall:

(i) Request the extension;

(ii) Certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

(iii) Specify for each facility to be covered by the test the EPA Identification Number, name, address, and the current closure and post-closure cost estimates to be covered by the test;

(iv) Specify the date ending the owner's or operator's latest complete fiscal year before the effective date of these regulations;

(v) Specify the date, no later than 90 days after the end of such fiscal year, when he will submit the documents specified in Subsection R315-265-145(e)(3); and

(vi) Certify that the year-end financial statements of the owner or operator for such fiscal year will be audited by an independent certified public accountant.

(5) After the initial submission of items specified in Subsection R315-265-145(e)(3), the owner or operator shall send updated information to the Director within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in Subsection R315-265-145(e)(3).

(6) If the owner or operator no longer meets the requirements of Subsection R315-265-145 (e)(1), he shall send notice to the Director of intent to establish alternate financial assurance as specified in Section R315-265-145. The notice shall 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 shall provide the alternate financial assurance within 120 days after the end of such fiscal year.

(7) The Director may, based on a reasonable belief that the owner or operator may no longer meet the requirements of Subsection R315-265-145(e)(1), require reports of financial condition at any time from the owner or operator in addition to those specified in Subsection R315-265-145(e)(3). If the Director finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of Subsection R315-265-145(e)(1), the owner or operator shall provide alternate financial assurance as specified in Section R315-265-145 within 30 days after notification of such a finding.

(8) The Director 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 Subsection R315-265-145(e)(3)(ii). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Director will evaluate other qualifications on an individual basis. The owner or operator shall provide alternate financial assurance as specified in Section R315-265-145 within 30 days after notification of the disallowance.

(9) During the period of post-closure care, the Director 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 Director 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 Subsection R315-265-145(e)(3) when:

(i) An owner or operator substitutes alternate financial assurance as specified in Section R315-265-145; or

(ii) The Director releases the owner or operator from the requirements of Section R315-265-145 in accordance with Subsection R315-265-145(h).

(11) An owner or operator may meet the requirements of Section R315-265-145 by obtaining a written guarantee. The guarantor shall 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 shall meet the requirements for owners or operators in Subsections R315-265-145(e)(1) through (9) and shall comply with the terms of the guarantee. The wording of the guarantee shall be identical to the wording specified in Subsection R315-264-151(h). A certified copy of the guarantee shall accompany the items sent to the Director as specified in Subsection R315-265-145(e)(3). One of these items shall 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 shall 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 shall describe this "substantial business relationship" and the value received in consideration of the guarantee. The terms of the guarantee must provide that:

(i) If the owner or operator fails to perform post-closure care of a facility covered by the corporate guarantee in accordance with the post-closure plan and other interim status requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in Subsection R315-265-145(a) in the name of the owner or operator.

(ii) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Director. 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 Director, as evidenced by the return receipts.

(iii) If the owner or operator fails to provide alternate financial assurance as specified in Section R315-265-145 and obtain the written approval of such alternate assurance from the Director within 90 days after receipt by both the owner or operator and the Director 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 Section R315-265-145 by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds, letters of credit, and insurance. The mechanisms must be as specified in Subsections R315-265-145(a) through (d), respectively, of this section, except that it is the combination of mechanisms, rather than the single mechanism, which shall 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 Director 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 Section R315-265-145 to meet the requirements of Section R315-265-145 for more than one facility. Evidence of financial assurance submitted to the Director shall include a list showing, for each facility, the EPA Identification Number, name, address, and the amount of funds for post-closure care assured by the mechanism. The amount of funds available through the mechanism shall 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 Director may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(h) Release of the owner or operator from the requirements of Section R315-265-145. Within 60 days after receiving certifications from the owner or operator and a qualified Professional Engineer that the post-closure care period has been completed for a hazardous waste disposal unit in accordance with the approved plan, the Director will notify the owner or operator in writing that he is no longer required to maintain financial assurance for post-closure care of that unit, unless the Director has reason to believe that post-closure care has not been in accordance with the approved post-closure plan. The Director shall 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.

**R315-265-146. Financial Requirements -- Use of a Mechansim for Financial Assurance of Both Closure and Post-Closure Care.**

An owner or operator may satisfy the requirements for financial assurance for both closure and post-closure care for one or more facilities by using a trust fund, surety bond, letter of credit, insurance, financial test, or corporate guarantee that meets the specifications for the mechanism in both Sections R315-265-143 and R315-265-145. The amount of funds available through the mechanism shall be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for financial assurance of closure and of post-closure care.

**R315-265-147. Financial Requirements -- 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, shall 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 shall 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 Subsections R315-265-147(a)(1), (2), (3), (4), (5), or (6):

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in Subsection R315-265-147(a)(1).

(i) Each insurance policy shall be amended by attachment of the Hazardous Waste Facility Liability Endorsement, or evidenced by a Certificate of Liability Insurance. The wording of the endorsement shall be identical to the wording specified in Subsection R315-264-151(i). The wording of the certificate of insurance shall be identical to the wording specified in Subsection R315-264-151(j). The owner or operator shall submit a signed duplicate original of the endorsement or the certificate of insurance to the Director. If requested by the Director, the owner or operator shall provide a signed duplicate original of the insurance policy.

(ii) Each insurance policy shall be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) An owner or operator may meet the requirements of Section R315-265-147 by passing a financial test or using the guarantee for liability coverage as specified in Subsections R315-265-147(f) and (g).

(3) An owner or operator may meet the requirements of Section R315-265-147 by obtaining a letter of credit for liability coverage as specified in Subsection R315-265-147(h).

(4) An owner or operator may meet the requirements of Section R315-265-147 by obtaining a surety bond for liability coverage as specified in Subsection R315-265-147(i).

(5) An owner or operator may meet the requirements of Section R315-265-147 by obtaining a trust fund for liability coverage as specified in Subsection R315-265-147(j).

(6) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated shall total at least the minimum amounts required by Section R315-265-147. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under Subsection R315-265-147(a)(6), 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 Director in writing within 30 days whenever:

(i) A claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in SubSections R315-265-147(a)(1) through (a)(6); or

(ii) A Certification of Valid Claim for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under Subsections R315-265-147(a)(1) through (a)(6); or

(iii) A final court order establishing a judgment for bodily injury or property damage caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under Subsections R315-265-147(a)(1) through (a)(6).

(b) Coverage for nonsudden accidental occurrences. An owner or operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste, or a group of such facilities, shall demonstrate financial responsibility for bodily injury and property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator shall have and maintain liability coverage for nonsudden accidental occurrences in the amount of at least $3 million per occurrence with an annual aggregate of at least $6 million, exclusive of legal defense costs. An owner or operator who must meet the requirements of Section R315-265-147 may combine the required per-occurrence coverage levels for sudden and nonsudden accidental occurrences into a single per-occurrence level, and combine the required annual aggregate coverage levels for sudden and nonsudden accidental occurrences into a single annual aggregate level. Owners or operators who combine coverage levels for sudden and nonsudden accidental occurrences shall 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 Subsections R315-265-147(b)(1), (2), (3), (4), (5), or (6):

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in Subsection R315-265-147(b)(1).

(i) Each insurance policy shall be amended by attachment of the Hazardous Waste Facility Liability Endorsement or evidenced by a Certificate of Liability Insurance. The wording of the endorsement shall be identical to the wording specified in Subsection R315-264-151(i). The wording of the certificate of insurance shall be identical to the wording specified in Subsection R315-264-151(j). The owner or operator shall submit a signed duplicate original of the endorsement or the certificate of insurance to the Director. If requested by the Director, the owner or operator must provide a signed duplicate original of the insurance policy.

(ii) Each insurance policy shall be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) An owner or operator may meet the requirements of Section R315-265-147 by passing a financial test or using the guarantee for liability coverage as specified in Subsections R315-265-147(f) and (g).

(3) An owner or operator may meet the requirements of Section R315-265-147 by obtaining a letter of credit for liability coverage as specified in Subsection R315-265-147(h).

(4) An owner or operator may meet the requirements of Section R315-265-147 by obtaining a surety bond for liability coverage as specified in Subsection R315-265-147(i).

(5) An owner or operator may meet the requirements of Section R315-265-147 by obtaining a trust fund for liability coverage as specified in Subsection R315-265-147(j).

(6) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated shall total at least the minimum amounts required by Section R315-265-147. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under Subsection R315-265-147(b), 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 Director in writing within 30 days whenever:

(i) A claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in Subsections R315-265-147(b)(1) through (b)(6); or

(ii) A Certification of Valid Claim for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under Subsections R315-265-147(b)(1) through (b)(6); or

(iii) A final court order establishing a judgment for bodily injury or property damage caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under Subsections R315-265-147(b)(1) through (b)(6).

(c) Request for an exception. If an owner or operator can demonstrate to the satisfaction of the Director that the levels of financial responsibility required by Subsections R315-265-147(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 an exception from the Director. The request for an exception must be submitted in writing to the Director. If granted, the exception will take the form of an adjusted level of required liability coverage, such level to be based on the Director's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. The Director may require an owner or operator who requests an exception to provide such technical and engineering information as is deemed necessary by the Director to determine a level of financial responsibility other than that required by Subsections R315-265-147(a) or (b). The Director will process an exception request as if it were a permit modification request under Subsection R315-270-41(a)(5) and subject to the procedures of Section R315-124-5. Notwithstanding any other provision, the Director 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 an exception.

(d) Adjustments by the Director. If the Director determines that the levels of financial responsibility required by Subsections R315-265-147(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 Director may adjust the level of financial responsibility required under Subsection R315-265-147(a) or (b) as may be necessary to protect human health and the environment. This adjusted level will be based on the Director'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 Director 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 Subsection R315-265-147(b). An owner or operator shall furnish to the Director, within a reasonable time, any information which the Director requests to determine whether cause exists for such adjustments of level or type of coverage. The Director will process an adjustment of the level of required coverage as if it were a permit modification under Subsection R315-270-41(a)(5) and subject to the procedures of Section R315-124-5. Notwithstanding any other provision, the Director 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 a qualified Professional Engineer that final closure has been completed in accordance with the approved closure plan, the Director will notify the owner or operator in writing that he is no longer required by Section R315-265-147 to maintain liability coverage for that facility, unless the Director 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 Section R315-265-147 by demonstrating that he passes a financial test as specified in this Subsection R315-265-147(f). To pass this test the owner or operator shall meet the criteria of Subsections R315-265-147(f)(1)(i) or (ii):

(i) The owner or operator shall have:

(A) Net working capital and tangible net worth each at least six times the amount of liability coverage to be demonstrated by this test; and

(B) Tangible net worth of at least $10 million; and

(C) Assets in the United States amounting to either: (1) At least 90 percent of his total assets; or (2) at least six times the amount of liability coverage to be demonstrated by this test.

(ii) The owner or operator shall have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's, or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) Tangible net worth of at least $10 million; and

(C) Tangible net worth at least six times the amount of liability coverage to be demonstrated by this test; and

(D) Assets in the United States amounting to either: (1) At least 90 percent of his total assets; or (2) at least six times the amount of liability coverage to be demonstrated by this test.

(2) The phrase "amount of liability coverage" as used in Subsection R315-265-147(f)(1) refers to the annual aggregate amounts for which coverage is required under Subsections R315-265-147(a) and (b).

(3) To demonstrate that he meets this test, the owner or operator shall submit the following three items to the Director:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in Subsection R315-264-151(g). If an owner or operator is using the financial test to demonstrate both assurance for closure or post-closure care, as specified by Subsections R315-264-143(f), R315-264-145(f), R315-265-143(e), and R315-265-145(e), and liability coverage, he shall submit the letter specified in Subsection R315-264-151(g) to cover both forms of financial responsibility; a separate letter as specified in Subsection R315-264-151(f) is not required.

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year.

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) The owner or operator may obtain a one-time extension of the time allowed for submission of the documents specified in Subsection R315-265-147(f)(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 owner's or operator's chief financial officer shall send, by the effective date of these regulations, a letter to the Director. This letter from the chief financial officer shall:

(i) Request the extension;

(ii) Certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

(iii) Specify for each facility to be covered by the test the EPA Identification Number, name, address, the amount of liability coverage and, when applicable, current closure and post-closure cost estimates to be covered by the test;

(iv) Specify the date ending the owner's or operator's last complete fiscal year before the effective date of these regulations;

(v) Specify the date, no later than 90 days after the end of such fiscal year, when he will submit the documents specified in Subsection R315-265-147(f)(3); and

(vi) Certify that the year-end financial statements of the owner or operator for such fiscal year will be audited by an independent certified public accountant.

(5) After the initial submission of items specified in Subsection R315-265-147(f)(3), the owner or operator shall send updated information to the Director within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in Subsection R315-265-147(f)(3).

(6) If the owner or operator no longer meets the requirements of Subsection R315-265-147(f)(1), he shall 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 Section R315-265-147. Evidence of liability coverage must be submitted to the Director 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 Director 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 Subsection R315-265-147(f)(3)(ii). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Director will evaluate other qualifications on an individual basis. The owner or operator shall provide evidence of insurance for the entire amount of required liability coverage as specified in Section R315-265-147 within 30 days after notification of disallowance.

(g) Guarantee for liability coverage.

(1) Subject to Subsection R315-265-147(g)(2), an owner or operator may meet the requirements of Section R315-265-147 by obtaining a written guarantee, hereinafter referred to as "guarantee." The guarantor shall 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 shall meet the requirements for owners or operators in Subsections R315-265-147(f)(1) through (f)(6). The wording of the guarantee must be identical to the wording specified in Subsection R315-264-151(h)(2). A certified copy of the guarantee shall accompany the items sent to the Director as specified in Subsection R315-265-147(f)(3). One of these items shall 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 shall 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 shall describe this "substantial business relationship" and the value received in consideration of the guarantee.

(i) If the owner or operator fails to satisfy a judgment based on a determination of liability for bodily injury or property damage to third parties caused by sudden or nonsudden accidental occurrences, or both as the case may be, arising from the operation of facilities covered by this corporate guarantee, or fails to pay an amount agreed to in settlement of claims arising from or alleged to arise from such injury or damage, the guarantor will do so up to the limits of coverage.

(2)(i) In the case of corporations incorporated in the United States, a guarantee may be used to satisfy the requirements of Section R315-265-147 only if the Attorneys General or Insurance Commissioners of (A) the State in which the guarantor is incorporated, and (B) Utah have submitted a written statement to the Director that a guarantee executed as described in Section R315-265-147 and Subsection R315-264-151(h)(2) is a legally valid and enforceable obligation in Utah.

(ii) In the case of corporations incorporated outside the United States, a guarantee may be used to satisfy the requirements of Section R315-265-147 only if (A) the non-U.S. corporation has identified a registered agent for service of process in each Utah and in the State in which it has its principal place of business, and if (B) the Attorney General or Insurance Commissioner of each Utah and the State in which the guarantor corporation has its principal place of business, has submitted a written statement to the Director that a guarantee executed as described in Section R315-265-147 and Subsection R315-264-151(h)(2) is a legally valid and enforceable obligation in that Utah.

(h) Letter of credit for liability coverage.

(1) An owner or operator may satisfy the requirements of Section R315-265-147 by obtaining an irrevocable standby letter of credit that conforms to the requirements of Subsection R315-265-147(h) and submitting a copy of the letter of credit to the Director.

(2) The financial institution issuing the letter of credit shall 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 Utah agency.

(3) The wording of the letter of credit must be identical to the wording specified in Subsection R315-264-151(k).

(4) An owner or operator who uses a letter of credit to satisfy the requirements of Section R315-265-147 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 shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or Utah agency.

(5) The wording of the standby trust fund shall be identical to the wording specified in Subsection R315-264-151(n).

(i) Surety bond for liability coverage.

(1) An owner or operator may satisfy the requirements of Section R315-265-147 by obtaining a surety bond that conforms to the requirements of Subsection R315-265-147(i) and submitting a copy of the bond to the Director.

(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 Subsection R315-264-151(l).

(4) A surety bond may be used to satisfy the requirements of Section R315-265-147 only if the Attorneys General or Insurance Commissioners of (i) the State in which the surety is incorporated, and (ii) Utah have submitted a written statement to the Director that a surety bond executed as described in Section R315-265-147 and Subsection R315-264-151(l) is a legally valid and enforceable obligation in Utah.

(j) Trust fund for liability coverage.

(1) An owner or operator may satisfy the requirements of Section R315-265-147 by establishing a trust fund that conforms to the requirements of Subsection R315-265-147(j) and submitting an originally signed duplicate of the trust agreement to the Director.

(2) The trustee shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or Utah agency.

(3) The trust fund for liability coverage shall 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 Section R315-265-147. 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, shall 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 Section R315-265-147 to cover the difference. For purposes of Subsection R315-265-147(j), "the full amount of the liability coverage to be provided" means the amount of coverage for sudden occurrences, nonsudden occurrences, or both required to be provided by the owner or operator by Section R315-265-147, 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 Subsection R315-264-151(m).

**R315-265-148. Financial Requirements -- Incapacity of Owners or Operators, Guarantors, or Financial Institutions.**

(a) An owner or operator shall notify the Director 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 Subsections R315-265-143(e) and R315-265-145(e) shall make such a notification if he is named as debtor, as required under the terms of the corporate guarantee, see Subsection R315-264-151(h).

(b) An owner or operator who fulfills the requirements of Sections R315-265-143, R315-265-145, or R315-265-147 by obtaining a trust fund, surety bond, letter of credit, or insurance policy will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee or of the institution issuing the surety bond, letter of credit, or insurance policy to issue such instruments. The owner or operator shall establish other financial assurance or liability coverage within 60 days after such an event.

**R315-265-170. Use and Management of Containers -- Applicability.**

The requirements in Sections R315-265-170 through R315-265-178 apply to owners and operators of hazardous waste facilities that store containers of hazardous waste, except as Section R315-265-1 provides otherwise.

**R315-265-171. Use and Management of Containers -- Condition of Containers.**

If a container holding hazardous waste is not in good condition, or if it begins to leak, the owner or operator shall transfer the hazardous waste from this container to a container that is in good condition, or manage the waste in some other way that complies with the requirements of Rule R315-265.

**R315-265-172. Use and Management of Containers -- Compatibility of Waste with Container.**

The owner or operator shall use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

**R315-265-173. Use and Management of Containers -- Management of Containers.**

(a) A container holding hazardous waste shall always be closed during storage, except when it is necessary to add or remove waste.

(b) A container holding hazardous waste shall not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

Comment: Re-use of containers in transportation is governed by U.S. Department of Transportation regulations, including those set forth in 49 CFR 173.28.

**R315-265-174. Use and Management of Containers -- Inspections.**

At least weekly, the owner or operator shall inspect areas where containers are stored. The owner or operator shall look for leaking containers and for deterioration of containers caused by corrosion or other factors. See Section R315-265-171 for remedial action required if deterioration or leaks are detected.

**R315-265-176. Use and Management of Containers -- Special Requirements for Ignitable or Reactive Waste.**

Containers holding ignitable or reactive waste shall be located at least 15 meters, 50 feet, from the facility's property line.

Comment: See Subsection R315-265-17(a) for additional requirements.

**R315-265-177. Use and Management of Containers -- Special Requirements for Incompatible Wastes.**

(a) Incompatible wastes, or incompatible wastes and materials, see 40 CFR 265 appendix V which is adopted and incorporated by reference for examples, shall not be placed in the same container, unless Subsection R315-265-17(b) is complied with.

(b) Hazardous waste shall not be placed in an unwashed container that previously held an incompatible waste or material, see 40 CFR 265 appendix V which is adopted and incorporated by reference for examples, unless Subsection R315-265-17(b) is complied with.

(c) A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments shall be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

Comment: The purpose of this is to prevent fires, explosions, gaseous emissions, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the mixing of incompatible wastes or materials if containers break or leak.

**R315-265-178. Use and Management of Containers -- Air Emission Standards.**

The owner or operator shall manage all hazardous waste placed in a container in accordance with the applicable requirements of subparts AA, BB, and CC of 40 CFR 265 which is adopted and incorporated by reference.

**R315-265-190. Tank Systems -- Applicability.**

The requirements of Sections R315-265-190 through 265-202 apply to owners and operators of facilities that use tank systems for storing or treating hazardous waste except as otherwise provided in Subsections R315-265-190(a), (b), and (c) or in Section R315-265-1.

(a) Tank systems that are used to store or treat hazardous waste which contains no free liquids and are situated inside a building with an impermeable floor are exempted from the requirements in Section R315-265-193. 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 Section R315-260-11.

(b) Tank systems, including sumps, as defined in Section R315-260-10, that serve as part of a secondary containment system to collect or contain releases of hazardous wastes are exempted from the requirements in Subsection R315-265-193(a).

(c) Tanks, sumps, and other collection devices used in conjunction with drip pads, as defined in Section R315-260-10 and regulated under 40 CFR part 265 subpart W, which is adopted and incorporated by reference, must meet the requirements of Sections R315-265-190 through 265-202.

**R315-265-191. Tank Systems -- Assessment of Existing Tank System's Integrity.**

(a) For each existing tank system that does not have secondary containment meeting the requirements of Section R315-265-193, the owner or operator shall determine that the tank system is not leaking or is unfit for use. Except as provided in Subsection R315-265-191(c), the owner or operator shall obtain and keep on file at the facility a written assessment reviewed and certified by a qualified Professional Engineer in accordance with Subsection R315-270-11(d), that attests to the tank system's integrity by January 12, 1988.

(b) This assessment shall determine that the tank system is adequately designed and has sufficient structural strength and compatibility with the waste(s) to be stored or treated to ensure that it will not collapse, rupture, or fail. At a minimum, this assessment must consider the following:

(1) Design standard(s), if available, according to which the tank and ancillary equipment were constructed;

(2) Hazardous characteristics of the waste(s) that have been or will be handled;

(3) Existing corrosion protection measures;

(4) Documented age of the tank system, if available, otherwise, an estimate of the age; and

(5) Results of a leak test, internal inspection, or other tank integrity examination such that:

(i) For non-enterable underground tanks, this assessment shall consist of a leak test that is capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets, and high water table effects,

(ii) For other than non-enterable underground tanks and for ancillary equipment, this assessment shall be either a leak test, as described above, or an internal inspection, or other tank integrity examination, or a combination of assessment mechanisms, certified by a qualified Professional Engineer in accordance with Subsection R315-270-11(d) that addresses cracks, leaks, corrosion, and erosion.

Note: The practices described in the American Petroleum Institute (API) Publication, Guide for Inspection of Refinery Equipment, Chapter XIII, "Atmospheric and Low-Pressure Storage Tanks," 4th edition, 1981, may be used, where applicable, as guidelines in conducting the integrity examination of an other than non-enterable underground tank system.

(c) Tank systems that store or treat materials that become hazardous wastes subsequent to July 14, 1986 shall conduct this assessment within 12 months after the date that the waste becomes a hazardous waste.

(d) If, as a result of the assessment conducted in accordance with Subsection R315-265-191(a), a tank system is found to be leaking or unfit for use, the owner or operator shall comply with the requirements of Section R315-265-196.

**R315-265-192. Tank Systems -- Design and Installation of New Tank Systems or Components.**

(a) Owners or operators of new tank systems or components shall 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 shall obtain a written assessment reviewed and certified by a qualified Professional Engineer in accordance with Subsection R315-270-11(d) attesting that the system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste. This assessment shall include the following information:

(1) Design standard(s) according to which the tank(s) and ancillary equipment is or will be constructed.

(2) Hazardous characteristics of the waste(s) to be handled.

(3) For new tank systems or components in which the external shell of a metal tank or any external metal component of the tank system is or will be in contact with the soil or with water, a determination by a corrosion expert of:

(i) Factors affecting the potential for corrosion, including but not limited to:

(A) Soil moisture content;

(B) Soil pH;

(C) Soil sulfides level;

(D) Soil resistivity;

(E) Structure to soil potential;

(F) Influence of nearby underground metal structures, for example, piping;

(G) Stray electric current; and,

(H) Existing corrosion-protection measures, for example, coating, cathodic protection, and

(ii) The type and degree of external corrosion protection that are needed to ensure the integrity of the tank system during the use of the tank system or component, consisting of one or more of the following:

(A) Corrosion-resistant materials of construction such as special alloys or fiberglass-reinforced plastic;

(B) Corrosion-resistant coating, such as epoxy or fiberglass, with cathodic protection, for example, impressed current or sacrificial anodes; and

(C) Electrical isolation devices such as insulating joints and flanges.

Note: The practices described in the National Association of Corrosion Engineers (NACE) standard, "Recommended Practice (RP-02-85)---Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems," and the American Petroleum Institute (API) Publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems," may be used, where applicable, as guidelines in providing corrosion protection for tank systems.

(4) For underground tank system components that are likely to be affected by vehicular traffic, a determination of design or operational measures that will protect the tank system against potential damage; and

(5) Design considerations to ensure that:

(i) Tank foundations will maintain the load of a full tank;

(ii) Tank systems will be anchored to prevent flotation or dislodgement where the tank system is placed in a saturated zone, or is located within a seismic fault zone; and

(iii) Tank systems will withstand the effects of frost heave.

(b) The owner or operator of a new tank system shall 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 a qualified Professional Engineer, either of whom is trained and experienced in the proper installation of tank systems, shall 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 shall 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 shall 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 shall 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 shall be performed prior to the tank system being covered, enclosed, or placed in use.

(e) Ancillary equipment shall be supported and protected against physical damage and excessive stress due to settlement, vibration, expansion or contraction.

Note: The piping system installation procedures described in American Petroleum Institute (API) Publication 1615 (November 1979), "Installation of Underground Petroleum Storage Systems," or ANSI Standard B31.3, "Petroleum Refinery System," may be used, where applicable, as guidelines for proper installation of piping systems.

(f) The owner or operator shall provide the type and degree of corrosion protection necessary, based on the information provided under Subsection R315-265-192(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 shall be supervised by an independent corrosion expert to ensure proper installation.

(g) The owner or operator shall 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 Subsections R315-265-192(b) through (f) to attest that the tank system was properly designed and installed and that repairs, pursuant to Subsections R315-265-192(b) and (d) were performed. These written statements shall also include the certification statement as required in Subsection R315-270-11(d).

**R315-265-193. Tank Systems -- 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 Section R315-265-193 shall be provided, except as provided in Subsections R315-265-193(f) and (g):

(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 2 years of the hazardous waste listing, or when the tank system has reached 15 years of age, whichever comes later.

(b) Secondary containment systems shall be:

(1) Designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, ground water, or surface water at any time during the use of the tank system; and

(2) Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

(c) To meet the requirements of Subsection R315-265-193(b), secondary containment systems shall be at a minimum:

(1) Constructed of or lined with materials that are compatible with the waste(s) to be placed in the tank system and shall have sufficient strength and thickness to prevent failure due to pressure gradients, including static head and external hydrological forces, physical contact with the waste to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation, including stresses from nearby vehicular traffic;

(2) Placed on a foundation or base capable of providing support to the secondary containment system and resistance to pressure gradients above and below the system and capable of preventing failure due to settlement, compression, or uplift;

(3) Provided with a leak detection system that is designed and operated so that it will detect the failure of either the primary and secondary containment structure or any release of hazardous waste or accumulated liquid in the secondary containment system within 24 hours, or at the earliest practicable time if the existing detection technology or site conditions will not allow detection of a release within 24 hours;

(4) Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation. Spilled or leaked waste and accumulated precipitation shall be removed from the secondary containment system within 24 hours, or in as timely a manner as is possible to prevent harm to human health or the environment, if removal of the released waste or accumulated precipitation cannot be accomplished within 24 hours.

Note: If the collected material is a hazardous waste under Rule R315-261, it is subject to management as a hazardous waste in accordance with all applicable requirements of Rules R315-262 through R315-265. If the collected material is discharged through a point source to waters of the United States, it is subject to the requirements of sections 301, 304, and 402 of the Clean Water Act, as amended. If discharged to Publicly Owned Treatment Works (POTWs), it is subject to the requirements of section 307 of the Clear Water Act, as amended. If the collected material is released to the environment, it may be subject to the reporting requirements of 40 CFR part 302.

(d) Secondary containment for tanks shall 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 Director.

(e) In addition to the requirements of Subsections R315-265-193(b), (c), and (d), secondary containment systems shall satisfy the following requirements:

(1) External liner systems must be:

(i) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

(ii) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity shall be sufficient to contain precipitation from a 25-year, 24-hour rainfall event;

(iii) Free of cracks or gaps; and

(iv) Designed and installed to completely surround the tank and to cover all surrounding earth likely to come into contact with the waste if released from the tank(s), for example, capable of preventing lateral as well as vertical migration of the waste.

(2) Vault systems shall be:

(i) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

(ii) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event;

(iii) Constructed with chemical-resistant water stops in place at all joints, if any;

(iv) Provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of waste into the concrete;

(v) Provided with a means to protect against the formation of and ignition of vapors within the vault, if the waste being stored or treated:

(A) Meets the definition of ignitable waste under Section R315-261-21, or

(B) Meets the definition of reactive waste under Section R315-261-23 and may form an ignitable or explosive vapor; and

(vi) Provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure.

(3) Double-walled tanks shall be:

(i) Designed as an integral structure, for example, an inner tank within an outer shell, so that any release from the inner tank is contained by the outer shell;

(ii) Protected, if constructed of metal, from both corrosion of the primary tank interior and the external surface of the outer shell; and

(iii) Provided with a built-in, continuous leak detection system capable of detecting a release within 24 hours or at the earliest practicable time, if the owner or operator can demonstrate to the Director, and the Director concurs, that the existing leak detection technology or site conditions will not allow detection of a release within 24 hours.

Note: The provisions outlined in the Steel Tank Institute's (STI) "Standard for Dual Wall Underground Steel Storage Tank" may be used as guidelines for aspects of the design of underground steel double-walled tanks.

(f) Ancillary equipment shall be provided with full secondary containment, for example, trench, jacketing, double-walled piping, that meets the requirements of Subsections R315-265-193(b) and (c) 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, for example, 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 an exception from the requirements of Section R315-265-193 if the Director finds, as a result of a demonstration by the owner or operator, either: that alternative design and operating practices, together with location characteristics, will prevent the migration of hazardous waste or hazardous constituents into the ground water or surface water at least as effectively as secondary containment during the active life of the tank system or that in the event of a release that does migrate to ground water or surface water, no substantial present or potential hazard will be posed to human health or the environment. New underground tank systems may not, per a demonstration in accordance with Subsection R315-265-193(g)(2), be exempted from the secondary containment requirements of Section R315-265-193. Application for an exception as allowed in Subsection R315-265-193(g) does not waive compliance with the requirements of Sections R315-265-190 through R315-265-202 for new tank systems.

(1) In deciding whether to grant an excpetion based on a demonstration of equivalent protection of ground water and surface water, the Director will consider:

(i) The nature and quantity of the waste;

(ii) The proposed alternate design and operation;

(iii) The hydrogeologic setting of the facility, including the thickness of soils between the tank system and ground water; and

(iv) All other factors that would influence the quality and mobility of the hazardous constituents and the potential for them to migrate to ground water or surface water.

(2) In deciding whether to grant an excpetion, based on a demonstration of no substantial present or potential hazard, the Director will consider:

(i) The potential adverse effects on ground water, surface water, and land quality taking into account:

(A) The physical and chemical characteristics of the waste in the tank system, including its potential for migration,

(B) The hydrogeological characteristics of the facility and surrounding land,

(C) The potential for health risks caused by human exposure to waste constituents,

(D) The potential for damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents, and

(E) The persistence and permanence of the potential adverse effects;

(ii) The potential adverse effects of a release on ground-water quality, taking into account:

(A) The quantity and quality of ground water and the direction of ground-water flow,

(B) The proximity and withdrawal rates of water in the area,

(C) The current and future uses of ground water in the area, and

(D) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground-water quality;

(iii) The potential adverse effects of a release on surface water quality, taking into account:

(A) The quantity and quality of ground water and the direction of ground-water flow,

(B) The patterns of rainfall in the region,

(C) The proximity of the tank system to surface waters,

(D) The current and future uses of surface waters in the area and any water quality standards established for those surface waters, and

(E) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface-water quality; and

(iv) The potential adverse effects of a release on the land surrounding the tank system, taking into account:

(A) The patterns of rainfall in the region, and

(B) The current and future uses of the surrounding land.

(3) The owner or operator of a tank system, for which an excpetion from secondary containment had been granted in accordance with the requirements of Subsection R315-265-193(g)(1), at which a release of hazardous waste has occurred from the primary tank system but has not migrated beyond the zone of engineering control, as established in the exception, shall:

(i) Comply with the requirements of Section R315-265-196, except Subsection R315-265-196(d); and

(ii) Decontaminate or remove contaminated soil to the extent necessary to:

(A) Enable the tank system, for which the excpetion was granted, to resume operation with the capability for the detection of and response to releases at least equivalent to the capability it had prior to the release, and

(B) Prevent the migration of hazardous waste or hazardous constituents to ground water or surface water; and

(iii) If contaminated soil cannot be removed or decontaminated in accordance with Subsection R315-265-193(g)(3)(ii), comply with the requirements of Subsection R315-265-197(b);

(4) The owner or operator of a tank system, for which an exception from secondary containment had been granted in accordance with the requirements of Subsection R315-265-193(g)(1), 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 exception, shall:

(i) Comply with the requirements of Subsections R315-265-196(a), (b), (c), and (d); and

(ii) Prevent the migration of hazardous waste or hazardous constituents to ground water or surface water, if possible, and decontaminate or remove contaminated soil. If contaminated soil cannot be decontaminated or removed, or if ground water has been contaminated, the owner or operator shall comply with the requirements of Subsection R315-265-197(b);

(iii) If repairing, replacing, or reinstalling the tank system, provide secondary containment in accordance with the requirements of Subsections R315-265-193(a) through (f) or reapply for an exception from secondary containment and meet the requirements for new tank systems in Section R315-265-192 if the tank system is replaced. The owner or operator shall comply with these requirements even if contaminated soil can be decontaminated or removed, and ground water or surface water has not been contaminated.

(h) The following procedures shall be followed in order to request an exception from secondary containment:

(1) The Director shall be notified in writing by the owner or operator that he intends to conduct and submit a demonstration for an exception from secondary containment as allowed in paragraph (g) of this section according to the following schedule:

(i) For existing tank systems, at least 24 months prior to the date that secondary containment shall be provided in accordance with Subsection R315-265-193(a); and

(ii) For new tank systems, at least 30 days prior to entering into a contract for installation of the tank system.

(2) As part of the notification, the owner or operator shall also submit to the Director a description of the steps necessary to conduct the demonstration and a timetable for completing each of the steps. The demonstration shall address each of the factors listed in Subsection R315-265-193(g)(1) or Subsection R315-265-193(g)(2).

(3) The demonstration for an exception shall be completed and submitted to the Director within 180 days after notifying the Director of intent to conduct the demonstration.

(4) The Director will inform the public, through a newspaper notice, of the availability of the demonstration for an exception. 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 an exception. The Direction 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 an exception. 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 Director will approve or disapprove the request for an exception 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 exception decision. If the demonstration for an exception is incomplete or does not include sufficient information, the 90-day time period will begin when the Director receives a complete demonstration, including all information necessary to make a final determination. If the public comment period in Subsection R315-265-193(h)(4) 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 Section R315-265-193 is provided, shall comply with the following:

(1) For non-enterable underground tanks, a leak test that meets the requirements of Subsection R315-265-191(b)(5) shall be conducted at least annually;

(2) For other than non-enterable underground tanks, and for all ancillary equipment, the owner or operator shall either conduct a leak test as in Subsection R315-265-193(i)(1) or an internal inspection or other tank integrity examination by a qualified Professional Engineer that addresses cracks, leaks, and corrosion or erosion at least annually. The owner or operator shall remove the stored waste from the tank, if necessary, to allow the condition of all internal tank surfaces to be assessed.

Note: The practices described in the American Petroleum Institute (API) Publication Guide for Inspection of Refining Equipment, Chapter XIII, "Atmospheric and Low Pressure Storage Tanks," 4th edition, 1981, may be used, when applicable, as guidelines for assessing the overall condition of the tank system.

(3) The owner or operator shall maintain on file at the facility a record of the results of the assessments conducted in accordance with Subsections R315-265-193(i)(1) through (i)(3).

(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 Subsections R315-265-193(i)(1) through (i)(3), the owner or operator shall comply with the requirements of Subsection R315-265-196.

**R315-265-194. Tank Systems -- General Operating Requirements.**

(a) Hazardous wastes or treatment reagents shall 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 shall 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, for example, check valves, dry disconnect couplings;

(2) Overfill prevention controls, for example, 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 Section R315-265-196 if a leak or spill occurs in the tank system.

**R315-265-195. Tank Systems -- Inspections.**

(a) The owner or operator shall inspect, where present, at least once each operating day, data gathered from monitoring and leak detection equipment, for example, pressure or temperature gauges, monitoring wells, to ensure that the tank system is being operated according to its design.

Note: Subsection R315-265-15(c) requires the owner or operator to remedy any deterioration or malfunction he finds. Section R315-265-196 requires the owner or operator to notify the Director within 24 hours of confirming a release. Also, 40 CFR part 302 may require the owner or operator to notify the National Response Center of a release.

(b) Except as noted under Subsection R315-265-195(c), the owner or operator shall inspect at least once each operating day:

(1) Overfill/spill control equipment, for example, waste-feed cutoff systems, bypass systems, and drainage systems, to ensure that it is in good working order;

(2) Above ground 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 system, for example, dikes, to detect erosion or signs of releases of hazardous waste, for example, 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 leaks are promptly identified, shall inspect at least weekly those areas described in Subsections R315-265-195(b)(1) through (3). Use of the alternate inspection schedule shall be documented in the facility's operating record. This documentation shall include a description of the established workplace practices at the facility.

(d) (Reserved)

(e) Ancillary equipment that is not provided with secondary containment, as described in Subsections R315-265-193(f)(1) through (4), shall be inspected at least once each operating day.

(f) The owner or operator shall 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 shall be confirmed within six months after initial installation, and annually thereafter; and

(2) All sources of impressed current shall be inspected and/or tested, as appropriate, at least bimonthly, for example, every other month.

Note: The practices described in the National Association of Corrosion Engineers (NACE) standard, "Recommended Practice (RP-02-85)-Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems," and the American Petroleum Institute (API) Publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems," may be used, where applicable, as guidelines in maintaining and inspecting cathodic protection systems.

(g) The owner or operator shall document in the operating record of the facility an inspection of those items in Subsections R315-265-195(a) and (b).

**R315-265-196. Tank Systems -- Response to Leaks or Spills and Dispostion 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, shall be removed from service immediately, and the owner or operator shall satisfy the following requirements:

(a) Cessation of use; prevent flow or addition of wastes. The owner or operator shall 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 shall, within 24 hours after detection of the leak or, if the owner or operator demonstrates that that is not possible, at the earliest practicable time remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed.

(2) If the release was to a secondary containment system, all released materials shall 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 shall immediately conduct a visual inspection of the release and, based upon that inspection:

(1) Prevent further migration of the leak or spill to soils or surface water; and

(2) Remove, and properly dispose of, any visible contamination of the soil or surface water.

(d) Notifications, reports.

(1) Any release to the environment, except as provided in Subsection R315-265-196(d)(2), shall be reported to the Director within 24 hours of detection. If the release has been reported pursuant to 40 CFR part 302, that report will satisfy this requirement.

(2) A leak or spill of hazardous waste that is:

(i) Less than or equal to a quantity of one pound, and

(ii) Immediately contained and cleaned-up is exempted from the requirements of Subsection R315-265-196(d).

(3) Within 30 days of detection of a release to the environment, a report containing the following information shall be submitted to the Director:

(i) Likely route of migration of the release;

(ii) Characteristics of the surrounding soil, soil composition, geology, hydrogeology, climate;

(iii) Results of any monitoring or sampling conducted in connection with the release, if available. If sampling or monitoring data relating to the release are not available within 30 days, these data shall be submitted to the Director as soon as they become available;

(iv) Proximity to downgradient drinking water, surface water, and population areas; and

(v) Description of response actions taken or planned.

(e) Provision of secondary containment, repair, or closure.

(1) Unless the owner or operator satisfies the requirements of Subsections R315-265-196(e) (2) through (4), the tank system shall be closed in accordance with Section R315-265-197.

(2) If the cause of the release was a spill that has not damaged the integrity of the system, the owner or 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 shall 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 or operator shall provide the component of the system from which the leak occurred with secondary containment that satisfies the requirements of Section R315-265-193 before it can be returned to service, unless the source of the leak is an aboveground portion of a tank system. If the source is an aboveground component that can be inspected visually, the component shall be repaired and may be returned to service without secondary containment as long as the requirements of Subsection R315-265-196(f) are satisfied. If a component is replaced to comply with the requirements of Subsection R315-265-196(e)(4), that component shall satisfy the requirements for new tank systems or components in Sections R315-265-192 and R315-265-193. Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection, for example, the bottom of an inground or onground tank, the entire component shall be provided with secondary containment in accordance with Section R315-265-193 prior to being returned to use.

(f) Certification of major repairs. If the owner or operator has repaired a tank system in accordance with Subsection R315-265-196(e), and the repair has been extensive, for example, installation of an internal liner; repair of a ruptured primary containment or secondary containment vessel, the tank system shall not be returned to service unless the owner or operator has obtained a certification by a qualified Professional Engineer in accordance with Subsection R315-270-11(d) 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 Director may, on the basis of any information received that there is or has been a release of hazardous waste or hazardous constituents into the environment, issue an order under Sections 19-6-101 through 125 requiring corrective action or such other response as deemed necessary to protect human health or the environment.

Note: See Subsection R315-265-15(c) for the requirements necessary to remedy a failure. Also, 40 CFR Part 302 requires the owner or operator to notify the National Response Center of a release of any "reportable quantity."

**R315-265-197. Tank Systems -- Closure and Post-Closure Care.**

(a) At closure of a tank system, the owner or operator shall remove or decontaminate all waste residues, contaminated containment system components, for example, liners, contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste, unless Subsection R315-261-3(d) applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for tank systems shall meet all of the requirements specified in Sections R315-265-110 through 265-121 and Sections R315-265-140 through 265-147.

(b) If the owner or operator demonstrates that not all contaminated soils can be practicably removed or decontaminated as required in Subsection R315-265-197(a), then the owner or operator shall close the tank system and perform post-closure care in accordance with the closure and post-closure care requirements that apply to landfills, 40 CFR 265.310. In addition, for the purposes of closure, post-closure, and financial responsibility, such a tank system is then considered to be a landfill, and the owner or operator shall meet all of the requirements for landfills specified in Sections R315-265-110 through 265-121 and Sections R315-265-140 through 265-147.

(c) If an owner or operator has a tank system which does not have secondary containment that meets the requirements of Subsections R315-265-193(b) through (f) and which is not exempt from the secondary containment requirements in accordance with Subsection R315-265-193(g), then,

(1) The closure plan for the tank system shall include both a plan for complying with Subsection R315-265-197(a) and a contingent plan for complying with Subsection R315-265-197(b).

(2) A contingent post-closure plan for complying with Subsection R315-265-197(b)shall be prepared and submitted as part of the permit application.

(3) The cost estimates calculated for closure and post-closure care shall reflect the costs of complying with the contingent closure plan and the contingent post-closure plan, if these costs are greater than the costs of complying with the closure plan prepared for the expected closure under Subsection R315-265-197(a).

(4) Financial assurance must be based on the cost estimates in Subsection R315-265-197(c)(3).

(5) For the purposes of the contingent closure and post-closure plans, such a tank system is considered to be a landfill, and the contingent plans shall meet all of the closure, post-closure, and financial responsibility requirements for landfills under Sections R315-265-110 through 265-121 and Sections R315-265-140 through 265-147.

**R315-265-198. Tank Systems -- Special Requirements for Ignitable or Reactive Wastes.**

(a) Ignitable or reactive waste shall not be placed in a tank system, unless:

(1) The waste is treated, rendered, or mixed before or immediately after placement in the tank system so that:

(i) The resulting waste, mixture, or dissolved material no longer meets the definition of ignitable or reactive waste under Sections R315-261-21 or R315-261-23; and

(ii) Subsection R315-265-17(b) is complied with; or

(2) The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or

(3) The tank system is used solely for emergencies.

(b) The owner or operator of a facility where ignitable or reactive waste is stored or treated in tanks shall comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon as required in Tables 2-1 through 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code," 1977 or 1981, incorporated by reference, see Section R315-260-11.

**R315-265-199. Tank Systems -- Special Requirements for Incompatible Wastes.**

(a) Incompatible wastes, or incompatible waste and materials, shall not be placed in the same tank system, unless Subsection R315-265-17(b) is complied with.

(b) Hazardous waste shall not be placed in a tank system that has not been decontaminated and that previously held an incompatible waste or material, unless Subsection R315-265-17(b) is complied with.

**R315-265-200. Tank Systems -- Waste Analysis and Trial Tests.**

In addition to performing the waste analysis required by Section R315-265-13, the owner or operator shall, whenever a tank system is to be used to treat chemically or to store a hazardous waste that is substantially different from waste previously treated or stored in that tank system; or treat chemically a hazardous waste with a substantially different process than any previously used in that tank system:

(a) Conduct waste analyses and trial treatment or storage tests, for example, bench-scale or pilot-plant scale tests; or

(b) Obtain written, documented information on similar waste under similar operating conditions to show that the proposed treatment or storage will meet the requirements of Subsection R315-265-194(a).

Note: Section R315-265-13 requires the waste analysis plan to include analyses needed to comply with Sections R315-265-198 and 265-199. Section R315-265-73 requires the owner or operator to place the results from each waste analysis and trial test, or the documented information, in the operating record of the facility.

**R315-265-202. Tank Systems -- Air Emission Standards.**

The owner or operator shall manage all hazardous waste placed in a tank in accordance with the applicable requirements of 40 CFR 265 subparts AA, BB, and CC.

**R315-265-220. Surface Impoundments -- Applicability.**

The regulations in Sections R315-265-220 through 265-231 apply to owners and operators of facilities that use surface impoundments to treat, store, or dispose of hazardous waste, except as Section R315-265-1 provides otherwise.

**R315-265-221. Surface Impoundments -- Design and Operating 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 shall 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 Subsection R315-264-221(c), unless exempted under Subsection R315-264-221(d), R315-264-221(e), or R315-264-221(f).

(b) The owner or operator of each unit referred to in Subsection R315-265-221(a) shall notify the director at least 60-days before receiving waste. The owner or operator of each facility submitting notice shall file a part B application within six months of the receipt of the notice.

(c) The owner or operator of any replacement surface impoundment unit is exempt from Subsection R315-265-221(a) if:

(1) the existing unit was constructed in compliance with the design standards of Subsections 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 R315-265-221(a) may be waived by the director for any monofill, if:

(1) the monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and the wastes do not contain constituents that would make the wastes hazardous for reasons other than the Toxicity Characteristic in Section R315-261-24, with EPA Hazardous Waste Numbers D004 through D017; and

(2)(i)(A) the monofill has at least one liner for which there is no evidence that the liner is leaking. For the purposes of Subsection R315-265-221(d) the term "liner" means a liner designed, constructed, installed, and operated to prevent hazardous waste from passing into the liner at any time during the active life of the facility, or a liner designed, constructed, installed, and operated to prevent hazardous waste from migrating beyond the liner to adjacent subsurface soil, ground water, or surface water at any time during the active life of the facility. In the case of any surface impoundment that has been exempted from the requirements of Subsection R315-265-221(a) on the basis of a liner designed, constructed, installed, and operated to prevent hazardous waste from passing beyond the liner, at the closure of the impoundment the owner or operator shall remove or decontaminate any waste residues, any contaminated liner material, and contaminated soil to the extent practicable. If the contaminated soil is not removed or decontaminated, the owner or operator of the impoundment shall comply with appropriate post-closure requirements, including ground-water monitoring and corrective action;

(B) the monofill is located more than one-quarter mile from an "underground source of drinking water," as that term is defined in Section R315-270-2; and

(C) the monofill is in compliance with generally applicable ground-water monitoring requirements for facilities with permits under RCRA section 3005(c); or

(ii) the owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

(e) In the case of any unit in which the liner and leachate collection system has been installed pursuant to the requirements of Subsection R315-265-221(a) and in good faith compliance with Subsection R315-265-221(a) and with guidance documents governing liners and leachate collection systems under Subsection R315-265-221(a), no liner or leachate collection system that is different from the liner that was installed pursuant to Subsection R315-265-221(a) will be required for the unit by the director when issuing the first permit to the facility, except that the director will not be precluded from requiring installation of a new liner when the director has reason to believe that any liner installed pursuant to the requirements of Subsection R315-265-221(a) is leaking.

(f) A surface impoundment shall maintain enough freeboard to prevent any overtopping of the dike by overfilling, wave action, or a storm. Except as provided in Subsection R315-265-221(b), there shall be at least 60 centimeters, two feet, of freeboard.

(g) A freeboard level less than 60 centimeters, two feet, may be maintained if the owner or operator obtains certification by a qualified engineer that alternate design features or operating plans will, to the best of the qualified engineer's knowledge and opinion, prevent overtopping of the dike. The certification, along with a written identification of alternate design features or operating plans preventing overtopping, shall 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 shall be in compliance with Subsections R315-265-221(a), R315-264-221(c) and R315-264-221(d) before 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 Rule R315-268 or the granting of an extension to the effective date of a prohibition pursuant to Section R315-268-5, within this 48-month period.

**R315-265-222. Surface Impoundments -- Action Leakage Rate.**

(a) The owner or operator of surface impoundment units subject to Subsection R315-265-221(a) shall submit a proposed action leakage rate to the Director when submitting the notice required under Subsection R315-265-221(b). Within 60 days of receipt of the notification, the Director will: Establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in Section R315-265-222; or extend the review period for up to 30 days. If no action is taken by the Director before the original 60 or extended 90 day review periods, the action leakage rate will be approved as proposed by the owner or operator.

(b) The Director shall approve an action leakage rate for surface impoundment units subject to Subsection R315-265-221(a). The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding 1 foot. The action leakage rate shall include an adequate safety margin to allow for uncertainties in the design, for example, slope, hydraulic conductivity, and 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, for example, 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 shall convert the weekly or monthly flow rate from the monitoring data obtained under Subsection R315-265-226(b), to an average daily flow rate, gallons per acre per day, for each sump. Unless the Director approves a different calculation, the average daily flow rate for each sump shall be calculated weekly during the active life and closure period, and if the unit closes in accordance with Subsection R315-265-228(a)(2), monthly during the post-closure care period when monthly monitoring is required under Subsection R315-265-226(b).

**R315-265-223. Surface Impoundments -- Containment System.**

All earthen dikes shall have a protective cover, such as grass, shale, or rock, to minimize wind and water erosion and to preserve their structural integrity.

**R315-265-224. Surface Impoundments -- Response Actions.**

(a) The owner or operator of surface impoundment units subject to Subsection R315-265-221(a) shall develop and keep on site until closure of the facility a response action plan. The response action plan shall set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan shall describe the actions specified in Subsection R315-265-224(b).

(b) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator shall:

(1) Notify the Director in writing of the exceedance within 7 days of the determination;

(2) Submit a preliminary written assessment to the Director within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(3) Determine to the extent practicable the location, size, and cause of any leak;

(4) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(5) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and

(6) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the Director the results of the analyses specified in Subsections R315-265-224(b)(3), (4), and (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 Director a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak, remediation or both determinations in Subsections R315-265-224(b)(3), (4), and (5), the owner or operator shall:

(1)(i) Assess the source of liquids and amounts of liquids by source,

(ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

(iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) Document why such assessments are not needed.

**R315-265-225. Surface Impoundments -- Waste Analysis and Trial Tests.**

(a) In addition to the waste analyses required by Section R315-265-13, whenever a surface impoundment is to be used to:

(1) Chemically treat a hazardous waste which is substantially different from waste previously treated in that impoundment; or

(2) Chemically treat hazardous waste with a substantially different process than any previously used in that impoundment; the owner or operator shall, before treating the different waste or using the different process:

(i) Conduct waste analyses and trial treatment tests, for example, bench scale or pilot plant scale tests; or

(ii) Obtain written, documented information on similar treatment of similar waste under similar operating conditions; to show that this treatment will comply with Subsection R315-265-17(b).

Comment: As required by Section R315-265-13, the waste analysis plan shall include analyses needed to comply with Sections R315-265-229 and 265-230. As required by Section R315-265-73, the owner or operator shall place the results from each waste analysis and trial test, or the documented information, in the operating record of the facility.

**R315-265-226. Surface Impoundments -- Monitoring and Inspection.**

(a) The owner or operator shall inspect:

(1) The freeboard level at least once each operating day to ensure compliance with Section R315-265-222, and

(2) The surface impoundment, including dikes and vegetation surrounding the dike, at least once a week to detect any leaks, deterioration, or failures in the impoundment.

(b)(1) An owner or operator required to have a leak detection system under Subsection R315-265-221(a) shall record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

(2) After the final cover is installed, the amount of liquids removed from each leak detection system sump shall 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 shall 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 shall 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 shall return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months.

(3) "Pump operating level" is a liquid level proposed by the owner or operator and approved by the Director 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 Subsection R315-265-222(a).

Comment: As required by Subsection R315-265-15(c), the owner or operator shall remedy any deterioration or malfunction he finds.

**R315-265-228. Surface Impoundments -- Closure and Post-Closure Care.**

(a) At closure, the owner or operator shall:

(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 Subsection R315-261-3(d) applies; or

(2) Close the impoundment and provide post-closure care for a landfill under Sections R315-265-110 through 265-121 and 40 CFR 265.310, which is adopted and incorporated by reference, including the following:

(i) Eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues;

(ii) Stabilize remaining wastes to a bearing capacity sufficient to support the final cover; and

(iii) Cover the surface impoundment with a final cover designed and constructed to:

(A) Provide long-term minimization of the migration of liquids through the closed impoundment;

(B) Function with minimum maintenance;

(C) Promote drainage and minimize erosion or abrasion of the cover;

(D) Accommodate settling and subsidence so that the cover's integrity is maintained; and

(E) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(b) In addition to the requirements of Sections R315-265-110 through R315-265-121, and 40 CFR 265.310, which is adopted and incorporated by reference, 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 Subsection R315-265-228(a)(2)shall:

(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 Subsections R315-264-221(c)(2)(iv) and (3) and Subsection R315-265-226(b) and comply with all other applicable leak detection system requirements of Rule R315-265;

(3) Maintain and monitor the ground-water monitoring system and comply with all other applicable requirements of Sections R315-265-90 through 265-94; and

(4) Prevent run-on and run-off from eroding or otherwise damaging the final cover.

**R315-265-229. Surface Impoundments -- Special Requirements for Ignitable or Reactive Waste.**

Ignitable or reactive waste shall not be placed in a surface impoundment, unless the waste and impoundment satisfy all applicable requirements of Rule R315-268, and:

(a) The waste is treated, rendered, or mixed before or immediately after placement in the impoundment so that:

(1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under Sections R315-261-21 or R315-261-23; and

(2) Subsection R315-265-17(b) is complied with; or

(b)(1) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react; and

(2) The owner or operator obtains a certification from a qualified chemist or engineer that, to the best of his knowledge and opinion, the design features or operating plans of the facility will prevent ignition or reaction; and

(3) The certification and the basis for it are maintained at the facility; or

(c) The surface impoundment is used solely for emergencies.

**R315-265-230. Surface Impoundments -- Special Requirements for Incompatible Wastes.**

Incompatible wastes, or incompatible wastes and materials, see 40 CFR 265 appendix V, which is adopted and incorporated by reference for examples, shall not be placed in the same surface impoundment, unless Subsection R315-265-17(b) is complied with.

**R315-265-231. Surface Impoundments -- Air Emission Standards.**

The owner or operator shall manage all hazardous waste placed in a surface impoundment in accordance with the applicable requirements of 40 CFR 265 subparts BB and CC, which are adopted and incorporated by reference.

**R315-265-250. Waste Piles-- Applicability.**

The regulations in Sections R315-265-250 through R315-265-260 apply to owners and operators of facilities that treat or store hazardous waste in piles, except as Section R315-265-1 provides otherwise. Alternatively, a pile of hazardous waste may be managed as a landfill under 40 CFR subpart N.

**R315-265-251. Waste Piles-- Protection from Wind.**

The owner or operator of a pile containing hazardous waste which could be subject to dispersal by wind shall cover or otherwise manage the pile so that wind dispersal is controlled.

**R315-265-252. Waste Piles-- Waste Analysis.**

In addition to the waste analyses required by Section R315-265-13, the owner or operator shall analyze a representative sample of waste from each incoming movement before adding the waste to any existing pile, unless (1) The only wastes the facility receives which are amenable to piling are compatible with each other, or (2) the waste received is compatible with the waste in the pile to which it is to be added. The analysis conducted shall be capable of differentiating between the types of hazardous waste the owner or operator places in piles, so that mixing of incompatible waste does not inadvertently occur. The analysis shall include a visual comparison of color and texture.

Comment: As required by Section R315-265-13, the waste analysis plan shall include analyses needed to comply with Sections R315-265-256 and 265-257. As required by Section R315-265-73, the owner or operator shall place the results of this analysis in the operating record of the facility.

**R315-265-253. Waste Piles-- Containment.**

If leachate or run-off from a pile is a hazardous waste, then either:

(a)(1) The pile shall be placed on an impermeable base that is compatible with the waste under the conditions of treatment or storage;

(2) The owner or operator shall 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 shall design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm; and

(4) Collection and holding facilities, for example, tanks or basins, associated with run-on and run-off control systems shall be emptied or otherwise managed expeditiously to maintain design capacity of the system; or

(b)(1) The pile shall be protected from precipitation and run-on by some other means; and

(2) No liquids or wastes containing free liquids may be placed in the pile.

Comment: If collected leachate or run-off is discharged through a point source to waters of the United States, it is subject to the requirements of section 402 of the Clean Water Act, as amended.

**R315-265-254. Waste Piles-- Design and Operating Requirements.**

The owner or operator of each new waste pile on which construction commences after January 29, 1992, each lateral expansion of a waste pile unit on which construction commences after July 29, 1992, and each such replacement of an existing waste pile unit that is to commence reuse after July 29, 1992 shall 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 Subsection R315-264-251(c), unless exempted under Subsections R315-264-251(d), (e), or (f); and shall comply with the procedures of Subsection R315-265-221(b). "Construction commences" is as defined in Section R315-260-10 under "existing facility".

**R315-265-255. Waste Piles-- Action Leakage Rates.**

(a) The owner or operator of waste pile units subject to Section R315-265-254 shall submit a proposed action leakage rate to the Director when submitting the notice required under Section R315-265-254. Within 60 days of receipt of the notification, the Director will: Establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this Section R315-265-255; or extend the review period for up to 30 days. If no action is taken by the Director before the original 60 or extended 90 day review periods, the action leakage rate will be approved as proposed by the owner or operator.

(b) The Director shall approve an action leakage rate for waste pile units subject to Section R315-265-254. The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding 1 foot. The action leakage rate shall include an adequate safety margin to allow for uncertainties in the design, for example, 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, for example, the action leakage rate shall 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 shall convert the weekly flow rate from the monitoring data obtained under Section R315-265-260, to an average daily flow rate, gallons per acre per day, for each sump. Unless the Director approves a different calculation, the average daily flow rate for each sump shall be calculated weekly during the active life and closure period.

**R315-265-256. Waste Piles-- Special Requirements for Ignitable or Reactive Waste.**

(a) Ignitable or reactive waste shall not be placed in a pile unless the waste and pile satisfy all applicable requirements of Rule R315-268, and:

(1) Addition of the waste to an existing pile (i) results in the waste or mixture no longer meeting the definition of ignitable or reactive waste under Sections R315-261-21 or R315-261-23, and (ii) complies with Subsection R315-265-17(b); or

(2) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

**R315-265-257. Waste Piles-- Special Requirements for Incompatible Wastes.**

(a) Incompatible wastes, or incompatible wastes and materials, see 40 CFR 265 appendix V, which is adopted and incorporated by reference, for examples, shall not be placed in the same pile, unless Subsection R315-265-17(b) is complied with.

(b) A pile of hazardous waste that is incompatible with any waste or other material stored nearby in other containers, piles, open tanks, or surface impoundments shall be separated from the other materials, or protected from them by means of a dike, berm, wall, or other device.

Comment: The purpose of this is to prevent fires, explosions, gaseous emissions, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the contact or mixing of incompatible wastes or materials.

(c) Hazardous waste shall not be piled on the same area where incompatible wastes or materials were previously piled, unless that area has been decontaminated sufficiently to ensure compliance with Subsection R315-265-17(b).

**R315-265-258. Waste Piles-- Closure and Post-Closure Care.**

(a) At closure, the owner or operator shall 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 Subsection R315-261-3(d) applies; or

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in Subsection R315-265-258(a), the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he shall close the facility and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills, see 40 CFR 265.310.

**R315-265-259. Waste Piles-- Response Actions.**

(a) The owner or operator of waste pile units subject to Section R315-265-254 shall develop and keep on-site until closure of the facility a response action plan. The response action plan shall set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan shall describe the actions specified in Subsection R315-265-259(b).

(b) If the flow rate into the leak determination system exceeds the action leakage rate for any sump, the owner or operator shall:

(1) Notify the Director in writing of the exceedance within seven days of the determination;

(2) Submit a preliminary written assessment to the Director within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(3) Determine to the extent practicable the location, size, and cause of any leak;

(4) Determine whether waste receipts should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(5) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and

(6) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the Director the results of the analyses specified in Subsections R315-265-259(b)(3), (4), and (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 shall submit to the Director a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the either the leak or remediation or both determinations in Subsections R315-265-259(b)(3), (4), and (5), the owner or operator shall:

(1)(i) Assess the source of liquids and amounts of liquids by source,

(ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

(iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) Document why such assessments are not needed.

**R315-265-260. Waste Piles-- Monitoring and Inspection.**

An owner or operator required to have a leak detection system under Section R315-265-254 shall record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

**R315-265-300. Landfills -- Applicability.**

Sections R315-265-300 through R315-265-316 apply to owners and operators of facilities that dispose of hazardous waste in landfills, except as Section R315-265-1 provides otherwise. A waste pile used as a disposal facility is a landfill and is governed by Sections R315-265-300 through R315-265-316.

**R315-265-301. Landfills -- 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 shall install two or more liners and a leachate collection and removal system above and between the liners, and operate the leachate collection and removal system, in accordance with Subsection R315-264-301(c), unless exempted under Subsection R315-264.301(d), R315-264-301(e), or R315-264-301(f).

(b) The owner or operator of each unit referred to in Subsection R315-265-301(a) shall notify the director at least 60 days before receiving waste. The owner or operator of each facility submitting notice shall file a part B application within six months of the receipt of the notice.

(c) The owner or operator of any replacement landfill unit is exempt from Subsection R315-265-301(a) if:

(1) the existing unit was constructed in compliance with the design standards of Sections 3004(o)(1)(A)(i) and 3004(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 R315-265-301(a) may be waived by the director for any monofill, if:

(1) the monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and the wastes do not contain constituents that would make the wastes hazardous for reasons other than the Toxicity Characteristic in Section R315-261-24, with EPA Hazardous Waste Numbers D004 through D017; and

(2)(i)(A) the monofill has at least one liner for which there is no evidence that the liner is leaking;

(B) the monofill is located more than one-quarter mile from an "underground source of drinking water", as that term is defined in Section R315-270-2; and

(C) the monofill is in compliance with generally applicable ground-water monitoring requirements for facilities with permits under RCRA Section 3005(c); or

(ii) the owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

(e) In the case of any unit that has a liner and leachate collection system that has been installed pursuant to the requirements of Subsection R315-265-301(a) and in good faith compliance with Subsection R315-265-301(a) and with guidance documents governing liners and leachate collection systems under Subsection R315-265-301(a), no liner or leachate collection system that is different from the liner or leachate collection system that was installed pursuant to Subsection R315-265-301(a) will be required for the unit by the director when issuing the first permit to the facility, except that the director will not be precluded from requiring installation of a new liner if the director has reason to believe that any liner installed pursuant to the requirements of Subsection R315-265-301(a) is leaking.

(f) The owner or operator shall 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 shall 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 such as tanks or basins associated with run-on and run-off control systems shall 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 that is subject to dispersal by wind shall cover or otherwise manage the landfill so that wind dispersal of the hazardous waste is controlled.

(j) As required by Section R315-265-13, the waste analysis plan shall include analyses needed to comply with Sections R315-265-312, R315-265-313, and R315-265-314. As required by Section R315-265-73, the owner or operator shall place the results of these analyses in the operating record of the facility.

**R315-265-302. Landfills -- Action Leakage Rate.**

(a) The owner or operator of landfill units subject to Subsection R315-265-301(a) shall submit a proposed action leakage rate to the director when submitting the notice required under Subsection R315-265-301(b). Within 60 days of receipt of the notification, the director will:

(1) establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this section; or

(2) extend the review period for up to 30 days.

(3) If no action is taken by the director before the original 60 or extended 90 day review periods, the action leakage rate will be approved as proposed by the owner or operator.

(b) The director shall approve an action leakage rate for land fill units subject to Subsection R315-265-301(a). The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding one foot. The action leakage rate shall include an adequate safety margin to allow for uncertainties in the design, such as, slope, hydraulic conductivity, and 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. for example, the action leakage rate shall 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.

(c) To determine if the action leakage rate has been exceeded, the owner or operator shall convert the weekly or monthly flow rate from the monitoring data obtained in accordance with Section R315-265-304 to an average daily flow rate, gallons per acre per day, for each sump. Unless the director approves a different calculation, the average daily flow rate for each sump shall be calculated weekly during the active life and closure period, and monthly during the post-closure care period if monthly monitoring is required under Subsection R315-265-304(b).

**R315-265-303. Landfills -- Response Actions.**

(a) The owner or operator of landfill units subject to Subsection R315-265-301(a) shall develop and keep on site until closure of the facility a response action plan. The response action plan shall set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan shall describe the actions specified in Subsection R315-265-303(b).

(b) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator shall:

(1) notify the director in writing of the exceedance within seven days of the determination;

(2) submit a preliminary written assessment to the director 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 stop or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(5) determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and

(6) within 30 days after the notification that the action leakage rate has been exceeded, submit to the director the results of the analyses specified in Subsections R315-265-303(b)(3), R315-265-303(b)(4), and R315-265-303(b)(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 shall submit to the director a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak or remediation determinations or both in Subsections R315-265-303(b)(3), R315-265-303(b)(4), and R315-265-303(b)(5), the owner or operator shall:

(1)(i) assess the source of liquids and amounts of liquids by source;

(ii) conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

(iii) assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) document why the assessments are not needed.

**R315-265-304. Landfills -- Monitoring and Inspection.**

(a) An owner or operator required to have a leak detection system under Subsection R315-265-301(a) shall 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 shall 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 shall 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 shall 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 shall return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months.

(c) "Pump operating level" is a liquid level proposed by the owner or operator and approved by the director 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 Subsection R315-265-302(a).

**R315-265-309. Landfills -- Surveying and Recordkeeping.**

The owner or operator of a landfill shall maintain the following items in the operating record required by Section R315-265-73:

(a) On a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks; and

(b) The contents of each cell and the approximate location of each hazardous waste type within each cell.

**R315-265-310. Landfills -- Closure and Post-Closure Care.**

(a) At final closure of the landfill or upon closure of any cell, the owner or operator shall cover the landfill or cell with a final cover designed and constructed to:

(1) provide long-term minimization of migration of liquids through the closed landfill;

(2) function with minimum maintenance;

(3) promote drainage and minimize erosion or abrasion of the cover;

(4) accommodate settling and subsidence so that the cover's integrity is maintained; and

(5) have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(b) After final closure, the owner or operator shall comply with the post-closure requirements contained in Sections R315-265-117 through R315-265-120 including maintenance and monitoring throughout the post-closure care period. The owner or operator shall:

(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 Subsections R315-264-301(c)(3)(iv) and R315-264-301(c)(4) and Subsection R315-265-304(b), and comply with any other applicable leak detection system requirements of Rule R315-265;

(3) maintain and monitor the ground-water monitoring system and comply with any other applicable requirements of Sections R315-265-90 through R315-265-94;

(4) prevent run-on and run-off from eroding or otherwise damaging the final cover; and

(5) protect and maintain surveyed benchmarks used in complying with Section R315-265-309.

**R315-265-312. Landfills -- Special Requirements for Ignitable or Reactive Waste.**

(a) Except as provided in Subsection R315-265-312(b), and in Section R315-265-316, ignitable or reactive waste may not be placed in a landfill, unless the waste and landfill meet the applicable requirements of Rule R315-268, and:

(1) the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under Section R315-261-21 or R315-261-23; and

(2) Subsection R315-265-17(b) is complied with.

(b) Except for prohibited wastes that remain subject to treatment standards in Sections R315-268-40 through R315-268-49, ignitable wastes in containers may be landfilled without meeting the requirements of Subsection R315-265-312(a), if the wastes are disposed of in a way that they are protected from any material or conditions that may cause them to ignite. At a minimum, ignitable wastes shall be:

(1) disposed of in non-leaking containers that are carefully handled and placed so as to avoid heat, sparks, rupture, or any other condition that might cause ignition of the wastes;

(2) shall be covered daily with soil or other non-combustible material to minimize the potential for ignition of the wastes; and

(3) may not be disposed of in cells that contain or will contain other wastes that may generate heat sufficient to cause ignition of the waste.

**R315-265-313. Landfills -- Special Requirements for Incompatible Wastes.**

Incompatible wastes, or incompatible wastes and materials, see appendix V for examples, may not be placed in a landfill cell together, unless Subsection R315-265-17(b) is complied with.

**R315-265-314. Landfills -- Special Requirements for Bulk and Containerized Liquids.**

(a) The placement of bulk or non-containerized liquid hazardous waste or hazardous waste containing free liquids, whether or not sorbents have been added, in any landfill is prohibited.

(b) Containers holding free liquids may not be placed in a landfill unless:

(1) the free-standing liquid;

(i) has been removed by decanting, or other methods;

(ii) has been mixed with sorbent or solidified so that free-standing liquid is no longer observed; or

(iii) had been otherwise eliminated; or

(2) the container is very small, such as an ampule; or

(3) the container is designed to hold free liquids for use other than storage, such as a battery or capacitor; or

(4) the container is a lab pack as defined in Section R315-265-316 and is disposed of in accordance with Section R315-265-316.

(c) To demonstrate the absence or presence of free liquids in either a containerized or a bulk waste, the following test shall 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 Section R315-260-11.

(d) The date for compliance with Subsection R315-265-314(a) is November 19, 1981. The date for compliance with Subsection R315-265-314(c) is March 22, 1982.

(e) Sorbents used to treat free liquids to be disposed of in landfills shall be nonbiodegradable. Nonbiodegradable sorbents are: materials listed or described in Subsection R315-265-314(e)(1), materials that pass one of the tests in Subsection R315-265-314(e)(2); or materials that are determined by the director to be nonbiodegradable through the Rule R315-260 petition process.

(1) Nonbiodegradable sorbents include:

(i) inorganic minerals, other inorganic materials, and elemental carbon such as aluminosilicates, clays, smectites, Fuller's earth, bentonite, calcium bentonite, montmorillonite, calcined montmorillonite, kaolinite, micas such as illite, vermiculites, zeolites; calcium carbonate, organic free limestone, oxides or hydroxides, alumina, lime, silica, sand, diatomaceous earth, perlite, volcanic glass; expanded volcanic rock, volcanic ash, cement kiln dust, fly ash, rice hull ash, activated charcoal or activated carbon; or

(ii) high molecular weight synthetic polymers such as polyethylene, high density polyethylene (HDPE), polypropylene, polystyrene, polyurethane, polyacrylate, polynorborene, polyisobutylene, ground synthetic rubber, cross-linked allylstyrene and tertiary butyl copolymers. This does not include polymers derived from biological material or polymers specifically designed to be degradable; or

(iii) mixtures of these nonbiodegradable materials.

(2) Tests for nonbiodegradable sorbents.

(i) The sorbent material is determined to be nonbiodegradable under ASTM Method G21-70, 1984a,---Standard Practice for Determining Resistance of Synthetic Polymer Materials to Fungi; or

(ii) The sorbent material is determined to be nonbiodegradable under ASTM Method G22-76, 1984b,---Standard Practice for Determining Resistance of Plastics to Bacteria; or

(iii) The sorbent material is determined to be nonbiodegradable under OECD test 301B: (CO2 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 the landfill demonstrates to the director, or the director determines that:

(1) the only reasonably available alternative to the placement in the 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 the owner or operator's landfill will not present a risk of contamination of any "underground source of drinking water", as that term is defined in Section R315-270-2.

**R315-265-315. Landfills -- Special Requirements for Containers.**

Unless they are very small, such as an ampule, containers shall be either:

(a) at least 90% full when placed in the landfill; or

(b) crushed, shredded, or similarly reduced in volume to the maximum practical extent before burial in the landfill.

**R315-265-316. Landfills -- Disposal of Small Containers of Hazardous Waste in Overpacked Drums, Lab Packs.**

Small containers of hazardous waste in overpacked drums, lab packs, may be placed in a landfill if the following requirements are met:

(a) Hazardous waste shall be packaged in non-leaking inside containers. The inside containers shall be of a design and constructed of a material that will not react dangerously with, be decomposed by, or be ignited by the waste held therein. Inside containers shall be tightly and securely sealed. The inside containers shall be of the size and type specified in the Department of Transportation (DOT) hazardous materials regulations, 49 CFR parts 173, 178 and 179, if those regulations specify a particular inside container for the waste.

(b) The inside containers shall be overpacked in an open head DOT-specification metal shipping container, 49 CFR parts 178 and 179, of no more than 416-liter, 110 gallon, capacity and surrounded by, at a minimum, a sufficient quantity of sorbent material, determined to be nonbiodegradable in accordance with Subsection R315-265-314(e), to completely sorb the liquid contents of the inside containers. The metal outer container shall be full after it has been packed with inside containers and sorbent material.

(c) The sorbent material used may not be capable of reacting dangerously with, being decomposed by, or being ignited by the contents of the inside containers in accordance with Subsection R315-265-17(b).

(d) Incompatible wastes, as defined in Section R315-260-10, may not be placed in an outside container together.

(e) Reactive waste, other than cyanide- or sulfide-bearing waste as defined in Subsection R315-261-23(a)(5), shall be treated or made non-reactive before packaging in accordance with Subsections R315-265-316(a) through R315-265-316(d). Cyanide- and sulfide-bearing reactive waste may be packaged in accordance with Subsections R315-265-316(a) through R315-265-316(d) without first being treated or made non-reactive.

(f) This disposal is in compliance with the requirements of Rule R315-268. Persons who incinerate lab packs according to the requirements in Subsection R315-268-42(c)(1) may use fiber drums in place of metal outer containers. Fiber drums shall meet the DOT specifications in 49 CFR 173.12 and be overpacked according to the requirements in Subsection R315-265-316(b).

**R315-265-340. Incinerators -- Applicability.**

(a) Sections R315-265-340 through R315-265-352 apply to owners and operators of hazardous waste incinerators, as defined in Subsection R315-260-10(c)(71), except as Section R315-265-1 provides otherwise.

(b) Integration of MACT standards.

(1) Except as provided by Subsections R315-265-340(b)(2) and R315-265-340(b)(3), the standards of Rule R315-265 no longer apply if an owner or operator demonstrates compliance with the maximum achievable control technology (MACT) requirements of 40 CFR part 63, subpart EEE, by conducting a comprehensive performance test and submitting to the director a Notification of Compliance in accordance with 40 CFR 63.1207(j) and 40 CFR 63.1210(d) documenting compliance with the requirements of 40 CFR part 63, subpart EEE.

(2) The MACT standards do not replace the closure requirements of Section R315-264-351 or the applicable requirements of Sections R315-265-1 through R315-265-150, R315-265-1050 through R315-265-1064, and R315-265-1080 through R315-265-1090.

(3) Section R315-265-345 generally prohibiting burning of hazardous waste during startup and shutdown remains in effect if the owner or operator elects to comply with Subsection R315-270-235(b)(1)(i) to minimize emissions of toxic compounds from startup and shutdown.

(c) Owners and operators of incinerators burning hazardous waste are exempt from the requirements of Sections R315-265-340 through R315-265-352, except Section R315-265-351, Closure, if 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 Section R315-261-1092, which incorporates Appendix VIII to 40 CFR Part 261 by reference, and the documentation is kept at the facility, if the waste to be burned is:

(1) listed as a hazardous waste in Sections R315-261-30 through R315-261-35 solely because it is ignitable, Hazard Code I, corrosive, Hazard Code C, or both; or

(2) listed as a hazardous waste in Sections R315-261-30 through R315-261-35 solely because it is reactive, Hazard Code R, for characteristics other than those listed in Subsections R315-261-23(a)(4) and R315-261-23(a)(5), and will not be burned if other hazardous wastes are present in the combustion zone; or

(3) a hazardous waste solely because it has the characteristic of ignitability, corrosivity, or both, as determined by the tests for characteristics of hazardous wastes under Sections R315-261-20 through R315-261-24; or

(4) a hazardous waste solely because it has the reactivity characteristics described by Subsection R315-261-23(a)(1), R315-261-23(a)(2), R315-261-23(a)(3), R315-261-23(a)(6), R315-261-23(a)(7), or R315-261-23(a)(8), and will not be burned if other hazardous wastes are present in the combustion zone.

**R315-265-341. Incinerators -- Waste Analysis.**

In addition to the waste analyses required by Section R315-265-13, the owner or operator shall sufficiently analyze any waste that has not previously burned in the owner or operator's incinerator to enable the owner or operator to establish steady state, normal, operating conditions, including waste and auxiliary fuel feed and air flow, and to determine the type of pollutants that might be emitted. At a minimum, the analysis shall determine:

(a) the heating value of the waste;

(b) the halogen content and sulfur content in the waste; and

(c) the 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.

(d) As required by Section R315-265-73, the owner or operator shall place the results from each waste analysis, or the documented information, in the operating record of the facility.

**R315-265-345. Incinerators -- General Operating Requirements.**

During startup and shutdown of an incinerator, the owner or operator may not feed hazardous waste unless the incinerator is at steady state, normal, conditions of operation, including steady state operating temperature and air flow.

**R315-265-347. Incinerators -- Monitoring and Inspections.**

The owner or operator shall conduct, as a minimum, the following monitoring and inspections when incinerating hazardous waste:

(a) Existing instruments that relate to combustion and emission control shall be monitored at least every 15 minutes. Appropriate corrections to maintain steady state combustion conditions shall be made immediately either automatically or by the operator. Instruments that relate to combustion and emission control would normally include those measuring waste feed, auxiliary fuel feed, air flow, incinerator temperature, scrubber flow, scrubber pH, and relevant level controls.

(b) The complete incinerator and associated equipment, for example pumps, valves, conveyors, pipes, shall be inspected at least daily for leaks, spills, and fugitive emissions, and the emergency shutdown controls and system alarms shall be checked to assure proper operation.

**R315-265-351. Incinerators -- Closure.**

(a) At closure, the owner or operator shall remove the hazardous waste and hazardous waste residues, including ash, scrubber waters, and scrubber sludges, from the incinerator.

(b) At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with Subsection R315-261-3(d), that the residue removed from the owner or operator's incinerator is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and shall manage it in accordance with the applicable requirements of Rules R315-262 through R315-266.

**R315-265-352. Incinerators -- Interim Status Incinerators Burning Particular Hazardous Wastes.**

(a) Owners or operators of incinerators subject to Sections R315-265-340 through R315-265-352 may burn EPA Hazardous Wastes FO20, FO21, FO22, FO23, FO26, or FO27 if they receive a certification from the director that they can meet the performance standards of Sections R315-264-340 through R315-265-351 when these wastes are burned.

(b) The following standards and procedures shall be used in determining whether to certify an incinerator:

(1) The owner or operator shall submit an application to the director containing applicable information in Sections R315-270-19 and R315-270-62 demonstrating that the incinerator can meet the performance standards in Sections R315-264-340 through R315-265-351 when these wastes are burned.

(2) The director shall issue a tentative decision as to whether the incinerator can meet the performance standards in Sections R315-264-340 through R315-265-351. Notification of this tentative decision shall be provided by newspaper advertisement and radio broadcast in the jurisdiction where the incinerator is located. The director shall accept comment on the tentative decision for 60 days. The director also may hold a public hearing upon request or at the director's discretion.

(3) After the close of the public comment period, the director shall issue a decision whether or not to certify the incinerator.

**R315-265-440. Drip Pads -- Applicability.**

(a) The requirements of Sections R315-265-440 through R315-265-445 apply to owners and operators of facilities that use new or existing drip pads to convey treated wood drippage, precipitation, and surface water run-off or any combination of the three to an associated collection system. Existing drip pads are those constructed before December 6, 1990 and those that the owner or operator has a design and has entered into binding financial or other agreements for construction before December 6, 1990. Any other drip pads are new drip pads. The requirement at Subsection R315-265-443(b)(3) to install a leak collection system applies only to those drip pads that are constructed after December 24, 1992 except for those constructed after December 24, 1992 that the owner or operator has a design and has entered into binding financial or other agreements for construction before December 24, 1992.

(b) The owner or operator of any drip pad that is inside or under a structure that provides protection from precipitation so that neither run-off nor run-on is generated is not subject to Subsection R315-265-443(e) or R315-265-443(f), as appropriate.

(c) The requirements of Sections R315-265-440 through R315-265-445 are not applicable to the management of infrequent and incidental drippage in storage yards if:

(1) the owner or operator maintains and complies with a written contingency plan that describes how the owner or operator will respond immediately to the discharge of the infrequent and incidental drippage. At a minimum, the contingency plan shall describe how the facility will do the following:

(i) clean up the drippage;

(ii) document the cleanup of the drippage;

(iii) keep documents regarding cleanup for three years; and

(iv) manage the contaminated media in a manner consistent with Title R315.

**R315-265-441. Drip Pads -- Assessment of Existing Drip Pad Integrity.**

(a) For each existing drip pad as defined in Section R315-265-440, the owner or operator shall evaluate the drip pad and determine that it meets the requirements of Sections R315-265-440 through R315-265-445, except the requirements for liners and leak detection systems specified in Subsection R315-265-443(b). No later than the effective date of this rule, the owner or operator shall get and keep on file at the facility a written assessment of the drip pad, reviewed and certified by a qualified professional engineer that attests to the results of the evaluation. The assessment shall be reviewed, updated, and recertified annually until the upgrades, repairs, or modifications necessary to achieve compliance with the standards of Section R315-265-443 are finished. The evaluation shall document the extent that the drip pad meets each of the design and operating standards of Section R315-265-443, except the standards for liners and leak detection systems, specified in Subsection R315-265-443(b).

(b) The owner or operator shall develop a written plan for upgrading, repairing, and modifying the drip pad to meet the requirements of Subsection R315-265-443(b), and submit the plan to the director no later than two years before the date that the repairs, upgrades, and modifications are finished. This written plan shall describe each change to be made to the drip pad in sufficient detail to document compliance with the requirements of Section R315-265-443. The plan shall be reviewed and certified by a qualified professional engineer.

(c) Upon completion of the repairs and modifications, the owner or operator shall submit to the director the as-built drawings for the drip pad together with a certification by a qualified professional engineer attesting that the drip pad conforms to the drawings.

(d) If the drip pad is found to be leaking or unfit for use, the owner or operator shall comply with Subsection R315-265-443(m) or close the drip pad in accordance with Section R315-265-445.

**R315-265-442. Drip Pads -- Design and Installation of New Drip Pads.**

Owners and operators of new drip pads shall ensure that the pads are designed, installed, and operated in accordance with one of the following:

(a) the applicable requirements of Section R315-265-443, except Subsection R315-265-443(a)(4), Sections R315-265-444 and R315-265-445; or

(b) the applicable requirements of Section R315-265-443, except Subsection R315-265-443(b), Sections R315-265-444 and R315-265-445.

**R315-265-443. Drip Pads -- Design and Operating Requirements.**

(a) Drip pads shall:

(1) be constructed of non-earthen materials, excluding wood and non-structurally supported asphalt;

(2) be sloped to free-drain treated wood drippage, rain and other waters, or solutions of drippage and water or other wastes to the associated collection system;

(3) have a curb or berm around the perimeter;

(4)(i) have a hydraulic conductivity of less than or equal to 1x10-7 centimeters per second, for example, existing concrete drip pads shall be sealed, coated, or covered with a surface material with a hydraulic conductivity of less than or equal to 1x10-7 centimeters per second so that the entire surface where drippage occurs or may run across is capable of containing the drippage and mixtures of drippage and precipitation, materials, or other wastes while being routed to an associated collection system. This surface material shall be maintained free of cracks and gaps that could adversely affect its hydraulic conductivity, and the material shall be chemically compatible with the preservatives that contact the drip pad. The requirements of this provision apply only to existing drip pads and those drip pads that the owner or operator elects to comply with Subsection R315-265-442(b) instead of Subsection R315-265-442(a); and

(ii) the owner or operator shall get and keep on file at the facility a written assessment of the drip pad, reviewed and certified by a qualified professional engineer that attests to the results of the evaluation. The assessment shall be reviewed, updated and recertified annually. The evaluation shall document the extent that the drip pad meets the design and operating standards of Section R315-265-443, except for Subsection R315-265-443(b); and

(5) be of sufficient structural strength and thickness to prevent failure due to physical contact, climatic conditions, the stress of installation, and the stress of daily operations, for example, variable and moving loads such as vehicle traffic and movement of wood. The director will generally consider applicable standards established by professional organizations generally recognized by industry such as the American Concrete Institute (ACI) and the American Society of Testing Materials (ASTM) in judging the structural integrity requirement of Subsection R315-265-443(a).

(b) If an owner or operator elects to comply with Subsection R315-265-442(a) instead of Subsection R315-265-442(b), the drip pad shall have:

(1) a synthetic liner installed below the drip pad that is designed, constructed, and installed to prevent leakage from the drip pad into the adjacent subsurface soil or groundwater or surface water at any time during the active life, including the closure period, of the drip pad. The liner shall be constructed of materials that will prevent waste from being absorbed into the liner and prevent releases into the adjacent subsurface soil or ground water or surface water during the active life of the facility. The liner shall be:

(i) constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients, including static head and external hydrogeologic forces, physical contact with the waste or drip pad leakage that they are exposed, climatic conditions, the stress of installation, and the stress of daily operation, including stresses from vehicular traffic on the drip pad;

(ii) placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression or uplift; and

(iii) installed to cover the surrounding earth that could come in contact with the waste or leakage; and

(2) a leakage detection system immediately above the liner that is designed, constructed, maintained and operated to detect leakage from the drip pad. The leakage detection system shall be:

(i) constructed of materials that are:

(A) chemically resistant to the waste managed in the drip pad and the leakage that might be generated; and

(B) of sufficient strength and thickness to prevent collapse under the pressures exerted by overlaying materials and by any equipment used at the drip pad; and

(ii) designed and operated to function without clogging through the scheduled closure of the drip pad; and

(iii) designed so that it will detect the failure of the drip pad or the presence of a release of hazardous waste or accumulated liquid at the earliest practicable time; and

(3) a leakage collection system immediately above the liner that is designed, constructed, maintained and operated to collect leakage from the drip pad so that it can be removed from below the drip pad. The date, time, and quantity of any leakage collected in this system and removed shall be documented in the operating log.

(c) Drip pads shall be maintained so that they remain free of cracks, gaps, corrosion, or other deterioration that could cause hazardous waste to be released from the drip pad. See Subsection R315-265-443(m) for remedial action required if deterioration or leakage is detected.

(d) The drip pad and associated collection system shall be designed and operated to convey, drain, and collect liquid resulting from drippage or precipitation to prevent run-off.

(e) Unless protected by a structure, as described in Subsection R315-265-440(b), the owner or operator shall design, construct, operate and maintain a run-on control system capable of preventing flow onto the drip pad during peak discharge from at least a 24-hour, 25-year storm unless the system has sufficient excess capacity to contain any run-on that might enter the system, or the drip pad is protected by a structure or cover, as described in Subsection R315-265-440(b).

(f) Unless protected by a structure or cover, as described in Subsection R315-265-440(b), the owner or operator shall design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(g) The drip pad shall be evaluated to determine that it meets the requirements of Subsections R315-265-443(a) through R315-265-443(f) and the owner or operator shall get a statement from a qualified professional engineer certifying that the drip pad design meets the requirements of Section R315-265-443.

(h) Drippage and accumulated precipitation shall be removed from the associated collection system as necessary to prevent overflow onto the drip pad.

(i) The drip pad surface shall be cleaned thoroughly in a manner and frequency so that accumulated residues of hazardous waste or other materials are removed, with residues being properly managed as hazardous waste, to allow weekly inspections of the entire drip pad surface without interference or hindrance from accumulated residues of hazardous waste or other materials on the drip pad. The owner or operator shall document the date and time of each cleaning and the cleaning procedure used in the facility's operating log.

(j) Drip pads shall be operated and maintained in a manner to minimize tracking of hazardous waste or hazardous waste constituents off the drip pad as a result of activities by personnel or equipment.

(k) After being removed from the treatment vessel, treated wood from pressure and non-pressure processes shall be held on the drip pad until drippage has stopped. The owner or operator shall maintain records sufficient to document that the treated wood is held on the pad following treatment in accordance with this requirement.

(l) Collection and holding units associated with run-on and run-off control systems shall be emptied or otherwise managed as soon as possible after storms to maintain design capacity of the system.

(m) Throughout the active life of the drip pad, if the owner or operator detects a condition that may have caused or has caused a release of hazardous waste, the condition shall be repaired within a reasonably prompt period following discovery, in accordance with the following procedures:

(1) Upon detection of a condition that may have caused or has caused a release of hazardous waste, for example, upon detection of leakage by the leak detection system, the owner or operator shall:

(i) enter a record of the discovery in the facility operating log;

(ii) immediately remove the portion of the drip pad affected by the condition from service;

(iii) determine what steps shall be taken to repair the drip pad, remove any leakage from below the drip pad, and establish a schedule for accomplishing the clean up and repairs; and

(iv) within 24 hours after discovery of the condition, notify the director of the condition and, within ten working days, provide a written notice to the director with a description of the steps that will be taken to repair the drip pad, and clean up any leakage, and the schedule for accomplishing this work.

(2) The director will review the information submitted, make a determination regarding whether the pad shall be removed from service completely or partially until repairs and clean up are finished, and notify the owner or operator of the determination and the underlying rationale in writing.

(3) Upon completing the repairs and clean up, the owner or operator shall notify the director in writing and provide a certification, signed by an independent qualified, registered professional engineer, that the repairs and clean up have been finished according to the written plan submitted in accordance with Subsection R315-265-443(m)(1)(iv).

(n) The owner or operator shall maintain, as part of the facility operating log, documentation of past operating and waste handling practices. This shall include identification of preservative formulations used in the past, a description of drippage management practices, and a description of treated wood storage and handling practices.

**R315-265-444. Drip Pads -- Inspections.**

(a) During construction or installation, liners and cover systems, for example, membranes, sheets, or coatings, shall be inspected for uniformity, damage and imperfections, for example, holes, cracks, thin spots, or foreign materials. Immediately after construction or installation, liners shall be inspected and certified as meeting the requirements of Section R315-265-443 by a qualified professional engineer. This certification shall be maintained at the facility as part of the facility operating record. After installation, liners and covers shall be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters.

(b) While a drip pad is in operation, it shall be inspected weekly and after storms to detect evidence of any of the following:

(1) Deterioration, malfunctions or improper operation of run-on and run-off control systems.

(2) The presence of leakage in and proper functioning of leakage detection system.

(3) Deterioration or cracking of the drip pad surface. See Subsection R315-265-44(m) for remedial action required if deterioration or leakage is detected.

**R315-265-445. Drip Pads -- Closure.**

(a) At closure, the owner or operator shall remove or decontaminate the waste residues, contaminated containment system components such as pads or liners, contaminated subsoils, and structures and equipment contaminated with waste and leakage, and manage them as hazardous waste.

(b) If, after removing or decontaminating residues and making reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in Subsection R315-265-445(a), the owner or operator finds that contaminated subsoils cannot be practically removed or decontaminated, the owner or operator shall close the facility and perform post-closure care in accordance with closure and post-closure care requirements that apply to landfills, see Section R315-265-310. For permitted units, the requirement to have a permit continues throughout the post-closure period.

(c)(1) The owner or operator of an existing drip pad, as defined in Section R315-265-440, that does not comply with the liner requirements of Subsection R315-265-443(b)(1) shall:

(i) include in the closure plan for the drip pad under Section R315-265-112 both a plan for complying with Subsection R315-265-445(a) and a contingent plan for complying with Subsection R315-265-445(b) in case contaminated subsoils cannot be practicably removed at closure; and

(ii) prepare a contingent post-closure plan under Section R315-265-118 for complying with Subsection R315-265-445(b) in case contaminated subsoils cannot be practicably removed at closure.

(2) The cost estimates calculated under Sections R315-265-112 and R315-265-144 for closure and post-closure care of a drip pad subject to Subsection R315-265-445(c) shall include the cost of complying with the contingent closure plan and the contingent post-closure plan, but are not required to include the cost of expected closure under Subsection R315-265-445(a).

**R315-265-1030. Air Emission Standards for Process Vents--Applicability.**

(a) The regulations in Sections R315-265-1030 through R315-265-1035 apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes, except as provided in Section R315-265-1.

(b) Except for Subsections R315-265-1034(d) and R315-265-1034(e), Sections R315-265-1030 through R315-265-1035 apply 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 Rule R315-270; or

(2) A unit, including a hazardous waste recycling unit, that is not exempt from permitting under the provisions of Section R315-262-17, for example, 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 Rule R315-270; or

(3) A unit that is exempt from permitting under the provisions of Section R315-262-17, for example, a 90-day tank or container, and is not a recycling unit under the requirements of Section R315-261-6.

(4) The requirements of Sections R315-265-1032 through R315-265-1035 apply to process vents on hazardous waste recycling units previously exempt under Subsection R315-261-6(c)(1). Other exemptions under Section R315-261-4, and Subsection R315-265-1(c) are not affected by these requirements.

(c) Reserved.

(d) The requirements of Sections R315-265-1030 through R315-265-1035 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 Sections R315-265-1030 through R315-265-1035 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.

**R315-265-1031. Air Emission Standards for Process Vents--Definitions.**

As used in Sections R315-265-1030 through R315-265-1035, all terms shall have the meaning given them in Section R315-264-1031, RCRA, and Rules R315-260 through R315-266.

**R315-265-1032. Air Emission Standards for Process Vents--Standards: Process Vents.**

(a) The owner or operator of a facility with process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction or air or steam stripping operations managing hazardous wastes with organic concentrations at least 10 ppmw shall either:

(1) Reduce total organic emissions from all affected process vents at the facility below 1.4 kg/h, 3 lb/h, and 2.8 Mg/yr, 3.1 tons/yr, or

(2) Reduce, by use of a control device, total organic emissions from all affected process vents at the facility by 95 weight percent.

(b) If the owner or operator installs a closed-vent system and control device to comply with the provisions of Subsection R315-265-1032(a), the closed-vent system and control device shall meet the requirements of Section R315-265-1033.

(c) Determinations of vent emissions and emission reductions or total organic compound concentrations achieved by add-on control devices may be based on engineering calculations or performance tests. If performance tests are used to determine vent emissions, emission reductions, or total organic compound concentrations achieved by add-on control devices, the performance tests shall conform with the requirements of Subsection R315-265-1034(c).

(d) If an owner or operator and the Director do not agree on determinations of vent emissions and emission reductions or both or total organic compound concentrations achieved by add-on control devices based on engineering calculations, the test methods in Subsection R315-265-1034(c) shall be used to resolve the disagreement.

**R315-265-1033. Air Emission Standards for Process Vents--Standards: Closed-Vent Systems and Control Devices.**

(a)(1) Owners or operators of closed-vent systems and control devices used to comply with provisions of Sections R315-265-1030 through R315-265-1035 shall comply with the provisions of Section R315-265-1033.

(2)(i) The owner or operator of an existing facility who cannot install a closed-vent system and control device to comply with the provisions of Sections R315-265-1030 through R315-265-1035 on the effective date that the facility becomes subject to the requirements of Sections R315-265-1030 through R315-265-1035 shall prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The controls shall be installed as soon as possible, but the implementation schedule may allow up to 30 months after the effective date that the facility becomes subject to Sections R315-265-1030 through R315-265-1035 for installation and startup.

(ii) Any unit that begins operation after December 21, 1990, and is subject to the requirements of Sections R315-265-1030 through R315-265-1035 when operation begins, shall comply with the rules immediately, for example, shall have control devices installed and operating on startup of the affected unit; the 30-month implementation schedule does not apply.

(iii) The owner or operator of any facility in existence on the effective date of a statutory or regulatory amendment that renders the facility subject to Sections R315-265-1030 through R315-265-1035 shall comply with all requirements of Sections R315-265-1030 through R315-265-1035 as soon as practicable but no later than 30 months after the amendment's effective date. If control equipment required by Sections R315-265-1030 through R315-265-1035 cannot be installed and begin operation by the effective date of the amendment, the facility owner or operator shall prepare an implementation schedule that includes the following information: Specific calendar dates for award of contracts or issuance of purchase orders for the control equipment, initiation of on-site installation of the control equipment, completion of the control equipment installation, and performance of any testing to demonstrate that the installed equipment meets the applicable standards of Sections R315-265-1030 through R315-265-1035. The owner or operator shall enter the implementation schedule in the operating record or in a permanent, readily available file located at the facility.

(iv) Owners and operators of facilities and units that become newly subject to the requirements of Sections R315-265-1030 through R315-265-1035 after December 8, 1997, due to an action other than those described in Subsection R315-265-1033(a)(2)(iii) shall comply with all applicable requirements immediately, for example, shall have control devices installed and operating on the date the facility or unit becomes subject to Sections R315-265-1030 through R315-265-1035; the 30-month implementation schedule does not apply.

(b) A control device involving vapor recovery, for example, a condenser or adsorber, shall be designed and operated to recover the organic vapors vented to it with an efficiency of 95 weight percent or greater unless the total organic emission limits of Subsection R315-265-1032(a)(1) for all affected process vents can be attained at an efficiency less than 95 weight percent.

(c) An enclosed combustion device, for example, a vapor incinerator, boiler, or process heater, shall be designed and operated to reduce the organic emissions vented to it by 95 weight percent or greater; to achieve a total organic compound concentration of 20 ppmv, expressed as the sum of the actual compounds, not carbon equivalents, on a dry basis corrected to 3 percent oxygen; or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 degrees Celsius. If a boiler or process heater is used as the control device, then the vent stream shall be introduced into the flame combustion zone of the boiler or process heater.

(d)(1) A flare shall be designed for and operated with no visible emissions as determined by the methods specified in Subsection R315-265-1033(e)(1), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(2) A flare shall be operated with a flame present at all times, as determined by the methods specified in Subsection R315-265-1033(f)(2)(iii).

(3) A flare shall be used only if the net heating value of the gas being combusted is 11.2 MJ/scm, 300 Btu/scf, or greater, if the flare is steam-assisted or air-assisted; or if the net heating value of the gas being combusted is 7.45 MJ/scm, 200 Btu/scf, or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in Subsection R315-265-1033(e)(2).

(4)(i) A steam-assisted or nonassisted flare shall be designed for and operated with an exit velocity, as determined by the methods specified in Subsection R315-265-1033(e)(3), of less than 18.3 m/s, 60 ft/s, except as provided in Subsections R315-265-1033(d)(4)(ii) and R315-265-1033(d)(4)(iii).

(ii) A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in Subsection R315-265-1033(e)(3), equal to or greater than 18.3 m/s, 60 ft/s, but less than 122 m/s, 400 ft/s, is allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm, 1,000 Btu/scf.

(iii) A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in Subsection R315-265-1033 (e)(3), less than the velocity, Vmax, as determined by the method specified in Subsection R315-265-1033(e)(4), and less than 122 m/s, 400 ft/s, is allowed.

(5) An air-assisted flare shall be designed and operated with an exit velocity less than the velocity, Vmax, as determined by the method specified in Subsection R315-265-1033(e)(5).

(6) A flare used to comply with Section R315-265-1033 shall be steam-assisted, air-assisted, or nonassisted.

(e)(1) Reference Method 22 in 40 CFR part 60 shall be used to determine the compliance of a flare with the visible emission provisions of this subpart. The observation period is 2 hours and shall be used according to Method 22.

(2) The net heating value of the gas being combusted in a flare shall be calculated using the equation found in 40 CFR 265.1033(e)(2), which is adopted and incorporated by reference.

(3) The actual exit velocity of a flare shall be determined by dividing the volumetric flow rate, in units of standard temperature and pressure, as determined by Reference Methods 2, 2A, 2C, or 2D in 40 CFR part 60 as appropriate, by the unobstructed, free, cross-sectional area of the flare tip.

(4) The maximum allowed velocity in m/s, Vmax, for a flare complying with Subsesction R315-265-1033(d)(4)(iii) shall be determined by the following equation:

Log10(Vmax) = (HT + 28.8)/31.7

where:

HT = The net heating value as determined in Subsection R315-265-1033(e)(2).

28.8 = Constant.

31.7 = Constant.

(5) The maximum allowed velocity in m/s, Vmax, for an air-assisted flare shall be determined by the following equation:

Vmax = 8.706 + 0.7084(HT)

where:

8.706 = Constant.

0.7084 = Constant.

HT = The net heating value as determined in Subsection R315-265-1033(e)(2).

(f) The owner or operator shall monitor and inspect each control device required to comply with Section R315-265-1033 to ensure proper operation and maintenance of the control device by implementing the following requirements:

(1) Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow indicator that provides a record of vent stream flow from each affected process vent to the control device at least once every hour. The flow indicator sensor shall be installed in the vent stream at the nearest feasible point to the control device inlet, but before being combined with other vent streams.

(2) Install, calibrate, maintain, and operate according to the manufacturer's specifications a device to continuously monitor control device operation as specified below:

(i) For a thermal vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of plus or minus 1 percent of the temperature being monitored in degrees Celsius or plus or minus 0.5 degrees Celsius, whichever is greater. The temperature sensor shall be installed at a location in the combustion chamber downstream of the combustion zone.

(ii) For a catalytic vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at two locations and have an accuracy of plus or minus 1 percent of the temperature being monitored in degrees Celsius or plus or minus 0.5 degrees Celsius, whichever is greater. One temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet and a second temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed outlet.

(iii) For a flare, a heat sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame.

(iv) For a boiler or process heater having a design heat input capacity less than 44 MW, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of plus or minus 1 percent of the temperature being monitored in degrees Celsius or plus or minus 0.5 degrees Celsius, whichever is greater. The temperature sensor shall be installed at a location in the furnace downstream of the combustion zone.

(v) For a boiler or process heater having a design heat input capacity greater than or equal to 44 MW, a monitoring device equipped with a continuous recorder to measure a parameter or parameters that indicate good combustion operating practices are being used.

(vi) For a condenser, either:

(A) A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the condenser; or

(B) A temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature with an accuracy of plus or minus 1 percent of the temperature being monitored in degrees Celsius or plus or minus 0.5 degrees Celsius, whichever is greater. The temperature sensor shall be installed at a location in the exhaust vent stream from the condenser exit, for example, product side.

(vii) For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly in the control device, either:

(A) A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the carbon bed, or

(B) A monitoring device equipped with a continuous recorder to measure a parameter that indicates the carbon bed is regenerated on a regular, predetermined time cycle.

(3) Inspect the readings from each monitoring device required by Subsections R315-265-1033(f) (1) and R315-265-1033(f)(2) at least once each operating day to check control device operation and, if necessary, immediately implement the corrective measures necessary to ensure the control device operates in compliance with the requirements of Section R315-265-1033.

(g) An owner or operator using a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device, shall replace the existing carbon in the control device with fresh carbon at a regular, predetermined time interval that is no longer than the carbon service life established as a requirement of Subsection R315-265-1035(b)(4)(iii)(F).

(h) An owner or operator using a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device shall replace the existing carbon in the control device with fresh carbon on a regular basis by using one of the following procedures:

(1) Monitor the concentration level of the organic compounds in the exhaust vent stream from the carbon adsorption system on a regular schedule and replace the existing carbon with fresh carbon immediately if carbon breakthrough is indicated. The monitoring frequency shall be daily or at an interval no greater than 20 percent of the time required to consume the total carbon working capacity established as a requirement of Subsection R315-265-1035(b)(4)(iii)(G), whichever is longer.

(2) Replace the existing carbon with fresh carbon at a regular, predetermined time interval that is less than the design carbon replacement interval established as a requirement of Subsection R315-265-1035(b)(4)(iii)(G).

(i) An owner or operator of an affected facility seeking to comply with the provisions of Sections R315-265-1030 through R315-265-1035 by using a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system is required to develop documentation including sufficient information to describe the control device operation and identify the process parameter or parameters that indicate proper operation and maintenance of the control device.

(j) A closed-vent system shall meet either of the following design requirements:

(1) A closed-vent system shall be designed to operate with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background as determined by the procedure in Subsection R315-265-1034(b), and by visual inspections; or

(2) A closed-vent system shall be designed to operate at a pressure below atmospheric pressure. The system shall be equipped with at least one pressure gauge or other pressure measurement device that can be read from a readily accessible location to verify that negative pressure is being maintained in the closed-vent system if the control device is operating.

(k) The owner or operator shall monitor and inspect each closed-vent system required to comply with Section R315-265-1033 to ensure proper operation and maintenance of the closed-vent system by implementing the following requirements:

(1) Each closed-vent system that is used to comply with Subsection R315-265-1033(j)(1) shall be inspected and monitored in accordance with the following requirements:

(i) An initial leak detection monitoring of the closed-vent system shall be conducted by the owner or operator on or before the date that the system becomes subject to Section R315-265-1033. The owner or operator shall monitor the closed-vent system components and connections using the procedures specified in Subsection R315-265-1034(b) to demonstrate that the closed-vent system operates with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background.

(ii) After initial leak detection monitoring required in Subsection R315-265-1033(k)(1)(i), the owner or operator shall inspect and monitor the closed-vent system as follows:

(A) Closed-vent system joints, seams, or other connections that are permanently or semi-permanently sealed, for example, a welded joint between two sections of hard piping or a bolted and gasketed ducting flange, shall be visually inspected at least once per year to check for defects that could result in air pollutant emissions. The owner or operator shall monitor a component or connection using the procedures specified in Subsection R315-265-1034(b) to demonstrate that it operates with no detectable emissions following any time the component is repaired or replaced, for example, a section of damaged hard piping is replaced with new hard piping, or the connection is unsealed, for example, a flange is unbolted.

(B) Closed-vent system components or connections other than those specified in Subsection R315-265-1033(k)(1)(ii)(A) shall be monitored annually and at other times as requested by the Director, except as provided for in Subsection R315-265-1033(n), using the procedures specified in Subsection R315-265-1034(b) to demonstrate that the components or connections operate with no detectable emissions.

(iii) In the event that a defect or leak is detected, the owner or operator shall repair the defect or leak in accordance with the requirements of Subsection R315-265-1033(k)(3).

(iv) The owner or operator shall maintain a record of the inspection and monitoring in accordance with the requirements specified in Section R315-265-1035.

(2) Each closed-vent system that is used to comply with Subsection R315-265-1033(j)(2) shall be inspected and monitored in accordance with the following requirements:

(i) The closed-vent system shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in ductwork or piping or loose connections.

(ii) The owner or operator shall perform an initial inspection of the closed-vent system on or before the date that the system becomes subject to Section R315-265-1033. Thereafter, the owner or operator shall perform the inspections at least once every year.

(iii) In the event that a defect or leak is detected, the owner or operator shall repair the defect in accordance with the requirements of Subsection R315-265-1033(k)(3).

(iv) The owner or operator shall maintain a record of the inspection and monitoring in accordance with the requirements specified in Section R315-265-1035.

(3) The owner or operator shall repair all detected defects as follows:

(i) Detectable emissions, as indicated by visual inspection, or by an instrument reading greater than 500 ppmv above background, shall be controlled as soon as practicable, but not later than 15 calendar days after the emission is detected, except as provided for in Subsection R315-265-1033(k)(3)(iii).

(ii) A first attempt at repair shall be made no later than 5 calendar days after the emission is detected.

(iii) Delay of repair of a closed-vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next process unit shutdown.

(iv) The owner or operator shall maintain a record of the defect repair in accordance with the requirements specified in Section R315-265-1035.

(l) Closed-vent systems and control devices used to comply with provisions of Sections R315-265-1030 through R315-265-1035 shall be operated at all times if emissions may be vented to them.

(m) The owner or operator using a carbon adsorption system to control air pollutant emissions shall document that all carbon that is a hazardous waste and that is removed from the control device is managed in one of the following manners, regardless of the average volatile organic concentration of the carbon:

(1) Regenerated or reactivated in a thermal treatment unit that meets one of the following:

(i) The owner or operator of the unit has been issued a final permit under Rule R315-270 which implements the requirements of Sections R315-264-600 through R315-264-603; or

(ii) The unit is equipped with and operating air emission controls in accordance with the applicable requirements of Sections R315-265-1030 through R315-265-1035 and Sections R315-265-1080 through R315-265-1090 or of Sections R315-264-1030 through R315-264-1036 and Sections R315-264-1080 through R315-264-1090; or

(iii) The unit is equipped with and operating air emission controls in accordance with a national emission standard for hazardous air pollutants under 40 CFR part 61 or 40 CFR part 63.

(2) Incinerated in a hazardous waste incinerator for which the owner or operator either:

(i) Has been issued a final permit under Rule R315-270 which implements the requirements of Sections R315-264-340 through R315-264-351; or

(ii) Has designed and operates the incinerator in accordance with the interim status requirements of 40 CFR 265.340 through 352, which are adopted and incorporated by reference.

(3) Burned in a boiler or industrial furnace for which the owner or operator either:

(i) Has been issued a final permit under Rule R315-270 which implements the requirements of Sections R315-266-100 through R315-266-112; or

(ii) Has designed and operates the boiler or industrial furnace in accordance with the interim status requirements of Sections R315-266-100 through R315-266-112.

(n) Any components of a closed-vent system that are designated, as described in Subsection R315-265-1035(c)(9), as unsafe to monitor are exempt from the requirements of Subsection R315-265-1033(k)(1)(ii)(B) if:

(1) The owner or operator of the closed-vent system determines that the components of the closed-vent system are unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with Subsection R315-265-1033(k)(1)(ii)(B); and

(2) The owner or operator of the closed-vent system adheres to a written plan that requires monitoring the closed-vent system components using the procedure specified in Subsection R315-265-1033(k)(1)(ii)(B) as frequently as practicable during safe-to-monitor times.

**R315-265-1034. Air Emission Standards for Process Vents--Test Methods and Procedures.**

(a) Each owner or operator subject to Sections R315-265-1030 through R315-265-1035 shall comply with the test methods and procedures requirements provided in Section R315-265-1034.

(b) If a closed-vent system is tested for compliance with no detectable emissions, as required in Subsection R315-265-1033(k), the test shall comply with the following requirements:

(1) Monitoring shall comply with Reference Method 21 in 40 CFR part 60.

(2) The detection instrument shall meet the performance criteria of Reference Method 21.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.

(4) Calibration gases shall be:

(i) Zero air, less than ten ppm of hydrocarbon in air.

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(5) The background level shall be determined as set forth in Reference Method 21.

(6) The instrument probe shall be traversed around any potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(7) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(c) Performance tests to determine compliance with Subsection R315-265-1032(a) and with the total organic compound concentration limit of Subsection R315-265.1033(c) shall comply with the following:

(1) Performance tests to determine total organic compound concentrations and mass flow rates entering and exiting control devices shall be conducted and data reduced in accordance with the following reference methods and calculation procedures:

(i) Method 2 in 40 CFR part 60 for velocity and volumetric flow rate.

(ii) Method 18 or Method 25A in 40 CFR part 60, appendix A, for organic content. If Method 25A is used, the organic HAP used as the calibration gas shall be the single organic HAP representing the largest percent by volume of the emissions. The use of Method 25A is acceptable if the response from the high-level calibration gas is at least 20 times the standard deviation of the response from the zero calibration gas if the instrument is zeroed on the most sensitive scale.

(iii) Each performance test shall consist of three separate runs; each run conducted for at least one hour under the conditions that exist if the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. To determining total organic compound concentrations and mass flow rates, the average of results of the runs shall apply. The average shall be computed on a time-weighted basis.

(iv) Total organic mass flow rates shall be determined by the following equation:

(A) For sources utilizing Method 18 the equation found in 40 CFR 264.1034(c)(1)(iv)(A), is incorporated by reference.

Where:

Eh = Total organic mass flow rate, kg/h.

Q2sd = Volumetric flow rate of gases entering or exiting control device, as determined by Method 2, dscm/h.

n = Number of organic compounds in the vent gas.

Ci = Organic concentration in ppm, dry basis, of compound i in the vent gas, as determined by Method 18.

MWi = Molecular weight of organic compound i in the vent gas, kg/kg-mol.

0.0416 = Conversion factor for molar volume, kg-mol/m3 (@ 293 K and 760 mm Hg).

10−6 = Conversion from ppm.

(B) For sources utilizing Method 25A.

Eh = (Q)(C)(MW)(0.0416)(10−6).

Where:

Eh = Total organic mass flow rate, kg/h.

Q = Volumetric flow rate of gases entering or exiting control device, as determined by Method 2, dscm/h.

C = Organic concentration in ppm, dry basis, as determined by Method 25A.

MW = Molecular weight of propane, 44.

0.0416 = Conversion factor for molar volume, kg-mol/m3 (@ 293 K and 760 mm Hg).

10−6 = Conversion from ppm.

(v) The annual total organic emission rate shall be determined by the following equation:

EA = (Eh) (H).

Where:

EA = Total organic mass emission rate, kg/y.

Eh = Total organic mass flow rate for the process vent, kg/h.

H = Total annual hours of operations for the affected unit, h.

(vi) Total organic emissions from each affected process vent at the facility shall be determined by summing the hourly total organic mass emission rates, Eh, as determined in Subsection R315-265-1034(c)(1)(iv), and by summing the annual total organic mass emission rates, EA, as determined in Subsection R315-265-1034(c)(1)(v), for each affected process vent at the facility.

(2) The owner or operator shall record the process information as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for a performance test.

(3) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

(i) Sampling ports adequate for the test methods specified in Subsection R315-265-1034(c)(1).

(ii) Safe sampling platforms.

(iii) Safe access to sampling platforms.

(iv) Utilities for sampling and testing equipment.

(4) To make compliance determinations, the time-weighted average of the results of the three runs shall apply. a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner or operator's control, compliance may, upon the director's approval, be determined using the average of the results of the two other runs.

(d) To show that a process vent associated with a hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation is not subject to the requirements of Sections R315-265-1030 through R315-265-1035, the owner or operator shall make an initial determination that the time-weighted, annual average total organic concentration of the waste managed by the waste management unit is less than ten ppmw using one of the following two methods:

(1) Direct measurement of the organic concentration of the waste using the following procedures:

(i) The owner or operator shall take a minimum of four grab samples of waste for each waste stream managed in the affected unit under process conditions expected to cause the maximum waste organic concentration.

(ii) For waste generated onsite, the grab samples shall be collected at a point before the waste is exposed to the atmosphere such as in an enclosed pipe or other closed system that is used to transfer the waste after generation to the first affected distillation fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation. For waste generated offsite, the grab samples shall be collected at the inlet to the first waste management unit that receives the waste provided the waste has been transferred to the facility in a closed system such as a tank truck and the waste is not diluted or mixed with other waste.

(iii) Each sample shall be analyzed and the total organic concentration of the sample shall be computed using Method 9060A, incorporated by reference in Section R315-260-11, of "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846; or analyzed for its individual organic constituents.

(iv) The arithmetic mean of the results of the analyses of the four samples shall apply for each waste stream managed in the unit in determining the time-weighted, annual average total organic concentration of the waste. The time-weighted average is to be calculated using the annual quantity of each waste stream processed and the mean organic concentration of each waste stream managed in the unit.

(2) Using knowledge of the waste to determine that its total organic concentration is less than ten ppmw. Documentation of the waste determination is required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to generate a waste stream having a total organic content less than ten ppmw, or earlier speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(e) The determination that distillation fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations manage hazardous wastes with time-weighted annual average total organic concentrations less than ten ppmw shall be made as follows:

(1) by the effective date that the facility becomes subject to Sections R315-265-1030 through R315-265-1035 or by the date when the waste is first managed in a waste management unit, whichever is later; and

(2) for continuously generated waste, annually; or

(3) if there is a change in the waste being managed or a change in the process that generates or treats the waste.

(f) If an owner or operator and the director do not agree on whether a distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation manages a hazardous waste with organic concentrations of at least ten ppmw based on knowledge of the waste, the dispute may be resolved using direct measurement as specified at Subsection R315-265-1034(d)(1).

**R315-265-1035. Air Emission Standards for Process Vents--Recordkeeping Requirements.**

(a)(1) Each owner or operator subject to the provisions of Sections R315-265-1030 through R315-265-1035 shall comply with the recordkeeping requirements of Section R315-265-1035.

(2) An owner or operator of more than one hazardous waste management unit subject to the provisions of Sections R315-265-1030 through R315-265-1035 may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

(b) Owners and operators shall record the following information in the facility operating record:

(1) For facilities that comply with the provisions of Subsection R315-265-1033(a)(2), an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The schedule shall also include a rationale of why the installation cannot be completed at an earlier date. The implementation schedule shall be in the facility operating record by the effective date that the facility becomes subject to the provisions of Sections R315-265-1030 through R315-265-1035.

(2) Up-to-date documentation of compliance with the process vent standards in Section R315-265-1032, including:

(i) Information and data identifying all affected process vents, annual throughput and operating hours of each affected unit, estimated emission rates for each affected vent and for the overall facility, for example, the total emissions for all affected vents at the facility, and the approximate location within the facility of each affected unit, for example, identify the hazardous waste management units on a facility plot plan; and

(ii) Information and data supporting determinations of vent emissions and emission reductions achieved by add-on control devices based on engineering calculations or source tests. For the purpose of determining compliance, determinations of vent emissions and emission reductions shall be made using operating parameter values, for example, temperatures, flow rates or vent stream organic compounds and concentrations, that represent the conditions that result in maximum organic emissions, such as if the waste management unit is operating at the highest load or capacity level reasonably expected to occur. If the owner or operator takes any action, for example, managing a waste of different composition or increasing operating hours of affected waste management units, that would result in an increase in total organic emissions from affected process vents at the facility, then a new determination is required.

(3) Where an owner or operator chooses to use test data to determine the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan. The test plan shall include:

(i) A description of how it is determined that the planned test is going to be conducted if the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. This shall include the estimated or design flow rate and organic content of each vent stream and define the acceptable operating ranges of key process and control device parameters during the test program.

(ii) A detailed engineering description of the closed-vent system and control device including:

(A) Manufacturer's name and model number of control device.

(B) Type of control device.

(C) Dimensions of the control device.

(D) Capacity.

(E) Construction materials.

(iii) A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(4) Documentation of compliance with Section R315-265-1033 shall include the following information:

(i) A list of all information references and sources used in preparing the documentation.

(ii) Records, including the dates, of each compliance test required by Subsection R315-265-1033(j).

(iii) If engineering calculations are used, a design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of "APTI Course 415: Control of Gaseous Emissions", incorporated by reference as specified in Section R315-260-11, or other engineering texts acceptable to the Director that present basic control device design information. Documentation provided by the control device manufacturer or vendor that describes the control device design in accordance with Subsections R315-265-1035(b)(4)(iii)(A) through R315-265-1035(b)(4)(iii)(G) may be used to comply with this requirement. The design analysis shall address the vent stream characteristics and control device operation parameters as specified below.

(A) For a thermal vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.

(B) For a catalytic vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperatures across the catalyst bed inlet and outlet.

(C) For a boiler or process heater, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average flame zone temperatures, combustion zone residence time, and description of method and location where the vent stream is introduced into the combustion zone.

(D) For a flare, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also consider the requirements specified in Subsection R315-265-1033(d).

(E) For a condenser, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic compound concentration level, design average temperature of the condenser exhaust vent stream, and design average temperatures of the coolant fluid at the condenser inlet and outlet.

(F) For a carbon adsorption system such as a fixed-bed adsorber that regenerates the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level, number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, design total steam flow over the period of each complete carbon bed regeneration cycle, duration of the carbon bed steaming and cooling and drying cycles, design carbon bed temperature after regeneration, design carbon bed regeneration time, and design service life of carbon.

(G) For a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.

(iv) A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist if the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

(v) A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of 95 percent or greater unless the total organic concentration limit of Subsection R315-265-1032(a) is achieved at an efficiency less than 95 weight percent or the total organic emission limits of Subsection R315-265-1032(a) for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95 weight percent. A statement provided by the control device manufacturer or vendor certifying that the control equipment meets the design specifications may be used to comply with this requirement.

(vi) If performance tests are used to demonstrate compliance, all test results.

(c) Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of Sections R315-265-1030 through R315-265-1035 shall be recorded and kept up-to-date in the facility operating record. The information shall include:

(1) Description and date of each modification that is made to the closed-vent system or control device design.

(2) Identification of operating parameter, description of monitoring device, and diagram of monitoring sensor location or locations used to comply with Subsections R315-265-1033(f)(1) and R315-265-1035(f)(2).

(3) Monitoring, operating and inspection information required by Subsections R315-265-1033(f) through R315-265-1033(k).

(4) Date, time, and duration of each period that occurs while the control device is operating if any monitored parameter exceeds the value established in the control device design analysis as specified below:

(i) For a thermal vapor incinerator designed to operate with a minimum residence time of 0.50 seconds at a minimum temperature of 760 degrees Celsius, period if the combustion temperature is below 760 degrees Celsius.

(ii) For a thermal vapor incinerator designed to operate with an organic emission reduction efficiency of 95 percent or greater, period if the combustion zone temperature is more than 28 degrees Celsius below the design average combustion zone temperature established as a requirement of Subsection R315-265-1035(b)(4)(iii)(A).

(iii) For a catalytic vapor incinerator, period if:

(A) Temperature of the vent stream at the catalyst bed inlet is more than 28 degrees Celsius below the average temperature of the inlet vent stream established as a requirement of Subsection R315-265-1035(b)(4)(iii)(B); or

(B) Temperature difference across the catalyst bed is less than 80 percent of the design average temperature difference established as a requirement of Subsection R315-265-1035(b)(4)(iii)(B).

(iv) For a boiler or process heater, period if:

(A) Flame zone temperature is more than 28 degrees Celsius below the design average flame zone temperature established as a requirement of Subsection R315-265-1035(b)(4)(iii)(C); or

(B) Position changes where the vent stream is introduced to the combustion zone from the location established as a requirement of Subsection R315-265-1035(b)(4)(iii)(C).

(v) For a flare, period if the pilot flame is not ignited.

(vi) For a condenser that complies with Subsection R315-265-1033(f)(2)(vi)(A), period if the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the condenser are more than 20 percent greater than the design outlet organic compound concentration level established as a requirement of Subsection R315-265-1035(b)(4)(iii)(E).

(vii) For a condenser that complies with Subsection R315-265-1033(f)(2)(vi)(B), period if:

(A) Temperature of the exhaust vent stream from the condenser is more than 6 degrees Celsius above the design average exhaust vent stream temperature established as a requirement of Subsection R315-265-1035 (b)(4)(iii)(E); or

(B) Temperature of the coolant fluid exiting the condenser is more than 6 degrees Celsius above the design average coolant fluid temperature at the condenser outlet established as a requirement of Subsection R315-265-1035 (b)(4)(iii)(E).

(viii) For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device and complies with Subsection R315-265-1033(f)(2)(vii)(A), period if the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the carbon bed are more than 20 percent greater than the design exhaust vent stream organic compound concentration level established as a requirement of Subsection R315-265-1035 (b)(4)(iii)(F).

(ix) For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device and complies with Subsection R315-265-1033(f)(2)(vii)(B), period if the vent stream continues to flow through the control device beyond the predetermined carbon bed regeneration time established as a requirement of Subsection R315-265-1035 (b)(4)(iii)(F).

(5) Explanation for each period recorded under Subsection R315-265-1035 (c)(4) of the cause for control device operating parameter exceeding the design value and the measures implemented to correct the control device operation.

(6) For carbon adsorption systems operated subject to requirements specified in Subsections R315-265-1033(g) or R315-265-1033(h)(2), date when existing carbon in the control device is replaced with fresh carbon.

(7) For carbon adsorption systems operated subject to requirements specified in Subsection R315-265-1033(h)(1), a log that records:

(i) Date and time when control device is monitored for carbon breakthrough and the monitoring device reading.

(ii) Date when existing carbon in the control device is replaced with fresh carbon.

(8) Date of each control device startup and shutdown.

(9) An owner or operator designating any components of a closed-vent system as unsafe to monitor pursuant to Subsection R315-265-1033(n) shall record in a log that is kept in the facility operating record the identification of closed-vent system components that are designated as unsafe to monitor in accordance with the requirements of Subsection R315-265-1033(n), an explanation for each closed-vent system component stating why the closed-vent system component is unsafe to monitor, and the plan for monitoring each closed-vent system component.

(10) If a leak is detected as specified in Subsection R315-265-1033(k), the following information shall be recorded:

(i) The instrument identification number, the closed-vent system component identification number, and the operator name, initials, or identification number.

(ii) The date the leak was detected and the date of first attempt to repair the leak.

(iii) The date of successful repair of the leak.

(iv) Maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A after it is successfully repaired or determined to be nonrepairable.

(v) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(A) The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

(B) If delay of repair was caused by depletion of stocked parts, there shall be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion.

(d) Records of the monitoring, operating, and inspection information required by Subsections R315-265-1035(c)(3) through R315-265-1035(c)(10) shall be maintained by the owner or operator for at least 3 years following the date of each occurrence, measurement, maintenance, corrective action, or record.

(e) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, monitoring and inspection information indicating proper operation and maintenance of the control device shall be recorded in the facility operating record.

(f) Up-to-date information and data used to determine whether or not a process vent is subject to the requirements in Section R315-265-1032 including supporting documentation as required by Subsection R315-265-1034(d)(2) if application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used, shall be recorded in a log that is kept in the facility operating record.

**R315-265-1050. Air Emission Standards for Equipment Leaks -- Applicability.**

(a) Sections R315-265-1050 through R315-265-1064 apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes, except as provided in Section R315-265-1.

(b) Except as provided in Subsection R315-265-1064(k), Sections R315-265-1050 through R315-265-1064 apply to equipment that contains or contacts hazardous wastes with organic concentrations of at least 10% by weight that are managed in one of the following:

(1) a unit that is subject to the permitting requirements of Rule R315-270; or

(2) a unit, including a hazardous waste recycling unit, that is not exempt from permitting under Section R315-262-17, for example, 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 Rule R315-270; or

(3) a unit that is exempt from permitting under Section R315-262-17, for example, a 90-day tank or container, and is not a recycling unit under Section R315-261-6.

(c) Each piece of equipment regulated under Sections R315-265-1050 through R315-265-1064 shall be marked so that it can be distinguished readily from other pieces of equipment.

(d) Equipment that is in vacuum service is excluded from the requirements of Sections R315-265-1052 through R315-265-1060 if it is identified as required in Subsection R315-265-1064(g)(5).

(e) Equipment that contains or contacts hazardous waste with an organic concentration of at least 10% by weight for less than 300 hours per calendar year is excluded from the requirements of Sections R315-265-1052 through R315-265-1060 if it is identified, as required in Subsection R315-265-1064(g)(6).

(f) Reserved.

(g) 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 40 CFR part 63, subpart IIII, are not subject to the requirements of Sections R315-265-1050 through R315-265-1064.

(h) The requirements of Sections R315-265-1052 through R315-265-1064 apply to equipment associated with hazardous waste recycling units previously exempt under Subsection R315-261-6(c)(1). Other exemptions under Section R315-261-4 and Subsection R315-265-1(c) are not affected by these requirements.

**R315-265-1051. Air Emission Standards for Equipment Leaks -- Definitions.**

As used in Sections R315-265-1052 through R315-265-1064, the terms shall have the meaning given them in Section R315-264-1031, Title 19, Chapter 6, Part 1, Solid and Hazardous Waste Act, and Rules R315-260 through R315-266.

**R315-265-1052. Air Emission Standards for Equipment Leaks -- Standards: Pumps in Light Liquid Service.**

(a)(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in Subsection R315-265-1063(b), except as provided in Subsections R315-265-1052(d), R315-265-1052(e), and R315-265-1052(f).

(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(b)(1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(2) If there are indications of liquids dripping from the pump seal, a leak is detected.

(c)(1) If a leak is detected, it shall be repaired as soon as practicable, but before 15 calendar days after it is detected, except as provided in Section R315-265-1059.

(2) A first attempt at repair, for example, tightening the packing gland, shall be made no later than five calendar days after each leak is detected.

(d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system and that meets the following requirements is exempt from the requirements of Subsection R315-265-1052(a):

(1) Each dual mechanical seal system shall be:

(i) operated with the barrier fluid at a pressure that is always greater than the pump stuffing box pressure; or

(ii) equipped with a barrier fluid degassing reservoir that is connected by a closed-vent system to a control device that complies with the requirements of Section R315-265-1060; or

(iii) equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to the atmosphere.

(2) The barrier fluid system may not be a hazardous waste with organic concentrations 10% or greater by weight.

(3) Each barrier fluid system shall be equipped with a sensor that will detect failure of the seal system, the barrier fluid system or both.

(4) Each pump shall be checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

(5)(i) Each sensor as described in Subsection R315-265-1052(d)(3) shall be checked daily or be equipped with an audible alarm that shall be checked monthly to ensure that it is functioning properly.

(ii) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(6)(i) If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both, based on the criterion determined in Subsection R315-265-1052(d)(5)(ii), a leak is detected.

(ii) If a leak is detected, it shall be repaired as soon as practicable, but before 15 calendar days after it is detected, except as provided in Section R315-265-1059.

(iii) A first attempt at repair, for example, relapping the seal, shall be made no later than five calendar days after each leak is detected.

(e) Any pump that is designated, as described in Subsection R315-265-1064(g)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of Subsections R315-265-1052(a), R315-265-1052(c), and R315-265-1052(d) if the pump meets the following requirements:

(1) Shall have no externally actuated shaft penetrating the pump housing.

(2) Shall operate with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in Subsection R315-265-1063(c).

(3) Shall be tested for compliance with Subsection R315-265-1052(e)(2) initially upon designation, annually, and at other times as requested by the director.

(f) If any pump is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a control device that complies with the requirements of Section R315-265-1060, it is exempt from the requirements of Subsections R315-265-1052(a) through R315-265-1052(e).

**R315-265-1053. Air Emission Standards for Equipment Leaks -- Standards: Compressors.**

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of total organic emissions to the atmosphere, except as provided in Subsections R315-265-1053(h) and R315-265-1053(i).

(b) Each compressor seal system as required in Subsection R315-265-1053(a) shall be:

(1) operated with the barrier fluid at a pressure that is always greater than the compressor stuffing box pressure; or

(2) equipped with a barrier fluid system that is connected by a closed-vent system to a control device that complies with the requirements of Section R315-265-1060; or

(3) equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to atmosphere.

(c) The barrier fluid may not be a hazardous waste with organic concentrations 10% or greater by weight.

(d) Each barrier fluid system as described in Subsections R315-265-1053(a) through R315-265-1053(c) shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e)(1) Each sensor as required in Subsection R315-265-1053(d) shall be checked daily or shall be equipped with an audible alarm that shall be checked monthly to ensure that it is functioning properly unless the compressor is located within the boundary of an unmanned plant site, in which case the sensor shall be checked daily.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system or both.

(f) If the sensor indicates failure of the seal system, the barrier fluid system, or both, based on the criterion determined under Subsection R315-625-1053(e)(2), a leak is detected.

(g)(1) If a leak is detected, it shall be repaired as soon as practicable, but before 15 calendar days after it is detected, except as provided in Section R315-265-1059.

(2) A first attempt at repair, for example, tightening the packing gland, shall be made no later than five calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of Subsections R315-265-1053(a) and R315-265-1053(b) if it is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal to a control device that complies with the requirements of Section R315-265-1060, except as provided in Subsection R315-265-1053(i).

(i) Any compressor that is designated, as described in Subsection R315-265-1064(g)(2), for no detectable emission as indicated by an instrument reading of less than 500 ppm above background is exempt from the requirements of Subsections R315-265-1053(a) through R315-265-1053(h) if the compressor:

(1) is determined to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in Subsection R315-265-1063(c).

(2) is tested for compliance with Subsection R315-265-1053(i)(1) initially upon designation, annually, and at other times as requested by the director.

**R315-265-1054. Air Emission Standards for Equipment Leaks -- Standards: Pressure Relief Devices in Gas or Vapor Service.**

(a) Except during pressure releases, each pressure relief device in gas or vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in Subsection R315-265-1063(c).

(b)(1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than five calendar days after each pressure release, except as provided in Section R315-265-1059.

(2) No later than five calendar days after the pressure release, the pressure relief device shall be monitored to confirm the condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in Subsection R315-265-1063(c).

(c) Any pressure relief device that is equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in Section R315-265-1060 is exempt from the requirements of Subsections R315-265-1054(a) and R315-265-1054(b).

**R315-265-1055. Air Emission Standards for Equipment Leaks -- Standards: Sampling Connection Systems.**

(a) Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system. This system shall collect the sample purge for return to the process or for routing to the appropriate treatment system. Gases displaced during filling of the sample container are not required to be collected or captured.

(b) Each closed-purge, closed-loop, or closed-vent system as required in Subsection R315-265-1055(a) shall:

(1) return the purged process fluid directly to the process line; or

(2) collect and recycle the purged process fluid; or

(3) be designed and operated to capture and transport the purged process fluid to a waste management unit that complies with the applicable requirements of Sections R315-265-1085 through R315-265-1087 or a control device that complies with the requirements of Section R315-265-1060.

(c) In-situ sampling systems and sampling systems without purges are exempt from the requirements of Subsections R315-265-1055(a) and R315-265-1055(b).

**R315-265-1056. Air Emission Standards for Equipment Leaks -- Standards: Open-Ended Valves or Lines.**

(a)(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve.

(2) The cap, blind flange, plug, or second valve shall always seal the open end except during operations requiring hazardous waste stream flow through the open-ended valve or line.

(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner so that the valve on the hazardous waste stream end is closed before the second valve is closed.

(c) If a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with Subsection R315-265-1056(a) at any other time.

**R315-265-1057. Air Emission Standards for Equipment Leaks -- Standards: Valves in Gas or Vapor Service or in Light Liquid Service.**

(a) Each valve in gas or vapor or light liquid service shall be monitored monthly to detect leaks by the methods specified in Subsection R315-265-1063(b) and shall comply with Subsections R315-265-1057(b) through R315-265-1057(e), except as provided in Subsections R315-265-1057(f), R315-265-1057(g), and R315-265-1057(h), and Sections R315-265-1061 and R315-265-1062.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) Any valve for which a leak is not detected for two successive months may be monitored the first month of each succeeding quarter, beginning with the next quarter, until a leak is detected.

(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for two successive months.

(d)(1) If a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in Section R315-265-1059.

(2) A first attempt at repair shall be made no later than five calendar days after each leak is detected.

(e) First attempts at repair include the following best practices when practicable:

(1) Tightening of bonnet bolts.

(2) Replacement of bonnet bolts.

(3) Tightening of packing gland nuts.

(4) Injection of lubricant into lubricated packing.

(f) Any valve that is designated, as described in Subsection R315-265-1064(g)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of Subsection R315-265-1057(a) if the valve:

(1) has no external actuating mechanism in contact with the hazardous waste stream;

(2) is operated with emissions less than 500 ppm above background as determined by the method specified in Subsection R315-265-1063(c); and

(3) is tested for compliance with Subsection R315-265-1057(f)(2) initially upon designation, annually, and at other times as requested by the director.

(g) Any valve that is designated, as described in Subsection R315-265-1064(h)(1), as an unsafe to monitor valve is exempt from the requirements of Subsection R315-265-1057(a) if:

(1) the owner or operator of the valve determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a result of complying with Subsection R315-265-1057(a); and

(2) the owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(h) Any valve that is designated, as described in Subsection R315-265-1064(h)(2), as a difficult to monitor valve is exempt from the requirements of Subsection R315-265-1057(a) if:

(1) the owner or operator of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than two meters above a support surface;

(2) the hazardous waste management unit where the valve is located was in operation before June 21, 1990; and

(3) the owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

**R315-265-1058. Air Emission Standards for Equipment Leaks -- Standards: Pumps and Valves in Heavy Liquid Service, Pressure Relief Devices in Light Liquid or Heavy Liquid Service, and Flanges and other Connectors.**

(a) Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors shall be monitored within five days by the method specified in Subsection R315-265-1063(b) if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) If a leak is detected, it shall be repaired as soon as practicable, but before 15 calendar days after it is detected, except as provided in Section R315-265-1059.

(2) The first attempt at repair shall be made no later than five calendar days after each leak is detected.

(d) First attempts at repair include the best practices described under Subsection R315-265-1057(e).

(e) Any connector that is inaccessible or is ceramic or ceramic-lined, for example, porcelain, glass, or glass-lined, is exempt from the monitoring requirements of Subsection R315-265-1058(a) and from the recordkeeping requirements of Section R315-265-1064.

**R315-265-1059. Air Emission Standards for Equipment Leaks -- Standards: Delay of Repair.**

(a) Delay of repair of equipment for which leaks have been detected will be allowed if the repair is technically infeasible without a hazardous waste management unit shutdown. In such a case, repair of this equipment shall occur before the end of the next hazardous waste management unit shutdown.

(b) Delay of repair of equipment for which leaks have been detected will be allowed for equipment that is isolated from the hazardous waste management unit and that does not continue to contain or contact hazardous waste with organic concentrations at least 10% by weight.

(c) Delay of repair for valves will be allowed if:

(1) The owner or operator determines that emissions of purged material resulting from immediate repair are greater than the emissions likely to result from delay of repair.

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with Section R315-265-1060.

(d) Delay of repair for pumps will be allowed if:

(1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system.

(2) Repair is finished as soon as practicable, but before six months after the leak was detected.

(e) Delay of repair beyond a hazardous waste management unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the hazardous waste management unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next hazardous waste management unit shutdown will not be allowed unless the next hazardous waste management unit shutdown occurs sooner than six months after the first hazardous waste management unit shutdown.

**R315-265-1060. Air Emission Standards for Equipment Leaks -- Standards: Closed-Vent Systems and Control Devices.**

(a) Owners and operators of closed-vent systems and control devices subject to Sections R315-265-1050 through R315-265-1064 shall comply with Section R315-265-1033.

(b)(1) The owner or operator of an existing facility who cannot install a closed-vent system and control device to comply with Sections R315-265-1050 through R315-265-1064 on the effective date that the facility becomes subject to Sections R315-265-1050 through R315-265-1064 shall prepare an implementation schedule that includes dates that the closed-vent system and control device will be installed and in operation. The controls shall be installed as soon as possible, but the implementation schedule may allow up to 30 months after the effective date that the facility becomes subject to Sections R315-265-1050 through R315-265-1064 for installation and startup.

(2) Any units that begin operation after December 21, 1990, and are subject to Sections R315-265-1050 through R315-265-1064 when operation begins, shall comply with the rules immediately, in other words, shall have control devices installed and operating on startup of the affected unit, the 30-month implementation schedule does not apply.

(3) The owner or operator of any facility in existence on the effective date of a statutory, EPA regulatory, or Utah Administrative Code amendment that makes the facility subject to Sections R315-265-1050 through R315-265-1064 shall comply with the requirements of Sections R315-265-1050 through R315-265-1064 as soon as practicable but no later than 30 months after the amendment's effective date. If control equipment required by Sections R315-265-1050 through R315-265-1064 cannot be installed and begin operation by the effective date of the amendment, the facility owner or operator shall prepare an implementation schedule that includes the following information:

(i) specific calendar dates for award of contracts or issuance of purchase orders for the control equipment;

(ii) initiation of on-site installation of the control equipment;

(iii) completion of the control equipment installation; and

(iv) performance of any testing to demonstrate that the installed equipment meets the applicable standards of Sections R315-265-1050 through R315-265-1064.

(v) The owner or operator shall enter the implementation schedule in the operating record or in a permanent, readily available file located at the facility.

(4) Owners and operators of facilities and units that become newly subject to the requirements of Sections R315-265-1050 through R315-265-1064 after December 8, 1997 due to an action other than those described in Subsection R315-265-1060(b)(3) shall comply with the applicable requirements immediately, in other words, shall have control devices installed and operating on the date the facility or unit becomes subject to Sections R315-265-1050 through R315-265-1064, the 30-month implementation schedule does not apply.

**R315-265-1061. Air Emission Standards for Equipment Leaks -- Alternative Standards for Valves in Gas or Vapor Service or in Light Liquid Service: Percentage of Valves Allowed to Leak.**

(a) An owner or operator subject to the requirements of Section R315-265-1057 may elect to have the valves within a hazardous waste management unit comply with an alternative standard that allows no greater than 2% of the valves to leak.

(b) The following requirements shall be met if an owner or operator decides to comply with the alternative standard of allowing 2% of valves to leak:

(1) A performance test as specified in Subsection R315-265-1061(c) shall be conducted initially upon designation, annually, and at other times requested by the director.

(2) If a valve leak is detected, it shall be repaired in accordance with Subsections R315-265-1057(d) and R315-265-1057(e).

(c) Performance tests shall be conducted in the following manner:

(1) Valves subject to the requirements in Section R315-265-1057 within the hazardous waste management unit shall be monitored within 1 week by the methods specified in Subsection R315-265-1063(b).

(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(3) The leak percentage shall be determined by dividing the number of valves subject to the requirements in Section R315-265-1057 that have detected leaks by the total number of valves subject to the requirements in Section R315-265-1057 within the hazardous waste management unit.

**R315-265-1062. Air Emission Standards for Equipment Leaks -- Alternative Standards for Valves in Gas or Vapor Service or in Light Liquid Service: Skip Period Leak Detection and Repair.**

(a) An owner or operator subject to the requirements of Section R315-265-1057 may elect for each valve within a hazardous waste management unit to comply with one of the alternative work practices specified in Subsections R315-265-1062(b)(2) and R315-265-1062(b)(3).

(b)(1) An owner or operator shall comply with the requirements for valves, as described in Section R315-265-1057, except as described in Subsections R315-265-1062(b)(2) and R315-265-1062(b)(3).

(2) After two consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2%, an owner or operator may begin to skip one of the quarterly leak detection periods, for example, monitor for leaks once every six months, for the valves subject to the requirements in Section R315-265-1057.

(3) After five consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2%, an owner or operator may begin to skip three of the quarterly leak detection periods, for example, monitor for leaks once each year, for the valves subject to the requirements in Section R315-265-1057.

(4) If the percentage of valves leaking is greater than 2%, the owner or operators shall monitor monthly in compliance with the requirements in Section R315-265-1057 but may again elect to use Section R315-265-1062 after meeting the requirements of Subsection R315-265-1057(c)(1).

**R315-265-1063. Air Emission Standards for Equipment Leaks -- Test Methods and Procedures.**

(a) Each owner or operator subject to Sections R315-265-1050 through R315-265-1064 shall comply with the test methods and procedures requirements provided in Section R315-265-1062.

(b) Leak detection monitoring, as required in Sections R315-265-1052 through R315-265-1062, shall comply with the following requirements:

(1) Monitoring shall comply with Reference Method 21 in 40 CFR part 60.

(2) The detection instrument shall meet the performance criteria of Reference Method 21.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.

(4) Calibration gases shall be:

(i) zero air, less than 10 ppm of hydrocarbon in air; and

(ii) a mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane.

(5) The instrument probe shall be traversed around each potential leak interface as close to the interface as possible as described in Reference Method 21.

(c) When equipment is tested for compliance with no detectable emissions, as required in Subsections R315-265-1052(e), R315-265-1053(i), Section R315-265-1054, and Subsection R315-265-1057(f), the test shall comply with the following requirements:

(1) The requirements of Subsections R315-265-1062(b)(1) through R315-265-1062(b)(4) shall apply.

(2) The background level shall be determined, as set forth in Reference Method 21.

(3) The instrument probe shall be traversed around each potential leak interface as close to the interface as possible as described in Reference Method 21.

(4) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(d) In accordance with the waste analysis plan required by Subsection R315-265-13(b), an owner or operator of a facility shall determine, for each piece of equipment, whether the equipment contains or contacts a hazardous waste with organic concentration that equals or exceeds 10% by weight using the following:

(1) methods described in ASTM Methods D 2267-88, E 169-87, E 168-88, E 260-85, incorporated by reference in Section R315-260-11;

(2) method 9060A, incorporated by reference in Section R315-260-11, of "Test Methods for Evaluating Solid Waste", EPA Publication SW-846 or analyzed for its individual organic constituents; or

(3) application of the knowledge of the nature of the hazardous waste stream or the process that produced the waste. Documentation of a waste determination by knowledge is required. Examples of documentation that shall be used to support a determination under Subsection R315-265-1063(d) include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the facility or another facility that has previously been demonstrated by direct measurement to have a total organic content less than 10%, or earlier speciation analysis results on the waste stream when it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(e) If an owner or operator determines that a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10% by weight, the determination can be revised only after following the procedures in Subsection R315-265-1063(d)(1) or R315-265-1063(d)(2).

(f) If an owner or operator and the director do not agree on whether a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10% by weight, the procedures in Subsection R315-265-1063(d)(1) or R315-265-1063(d)(2) can be used to resolve the dispute.

(g) Samples used in determining the percent organic content shall be representative of the highest total organic content hazardous waste that is expected to be contained in or contact the equipment.

(h) To determine if pumps or valves are in light liquid service, the vapor pressures of constituents may be procured from standard reference texts or may be determined by ASTM D-2879-86, incorporated by reference in Section R315-260-11.

(i) Performance tests to determine if a control device achieves 95 weight percent organic emission reduction shall comply with the procedures of Subsections R315-265-1034(c)(1) through R315-265-1034(c)(4).

**R315-265-1064. Air Emission Standards for Equipment Leaks -- Recordkeeping Requirements.**

(a)(1) Each owner or operator subject to Sections R315-265-1050 through R315-265-1064 shall comply with the recordkeeping requirements of Section R315-265-1064.

(2) An owner or operator of more than one hazardous waste management unit subject to Sections R315-265-1050 through R315-265-1064 may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

(b) Owners and operators shall record the following information in the facility operating record:

(1) For each piece of equipment that Sections R315-265-1050 through R315-265-1064 applies:

(i) Equipment identification number and hazardous waste management unit identification.

(ii) Approximate locations within the facility, for example, identify the hazardous waste management unit on a facility plot plan.

(iii) Type of equipment, for example, a pump or pipeline valve.

(iv) Percent-by-weight total organics in the hazardous waste stream at the equipment.

(v) Hazardous waste state at the equipment, for example, gas or vapor or liquid.

(vi) Method of compliance with the standard, for example, "monthly leak detection and repair" or "equipped with dual mechanical seals".

(2) For facilities that comply with Subsection R315-265-1033(a)(2), an implementation schedule as specified in Subsection R315-265-1033(a)(2).

(3) When an owner or operator chooses to use test data to demonstrate the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan as specified in Subsection R315-265-1035(b)(3).

(4) Documentation of compliance with Section R315-265-1060, including the detailed design documentation or performance test results specified in Subsection R315-265-1035(b)(4).

(c) When each leak is detected as specified in Sections R315-265-1052, R315-265-1053, R315-265-1057, and R315-265-1058, the following requirements apply:

(1) A weatherproof and readily visible identification, marked with the equipment identification number, the date evidence of a potential leak was found in accordance with Subsection R315-265-1058(a), and the date the leak was detected, shall be attached to the leaking equipment.

(2) The identification on equipment, except on a valve, may be removed after it has been repaired.

(3) The identification on a valve may be removed after it has been monitored for two successive months as specified in Subsection R315-265-1057(c) and no leak has been detected during those two months.

(d) When each leak is detected as specified in Sections R315-265-1052, R315-265-1053, R315-265-1057, and R315-265-1058, the following information shall be recorded in an inspection log and shall be kept in the facility operating record:

(1) The instrument and operator identification numbers and the equipment identification number.

(2) The date evidence of a potential leak was found in accordance with Subsection R315-265-1058(a).

(3) The date the leak was detected and the dates of each attempt to repair the leak.

(4) Repair methods applied in each attempt to repair the leak.

(5) "Above 10,000" if the maximum instrument reading measured by the methods specified in Subsection R315-265-1063(b) after each repair attempt is equal to or greater than 10,000 ppm.

(6) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(7) Documentation supporting the delay of repair of a valve in compliance with Subsection R315-265-1059(c).

(8) The signature of the owner or operator, or designate, whose decision it was that repair could not be effected without a hazardous waste management unit shutdown.

(9) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.

(10) The date of successful repair of the leak.

(e) Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with Section R315-265-1060 shall be recorded and kept up-to-date in the facility operating record as specified in Subsection R315-265-1035(c). Design documentation is specified in Subsections R315-265.1035(c)(1) and R315-265-1035(c)(2) and monitoring, operating, and inspection information in Subsections R315-265.1035(c)(3) through R315-265-1035(c)(8).

(f) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, monitoring and inspection information indicating proper operation and maintenance of the control device shall be recorded in the facility operating record.

(g) The following information pertaining to the equipment subject to the requirements in Sections R315-265-1052 through R315-265-1060 shall be recorded in a log that is kept in the facility operating record:

(1) A list of identification numbers for equipment, except welded fittings, subject to the requirements of Sections R315-265-1050 through R315-265-1064.

(2)(i) A list of identification numbers for equipment that the owner or operator elects to designate for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, under Subsections R315-265-1052(e), R315-265-1053(i), and R315-265-1057(f).

(ii) The designation of this equipment as subject to the requirements of Subsection R315-265-1052(e), R315-265-1053(i), or R315-265-1057(f) shall be signed by the owner or operator.

(3) A list of equipment identification numbers for pressure relief devices required to comply with Subsection R315-265-1054(a).

(4)(i) The dates of each compliance test required in Subsections R315-265-1052(e), R315-265-1053(i), Section R315-265-1054, and Subsection R315-265-1057(f).

(ii) The background level measured during each compliance test.

(iii) The maximum instrument reading measured at the equipment during each compliance test.

(5) A list of identification numbers for equipment in vacuum service.

(6) Identification, either by list or location, area or group, of equipment that contains or contacts hazardous waste with an organic concentration of at least 10% by weight for less than 300 hours per calendar year.

(h) The following information pertaining to each valve subject to the requirements of Subsections R315-265-1057(g) and R315-265-1057(h) shall be recorded in a log that is kept in the facility operating record:

(1) A list of identification numbers for valves that are designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve.

(2) A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the planned schedule for monitoring each valve.

(i) The following information shall be recorded in the facility operating record for valves complying with Section R315-265-1062:

(1) A schedule of monitoring.

(2) The percent of valves found leaking during each monitoring period.

(j) The following information shall be recorded in a log that is kept in the facility operating record:

(1) Criteria required in Subsections R315-265-1052(d)(5)(ii) and R315-265-1053(e)(2) and an explanation of the criteria.

(2) Any changes to these criteria and the reasons for the changes.

(k) The following information shall be recorded in a log that is kept in the facility operating record for use in determining exemptions as provided in Section R315-265-1050:

(1) An analysis determining the design capacity of the hazardous waste management unit.

(2) A statement listing the hazardous waste influent to and effluent from each hazardous waste management unit subject to the requirements in Sections R315-265-1052 through R315-265-1060 and an analysis determining whether these hazardous wastes are heavy liquids.

(3) An up-to-date analysis and the supporting information and data used to determine whether or not equipment is subject to the requirements in Sections R315-265-1052 through R315-265-1060. The record shall include supporting documentation as required by Subsection R315-265-1063(d)(3) when application of the knowledge of the nature of the hazardous waste stream or the process that produced the waste is used. If the owner or operator takes any action, for example, changing the process that produced the waste, that could result in an increase in the total organic content of the waste contained in or contacted by equipment determined not to be subject to the requirements in Sections R315-265-1052 through R315-265-1060, then a new determination is required.

(l) Records of the equipment leak information required by Subsection R315-265-1064(d) and the operating information required by Subsection R315-265-1064(e) need be kept only three years.

(m) The owner or operator of any facility with equipment that is subject to Sections R315-265-1050 through R315-265-1064 and to leak detection, monitoring, and repair requirements under regulations at 40 CFR part 60, part 61, or part 63 may elect to determine compliance with Sections R315-265-1050 through R315-265-1064 either by documentation pursuant to Section R315-265-1064, or by documentation of compliance with the regulations at 40 CFR part 60, part 61, or part 63 pursuant to the relevant requirements of the regulations at 40 CFR part 60, part 61, or part 63. The documentation of compliance under regulation at 40 CFR part 60, part 61, or part 63 shall be kept with or made readily available with the facility operating record.

**R315-265-1080. Air Emission Standards for Tanks, Surface Impoundments, and Containers--Applicability.**

(a) The requirements of Sections R315-265-1080 through R315-265-1090 apply to owners and operators of all facilities that treat, store, or dispose of hazardous waste in tanks, surface impoundments, or containers subject to either Sections R315-265-170 through R315-265-178, Sections R315-265-190 through R315-265-202, or Sections R315-265-220 through R315-265-231 except as Section R315-265-1 and Subsection R315-265-1080(b) provide otherwise.

(b) The requirements of Sections R315-265-1080 through R315-265-1090 do not apply to the following waste management units at the facility:

(1) A waste management unit that holds hazardous waste placed in the unit before December 6, 1996, and in which no hazardous waste is added to the unit on or after December 6, 1996.

(2) A container that has a design capacity less than or equal to 0.1 m3.

(3) A tank in which an owner or operator has stopped adding hazardous waste and the owner or operator has begun implementing or completed closure pursuant to an approved closure plan.

(4) A surface impoundment in which an owner or operator has stopped adding hazardous waste, except to implement an approved closure plan, and the owner or operator has begun implementing or completed closure pursuant to an approved closure plan.

(5) A waste management unit that is used solely for on-site treatment or storage of hazardous waste that is placed in the unit as a result of implementing remedial activities required under the corrective action authorities of RCRA sections 3004(u), 3004(v), or 3008(h); CERCLA authorities; or similar Federal or Utah authorities.

(6) A waste management unit that is used solely for the management of radioactive mixed waste in accordance with all applicable regulations under the authority of the Atomic Energy Act and the Nuclear Waste Policy Act.

(7) A hazardous waste management unit that the owner or operator certifies is equipped with and operating air emission controls in accordance with the requirements of an applicable regulation codified under the Utah Air Conservation Act. For the purpose of complying with Subsection R315-265-1080(b), a tank for which the air emission control includes an enclosure, as opposed to a cover, shall be in compliance with the enclosure and control device requirements of Subsection R315-265-1085(i), except as provided in Subsection R315-265-1083(c)(5).

(8) A tank that has a process vent as defined in Section R315-264-1031.

(c) For the owner and operator of a facility subject to Sections R315-265-1080 through R315-265-1090 who has received a final permit under RCRA section 3005 prior to December 6, 1996, the following requirements apply:

(1) The requirements of Sections R315-264-1080 through R315-264-1090 shall be incorporated into the permit if the permit is reissued in accordance with the requirements of Section R315-124-15 or reviewed in accordance with the requirements of Subsection R315-270-50(d).

(2) Until the date when the permit is reissued in accordance with the requirements of Section R315-124-15 or reviewed in accordance with the requirements of Subsection R315-270-50(d), the owner and operator is subject to the requirements of Sections R315-265-1080 through R315-265-1090.

(d) The requirements of Sections R315-265-1080 through R315-265-1090, except for the recordkeeping requirements specified in Subsection R315-265-1090(i), are administratively stayed for a tank or a container used for the management of hazardous waste generated by organic peroxide manufacturing and its associated laboratory operations if the owner or operator of the unit meets all of the following conditions:

(1) The owner or operator identifies that the tank or container receives hazardous waste generated by an organic peroxide manufacturing process producing more than one functional family of organic peroxides or multiple organic peroxides within one functional family, that one or more of these organic peroxides could potentially undergo self-accelerating thermal decomposition at or below ambient temperatures, and that organic peroxides are the predominant products manufactured by the process. For the purpose of meeting the conditions of Subsection R315-265-1080(d), "organic peroxide" means an organic compound that contains the bivalent -O-O- structure and which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms has been replaced by an organic radical.

(2) The owner or operator prepares documentation, in accordance with the requirements of Subsection R315-265-1090(i), explaining why an undue safety hazard would be created if air emission controls specified in Sections R315-265-1085 through R315-265-1088 are installed and operated on the tanks and containers used at the facility to manage the hazardous waste generated by the organic peroxide manufacturing process or processes meeting the conditions of Subsection R315-265-1080(d)(1).

(3) The owner or operator notifies the Director in writing that hazardous waste generated by an organic peroxide manufacturing process or processes meeting the conditions of Subsection R315-265-1080(d)(1) are managed at the facility in tanks or containers meeting the conditions of Subsection R315-265-1080(d)(2). The notification shall state the name and address of the facility, and be signed and dated by an authorized representative of the facility owner or operator.

**R315-265-1081. Air Emission Standards for Tanks, Surface Impoundments, and Containers --Definitions.**

As used in Sections R315-265-1080 through R315-265-1090, all terms not defined herein shall have the meaning given to them in RCRA and Rules R315-260 through R315-266.

"Average volatile organic concentration" or "average VO concentration" means the mass-weighted average volatile organic concentration of a hazardous waste as determined in accordance with the requirements of Section R315-265-1084.

"Closure device" means a cap, hatch, lid, plug, seal, valve, or other type of fitting that blocks an opening in a cover such that if the device is secured in the closed position it prevents or reduces air pollutant emissions to the atmosphere. Closure devices include devices that are detachable from the cover, for example, a sampling port cap, manually operated, for example a hinged access lid or hatch, or automatically operated, for example, a spring-loaded pressure relief valve.

"Continuous seal" means a seal that forms a continuous closure that completely covers the space between the edge of the floating roof and the wall of a tank. A continuous seal may be a vapor-mounted seal, liquid-mounted seal, or metallic shoe seal. A continuous seal may be constructed of fastened segments so as to form a continuous seal.

"Cover" means a device that provides a continuous barrier over the hazardous waste managed in a unit to prevent or reduce air pollutant emissions to the atmosphere. A cover may have openings, such as access hatches, sampling ports, gauge wells, that are necessary for operation, inspection, maintenance, and repair of the unit on which the cover is used. A cover may be a separate piece of equipment which can be detached and removed from the unit or a cover may be formed by structural features permanently integrated into the design of the unit.

"Enclosure" means a structure that surrounds a tank or container, captures organic vapors emitted from the tank or container, and vents the captured vapors through a closed-vent system to a control device.

"External floating roof" means a pontoon-type or double-deck type cover that rests on the surface of the material managed in a tank with no fixed roof.

"Fixed roof" means a cover that is mounted on a unit in a stationary position and does not move with fluctuations in the level of the material managed in the unit.

"Floating membrane cover" means a cover consisting of a synthetic flexible membrane material that rests upon and is supported by the hazardous waste being managed in a surface impoundment.

"Floating roof" means a cover consisting of a double deck, pontoon single deck, or internal floating cover which rests upon and is supported by the material being contained, and is equipped with a continuous seal.

"Hard-piping" means pipe or tubing that is manufactured and properly installed in accordance with relevant standards and good engineering practices.

"In light material service" means the container is used to manage a material for which both of the following conditions apply: The vapor pressure of one or more of the organic constituents in the material is greater than 0.3 kilopascals (kPa) at 20 degrees C; and the total concentration of the pure organic constituents having a vapor pressure greater than 0.3 kPa at 20 degrees C is equal to or greater than 20 percent by weight.

"Internal floating roof" means a cover that rests or floats on the material surface, but not necessarily in complete contact with it, inside a tank that has a fixed roof.

"Liquid-mounted seal" means a foam or liquid-filled primary seal mounted in contact with the hazardous waste between the tank wall and the floating roof continuously around the circumference of the tank.

"Malfunction" means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

"Maximum organic vapor pressure" means the sum of the individual organic constituent partial pressures exerted by the material contained in a tank, at the maximum vapor pressure-causing conditions, such as, temperature, agitation, pH effects of combining wastes, etc., reasonably expected to occur in the tank. For the purpose of Sections R315-265-1080 through R315-265-1090, maximum organic vapor pressure is determined using the procedures specified in Subsection R315-265-1084(c).

"Metallic shoe seal" means a continuous seal that is constructed of metal sheets which are held vertically against the wall of the tank by springs, weighted levers, or other mechanisms and is connected to the floating roof by braces or other means. A flexible coated fabric, envelope, spans the annular space between the metal sheet and the floating roof.

"No detectable organic emissions" means no escape of organics to the atmosphere as determined using the procedure specified in Subsection R315-265-1084(d).

"Point of waste origination" means as follows:

(1) If the facility owner or operator is the generator of the hazardous waste, the point of waste origination means the point where a solid waste produced by a system, process, or waste management unit is determined to be a hazardous waste as defined in Rule R315-261. In this case, this term is being used in a manner similar to the use of the term "point of generation" in air standards established for waste management operations under authority of the Utah Air Conservation Act.

(2) If the facility owner and operator are not the generator of the hazardous waste, point of waste origination means the point where the owner or operator accepts delivery or takes possession of the hazardous waste.

"Point of waste treatment" means the point where a hazardous waste to be treated in accordance with Subsection R315-265-1083(c)(2) exits the treatment process. Any waste determination shall be made before the waste is conveyed, handled, or otherwise managed in a manner that allows the waste to volatilize to the atmosphere.

"Safety device" means a closure device such as a pressure relief valve, frangible disc, fusible plug, or any other type of device which functions exclusively to prevent physical damage or permanent deformation to a unit or its air emission control equipment by venting gases or vapors directly to the atmosphere during unsafe conditions resulting from an unplanned, accidental, or emergency event. For the purpose of Sections R315-265-1080 through R315-265-1090, a safety device is not used for routine venting of gases or vapors from the vapor headspace underneath a cover such as during filling of the unit or to adjust the pressure in this vapor headspace in response to normal daily diurnal ambient temperature fluctuations. A safety device is designed to remain in a closed position during normal operations and open only if the internal pressure, or another relevant parameter, exceeds the device threshold setting applicable to the air emission control equipment as determined by the owner or operator based on manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials.

"Single-seal system" means a floating roof having one continuous seal. This seal may be vapor-mounted, liquid-mounted, or a metallic shoe seal.

"Vapor-mounted seal" means a continuous seal that is mounted such that there is a vapor space between the hazardous waste in the unit and the bottom of the seal.

"Volatile organic concentration" or "VO concentration" means the fraction by weight of the volatile organic compounds contained in a hazardous waste expressed in terms of parts per million (ppmw) as determined by direct measurement or by knowledge of the waste in accordance with the requirements of Section R315-265-1084. For the purpose of determining the VO concentration of a hazardous waste, organic compounds with a Henry's law constant value of at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in the liquid-phase, (0.1 Y/X), which can also be expressed as 1.8 × 10−6 atmospheres/gram-mole/m3, at 25 degrees Celsius shall be included. Appendix VI of 40 CFR 265, which is adopted and incorporated by reference, presents a list of compounds known to have a Henry's law constant value less than the cutoff level.

"Waste determination" means performing all applicable procedures in accordance with the requirements of Section R315-265-1084 to determine whether a hazardous waste meets standards specified in Sections R315-265-1080 through R315-265-1090. Examples of a waste determination include performing the procedures in accordance with the requirements of Section R315-265-1084 to determine the average VO concentration of a hazardous waste at the point of waste origination; the average VO concentration of a hazardous waste at the point of waste treatment and comparing the results to the exit concentration limit specified for the process used to treat the hazardous waste; the organic reduction efficiency and the organic biodegradation efficiency for a biological process used to treat a hazardous waste and comparing the results to the applicable standards; or the maximum volatile organic vapor pressure for a hazardous waste in a tank and comparing the results to the applicable standards.

"Waste stabilization" process means any physical or chemical process used to either reduce the mobility of hazardous constituents in a hazardous waste or eliminate free liquids as determined by Test Method 9095B, Paint Filter Liquids Test, in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in Section R315-260-11. A waste stabilization process includes mixing the hazardous waste with binders or other materials, and curing the resulting hazardous waste and binder mixture. Other synonymous terms used to refer to this process are "waste fixation" or "waste solidification." This does not include the adding of absorbent materials to the surface of a waste, without mixing, agitation, or subsequent curing, to absorb free liquid.

**R315-265-1082. Air Emission Standards for Tanks, Surface Impoundments, and Containers ---Schedule for Implementation of Air Emission Standards.**

(a) Owners or operators of facilities existing on December 6, 1996 and subject to Sections R315-265-170 through R315-265-178, Sections R315-265-190 through R315-265-202, and Sections R315-265-220 through R315-265-231 shall meet the following requirements:

(1) Install and begin operation of all control equipment or waste management units required to comply with Sections R315-265-1080 through R315-265-1090 and complete modifications of production or treatment processes to satisfy exemption criteria in accordance with Subsection R315-265-1083(c) by December 6, 1996, except as provided for in Subsection R315-265-1082(a)(2).

(2) If control equipment or waste management units required to comply with Sections R315-265-1080 through R315-265-1090 cannot be installed and if operation or modifications of production or treatment processes to satisfy exemption criteria in accordance with Subsection R315-265-1083(c) cannot be completed by December 6, 1996, the owner or operator shall:

(i) 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 8, 1997.

(ii) Prepare an implementation schedule that includes the following information: specific calendar dates for award of contracts or issuance of purchase orders for 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 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 Sections R315-265-1080 through R315-265-1090.

(iii) For facilities subject to the recordkeeping requirements of Section R315-265-73, the owner or operator shall enter the implementation schedule specified in Subsection R315-265-1082(a)(2)(ii) in the operating record no later than December 6, 1996.

(iv) For facilities not subject to Section R315-265-73, the owner or operator shall enter the implementation schedule specified in Subsection R315-265-1082(a)(2)(ii) 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 a statutory, EPA, or Utah regulatory amendment that renders the facility subject to Sections R315-265-170 through R315-265-178, Sections R315-265-190 through R315-265-202, or Sections R315-265-220 through R315-265-231 shall meet the following requirements:

(1) Install and begin operation of control equipment or waste management units required to comply with Sections R315-265-1080 through R315-265-1090, and complete modifications of production or treatment processes to satisfy exemption criteria of Subsection R315-265-1083(c) by the effective date of the amendment, except as provided for in Subsection R315-265-1082(b)(2).

(2) If control equipment or waste management units required to comply with Sections R315-265-1080 through R315-265-1090 cannot be installed and begin operation, or if modifications of production or treatment processes to satisfy exemption criteria of Subsection R315-265-1083(c) cannot be completed by the effective date of the amendment, the owner or operator shall:

(i) Install and begin operation of the control equipment or waste management unit, 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.

(ii) For facilities subject to the recordkeeping requirements of Section R315-265-73, enter and maintain the implementation schedule specified in Subsection R315-265-1082(a)(2)(ii) in the operating record no later than the effective date of the amendment, or

(iii) For facilities not subject to Section R315-265-73, the owner or operator shall enter and maintain the implementation schedule specified in Subsection R315-265-1082(a)(2)(ii) 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 Sections R315-265-1080 through R315-265-1090 after December 8, 1997 due to an action other than those described in Subsection R315-265-1082(b) shall comply with all applicable requirements immediately, for example, shall have control devices installed and operating on the date the facility or unit becomes subject to Sections R315-265-1080 through R315-265-1090; the 30-month implementation schedule does not apply.

(d) The Director 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, if 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 Sections R315-265-1080 through R315-265-1090.

**R315-265-1083. Air Emission Standards for Tanks, Surface Impoundments, and Containers --- Standards: General.**

(a) Section R315-265-1083 applies to the management of hazardous waste in tanks, surface impoundments, and containers subject to Sections R315-265-1080 through R315-265-1090.

(b) The owner or operator shall control air pollutant emissions from each hazardous waste management unit in accordance with standards specified in Sections R315-265-1085 through R315-265-1088, as applicable to the hazardous waste management unit, except as provided for in R315-265-1083(c).

(c) A tank, surface impoundment, or container is exempt from standards specified in Sections R315-265-1085 through R315-265-1088, as applicable, provided that the waste management unit is one of the following:

(1) A tank, surface impoundment, or container for which all hazardous waste entering the unit has an average VO concentration at the point of waste origination of less than 500 parts per million by weight (ppmw). The average VO concentration shall be determined using the procedures specified in Subsection R315-265-1084(a). The owner or operator shall review and update, as necessary, this determination at least once every 12 months following the date of the initial determination for the hazardous waste streams entering the unit.

(2) A tank, surface impoundment, or container for which the organic content of all the hazardous waste entering the waste management unit has been reduced by an organic destruction or removal process that achieves any one of the following conditions:

(i) A process that removes or destroys the organics contained in the hazardous waste to a level such that the average VO concentration of the hazardous waste at the point of waste treatment is less than the exit concentration limit (Ct) established for the process. The average VO concentration of the hazardous waste at the point of waste treatment and the exit concentration limit for the process shall be determined using the procedures specified in Subsection R315-265-1084(b).

(ii) A process that removes or destroys the organics contained in the hazardous waste to a level such that the organic reduction efficiency (R) for the process is equal to or greater than 95 percent, and the average VO concentration of the hazardous waste at the point of waste treatment is less than 100 ppmw. The organic reduction efficiency for the process and the average VO concentration of the hazardous waste at the point of waste treatment shall be determined using the procedures specified in Subsection R315-265-1084(b).

(iii) A process that removes or destroys the organics contained in the hazardous waste to a level such that the actual organic mass removal rate (MR) for the process is equal to or greater than the required organic mass removal rate (RMR) established for the process. The required organic mass removal rate and the actual organic mass removal rate for the process shall be determined using the procedures specified in Subsection R315-265-1084(b).

(iv) A biological process that destroys or degrades the organics contained in the hazardous waste, such that either of the following conditions is met:

(A) The organic reduction efficiency (R) for the process is equal to or greater than 95 percent, and the organic biodegradation efficiency (Rbio) for the process is equal to or greater than 95 percent. The organic reduction efficiency and the organic biodegradation efficiency for the process shall be determined using the procedures specified in Subsection R315-265-1084(b).

(B) The total actual organic mass biodegradation rate (MRbio) for all hazardous waste treated by the process is equal to or greater than the required organic mass removal rate (RMR). The required organic mass removal rate and the actual organic mass biodegradation rate for the process shall be determined using the procedures specified in Subsection R315-265-1084(b).

(v) A process that removes or destroys the organics contained in the hazardous waste and meets all of the following conditions:

(A) From the point of waste origination through the point where the hazardous waste enters the treatment process, the hazardous waste is managed continuously in waste management units which use air emission controls in accordance with the standards specified in Sections R315-265-1085 through R315-265.1088, as applicable to the waste management unit.

(B) From the point of waste origination through the point where the hazardous waste enters the treatment process, any transfer of the hazardous waste is accomplished through continuous hard-piping or other closed system transfer that does not allow exposure of the waste to the atmosphere. The Director considers a drain system that meets the requirements of Subsection R307-214-2(29), which incorporates 40 CFR part 63, subpart RR---National Emission Standards for Individual Drain Systems to be a closed system.

(C) The average VO concentration of the hazardous waste at the point of waste treatment is less than the lowest average VO concentration at the point of waste origination determined for each of the individual waste streams entering the process or 500 ppmw, whichever value is lower. The average VO concentration of each individual waste stream at the point of waste origination shall be determined using the procedures specified in Subsection R315-265-1084(a). The average VO concentration of the hazardous waste at the point of waste treatment shall be determined using the procedures specified in Subsection R315-265-1084(b).

(vi) A process that removes or destroys the organics contained in the hazardous waste to a level such that the organic reduction efficiency (R) for the process is equal to or greater than 95 percent and the owner or operator certifies that the average VO concentration at the point of waste origination for each of the individual waste streams entering the process is less than 10,000 ppmw. The organic reduction efficiency for the process and the average VO concentration of the hazardous waste at the point of waste origination shall be determined using the procedures specified in Subsections R315-265-1084(b) and R315-265-1084(a), respectively.

(vii) A hazardous waste incinerator for which the owner or operator has either:

(A) Been issued a final permit under Rule R315-270 which implements the requirements of Sections R315-264-340 through R315-264-351; or

(B) Has designed and operates the incinerator in accordance with the interim status requirements of 40 CFR 265.340 through 265.352, which is adopted and incorporated by reference.

(viii) A boiler or industrial furnace for which the owner or operator has either:

(A) Been issued a final permit under Rule R315-270 which implements the requirements of Sections R315-266-100 through R315-266-112, or

(B) Has designed and operates the boiler or industrial furnace in accordance with the interim status requirements of Sections R315-266-100 through R315-266-112.

(ix) For the purpose of determining the performance of an organic destruction or removal process in accordance with the conditions in each of Subsections R315-265-1083(c)(2)(i) through R315-265-1083(c)(2)(vi), 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, or a value of 25 ppmw, whichever is less.

(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 × 10−6 atmospheres/gram-mole/m3, at 25 degrees Celsius.

(3) A tank or surface impoundment used for biological treatment of hazardous waste in accordance with the requirements of Subsection R315-265-1083(c)(2)(iv).

(4) A tank, surface impoundment, or container for which all hazardous waste placed in the unit either:

(i) Meets the numerical concentration limits for organic hazardous constituents, applicable to the hazardous waste, as specified in Rule R315-268--Land Disposal Restrictions under Table "Treatment Standards for Hazardous Waste"; or

(ii) The organic hazardous constituents in the waste have been treated by the treatment technology established by the Board for the waste in Subsection R315-268-42(a), or have been removed or destroyed by an equivalent method of treatment approved in accordance with Subsection R315-268-42(b).

(5) A tank used for bulk feed of hazardous waste to a waste incinerator and all of the following conditions are met:

(i) The tank is located inside an enclosure vented to a control device that is designed and operated in accordance with all applicable requirements specified under Section R315-214-1, which incorporates 40 CFR part 61, subpart FF--National Emission Standards for Benzene Waste Operations for a facility at which the total annual benzene quantity from the facility waste is equal to or greater than 10 megagrams per year;

(ii) The enclosure and control device serving the tank were installed and began operation prior to November 25, 1996; and

(iii) The enclosure is designed and operated in accordance with the criteria for a permanent total enclosure as specified in "Procedure T--Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, Appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the enclosure by conveyor, vehicles, or other mechanical or electrical equipment; or to direct air flow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in Section 5.0 to "Procedure T--Criteria for and Verification of a Permanent or Temporary Total Enclosure" annually.

(d) The Director may at any time perform or request that the owner or operator perform a waste determination for a hazardous waste managed in a tank, surface impoundment, or container exempted from using air emission controls under the provisions of Section R315-265-1083 as follows:

(1) The waste determination for average VO concentration of a hazardous waste at the point of waste origination shall be performed using direct measurement in accordance with the applicable requirements of Subsection R315-265-1084(a). The waste determination for a hazardous waste at the point of waste treatment shall be performed in accordance with the applicable requirements of Subsection R315-265-1084(b).

(2) In performing a waste determination pursuant to Subsection R315-265-1083(d)(1), the sample preparation and analysis shall be conducted as follows:

(i) In accordance with the method used by the owner or operator to perform the waste analysis, except in the case specified in Subsection R315-265-1083(d)(2)(ii).

(ii) If the Director determines that the method used by the owner or operator was not appropriate for the hazardous waste managed in the tank, surface impoundment, or container, then the Director may choose an appropriate method.

(3) If the owner or operator is requested to perform the waste determination, the Director may elect to have an authorized representative observe the collection of the hazardous waste samples used for the analysis.

(4) If the results of the waste determination performed or requested by the Director do not agree with the results of a waste determination performed by the owner or operator using knowledge of the waste, then the results of the waste determination performed in accordance with the requirements of Subsection R315-265-1083(d)(1) shall be used to establish compliance with the requirements of Sections R315-265-1080 through R315-265-1090.

(5) If the owner or operator has used an averaging period greater than 1 hour for determining the average VO concentration of a hazardous waste at the point of waste origination, the Director may elect to establish compliance with Sections R315-265-1080 through R315-265-1090 by performing or requesting that the owner or operator perform a waste determination using direct measurement based on waste samples collected within a 1-hour period as follows:

(i) The average VO concentration of the hazardous waste at the point of waste origination shall be determined by direct measurement in accordance with the requirements of Subsection R315-265-1084(a).

(ii) Results of the waste determination performed or requested by the Director showing that the average VO concentration of the hazardous waste at the point of waste origination is equal to or greater than 500 ppmw shall constitute noncompliance with Sections R315-265-1080 through R315-265-1090 except in a case as provided for in Subsection R315-265-1083(d)(5)(iii).

(iii) If the average VO concentration of the hazardous waste at the point of waste origination previously has been determined by the owner or operator using an averaging period greater than one hour to be less than 500 ppmw but because of normal operating process variations the VO concentration of the hazardous waste determined by direct measurement for any given 1-hour period may be equal to or greater than 500 ppmw, information that was used by the owner or operator to determine the average VO concentration of the hazardous waste, for example, test results, measurements, calculations, and other documentation, and recorded in the facility records in accordance with the requirements of Subsection R315-265-1084(a) and Section R315-265-1090 shall be considered by the Director together with the results of the waste determination performed or requested by the Director in establishing compliance with Sections R315-265-1080 through R315-265-1090.

**R315-265-1084. Air Emission Standards for Tanks, Surface Impoundments, and Containers -- Waste Determination Procedures.**

(a) Waste determination procedure to determine average volatile organic (VO) concentration of a hazardous waste at the point of waste origination.

(1) An owner or operator shall determine the average VO concentration at the point of waste origination for each hazardous waste placed in a waste management unit exempted under the provisions of Subsection R315-265-1083(c)(1) from using air emission controls in accordance with standards specified in Sections R315-265-1085 through R315-265-1088, as applicable to the waste management unit.

(i) 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 Subsection R315-265-1083(c)(1) 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; and

(ii) Perform a new waste determination if 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 Subsection R315-265-1083(c)(1).

(2) For a waste determination that is required by Subsection R315-265-1084(a)(1), the average VO concentration of a hazardous waste at the point of waste origination shall be determined using either direct measurement as specified in Subsection R315-265-1084(a)(3) or by knowledge as specified in Subsection R315-265-1084(a)(4).

(3) Direct measurement to determine average VO concentration of a hazardous waste at the point of waste origination.

(i) Identification. The owner or operator shall identify and record the point of waste origination for the hazardous waste.

(ii) Sampling. Samples of the hazardous waste stream shall be collected at the point of waste origination in a manner such that volatilization of organics contained in the waste and in the subsequent sample is minimized and an adequately representative sample is collected and maintained for analysis by the selected method.

(A) The averaging period to be used for determining the average VO concentration for the hazardous waste stream on a mass-weighted average basis shall be designated and recorded. The averaging period can represent any time interval that the owner or operator determines is appropriate for the hazardous waste stream but shall not exceed 1 year.

(B) A sufficient number of samples, but no less than four samples, shall be collected 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.

(C) All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous waste stream are collected such that a minimum loss of organics occurs throughout the sample collection and handling process, and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of 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.

(D) Sufficient information, as specified in the "site sampling plan" required under Subsection R315-265-1084(a)(3)(ii)(C), 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.

(iii) 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 using one or more methods if 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 × 10−6 atmospheres/gram-mole/m3, at 25 degrees Celsius. At the owner 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 25 degrees Celsius. 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 (fm25D). If the owner or operator elects to adjust test data, the adjustment shall 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 degrees Celsius contained in the waste. Constituent-specific adjustment factors (fm25D) 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 the requirements in Subsections R315-265-1084(a)(3)(iii)(A) or (B) and provided 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 × 10−6 atmospheres/gram-mole/m3, at 25 degrees Celsius, is met.

(A) 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.

(B) Any other analysis method that has been validated in accordance with the procedures specified in Section 5.1 or Section 5.3, and the corresponding calculations in Section 6.1 or Section 6.3, of Method 301 in 40 CFR part 63, appendix A. The data are acceptable if they meet the criteria specified in Section 6.1.5 or Section 6.3.3 of Method 301. If correction is required under section 6.3.3 of Method 301, the data are acceptable if the correction factor is within the range 0.7 to 1.30. Other sections of Method 301 are not required.

(iv) Calculations.

(A) The average VO concentration on a mass-weighted basis shall be calculated by using the results for all waste determinations conducted in accordance with Subsections R315-265-1084(a)(3) (ii) and (iii) and the equation found in 40 CFR 265.1084(a)(3)(iv)(A), which is adopted and incorporated by reference.

(B) For the purpose of determining Ci, for individual waste samples analyzed in accordance with Subsection R315-265-1084(a)(3)(iii), 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:

(1) 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.

(2) 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 values at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X), which can also be expressed as 1.8 × 10−6 atmospheres/gram-mole/m3, at 25 degrees Celsius.

(v) Provided that the test method is appropriate for the waste as required under Subsection R315-265-1084(a)(3)(iii), the Director will determine compliance based on the test method used by the owner or operator as recorded pursuant to Subsection R315-265-1090(f)(1).

(4) Use of owner or operator knowledge to determine average VO concentration of a hazardous waste at the point of waste origination.

(i) Documentation shall be prepared that presents the information used as the basis for the owner's or operator's knowledge of the hazardous waste stream's average VO concentration. Examples of information that may be used as the basis for knowledge include: Material balances for the source or process generating the hazardous waste stream; constituent-specific chemical test data for the hazardous waste stream from previous testing that are still applicable to the current waste stream; previous test data for other locations managing the same type of waste stream; or other knowledge based on information included in manifests, shipping papers, or waste certification notices.

(ii) If test data are used as the basis for knowledge, then the owner or operator shall document the test method, sampling protocol, and the means by which sampling variability and analytical variability are accounted for in the determination of the average VO concentration. For example, an owner or operator may use organic concentration test data for the hazardous waste stream that are validated in accordance with Method 301 in 40 CFR part 63, appendix A as the basis for knowledge of the waste.

(iii) An owner or operator using chemical constituent-specific concentration test data as the basis for knowledge of the hazardous waste may adjust the test data to the corresponding average VO concentration value which would have been obtained had the waste samples been analyzed using Method 25D in 40 CFR part 60, appendix A. To adjust these data, the measured concentration for each individual chemical constituent contained in the waste is multiplied by the appropriate constituent-specific adjustment factor (fm25D).

(iv) In the event that the Director 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 Subsection R316-265-1084(a)(3) shall be used to establish compliance with the applicable requirements of Sections R315-265-1080 through R315-265-1090. The Director 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 Subsection R315-265-1084(a)(3)(iii).

(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 Subsections R315-265-1083 (c)(2)(i) through (c)(2)(vi) from using air emission controls in accordance with standards specified in Sections R315-265-1085 through R315-265-1088, as applicable to the waste management unit.

(i) 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 Subsections R315-265-1083(c)(2), R315-265-1083(c)(3), or R315-265-1083(c)(4) 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; and

(ii) Perform a new waste determination if 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 Subsections R315-265-1083(c)(2), R315-265-1083(c)(3), or R315-265-1083(c)(4) are not achieved.

(2) The owner or operator shall designate and record the specific provision in Subsection R315-265-1083(c)(2) 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 Subsections R315-265-1084(b)(3) through (b)(9).

(3) Procedure to determine the average VO concentration of a hazardous waste at the point of waste treatment.

(i) Identification. The owner or operator shall identify and record the point of waste treatment for the hazardous waste.

(ii) Sampling. Samples of the hazardous waste stream shall be collected at the point of waste treatment in a manner such that volatilization of organics contained in the waste and in the subsequent sample is minimized and an adequately representative sample is collected and maintained for analysis by the selected method.

(A) The averaging period to be used for determining the average VO concentration for the hazardous waste stream on a mass-weighted average basis shall be designated and recorded. The averaging period can represent any time interval that the owner or operator determines is appropriate for the hazardous waste stream but shall not exceed 1 year.

(B) A sufficient number of samples, but no less than four samples, shall be collected 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 process generating or treating the hazardous waste stream. Examples of such normal variations are seasonal variations in waste quantity or fluctuations in ambient temperature.

(C) All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous waste stream are collected such that a minimum loss of organics occurs throughout the sample collection and handling process, and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of 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.

(D) Sufficient information, as specified in the "site sampling plan" required under Subsection R316-265-1084(b)(3)(ii)(C), 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.

(iii) 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 using one or more methods if 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 × 10−6 atmospheres/gram-mole/m3, at 25 degrees Celsius. If 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 Subsections R315-264-1082(c)(2)(i) through (c)(2)(vi), or Subsections R315-265-1083(c)(2)(i) through (c)(2)(vi) 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 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 less than 0.1 Y/X at 25 degrees Celsius. To adjust these data, the measured concentration of each individual chemical constituent in the waste is multiplied by the appropriate constituent-specific adjustment factor (fm25D). If the owner or operator elects to adjust test data, the adjustment shall 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 degrees Celsius contained in the waste. Constituent-specific adjustment factors (fm25D) 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 the requirements in Subsections R315-265-1084(a)(3)(iii)(A) or (B) and provided 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 × 10−6 atmospheres/gram-mole/m3, at 25 degrees Celsius, is met.

(A) 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.

(B) Any other analysis method that has been validated in accordance with the procedures specified in Section 5.1 or Section 5.3, and the corresponding calculations in Section 6.1 or Section 6.3, of Method 301 in 40 CFR part 63, appendix A. The data are acceptable if they meet the criteria specified in Section 6.1.5 or Section 6.3.3 of Method 301. If correction is required under section 6.3.3 of Method 301, the data are acceptable if the correction factor is within the range 0.7 to 1.30. Other sections of Method 301 are not required.

(iv) Calculations. The average VO concentration on a mass-weighted basis shall be calculated by using the results for all waste determinations conducted in accordance with Subsections R315-265-1084(b)(3)(ii) and (iii) and the equation found in 40 CFR 265.1084(b)(3)(iv), which is adopted and incorporated by reference.

(v) Provided that the test method is appropriate for the waste as required under Subsection R315-265-1084(b)(3)(iii), compliance shall be determined based on the test method used by the owner or operator as recorded pursuant to Subsection R315-265-1090(f)(1).

(4) Procedure to determine the exit concentration limit for a treated hazardous waste.

(i) The point of waste origination for each hazardous waste treated by the process at the same time shall be identified.

(ii) If a single hazardous waste stream is identified in Subsection R315-265-1084(b)(4)(i), then the exit concentration limit shall be 500 ppmw.

(iii) If more than one hazardous waste stream is identified in Subsection R315-265-1084(b)(4)(i), 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 R315-265-1084(a). The exit concentration limit shall be calculated by using the results determined for each individual hazardous waste stream and the equation found in 40 CFR 265.1084(b)(4)(iii), which is adopted and incorporated by reference.

(5) Procedure to determine the organic reduction efficiency for a treated hazardous waste.

(i) The organic reduction efficiency for a treatment process shall be determined based on results for a minimum of three consecutive runs.

(ii) All hazardous waste streams entering the treatment process and all hazardous waste streams exiting the treatment process shall be identified. The owner or operator shall prepare a sampling plan for measuring these streams that accurately reflects the retention time of the hazardous waste in the process.

(iii) For each run, information shall be determined for each hazardous waste stream identified in Subsection R315-265-1084(b)(5)(ii) using the following procedures:

(A) The mass quantity of each hazardous waste stream entering the process and the mass quantity of each hazardous waste stream exiting the process shall be determined.

(B) The average VO concentration at the point of waste origination of each hazardous waste stream entering the process during the run shall be determined in accordance with the requirements of Subsection R315-265-1084(a)(3). The average VO concentration at the point of waste treatment of each waste stream exiting the process during the run shall be determined in accordance with the requirements of Subsection R315-265-1084(b)(3).

(iv) The waste volatile organic mass flow entering the process and the waste volatile organic mass flow exiting the process shall be calculated by using the results determined in accordance with Subsection R315-265-1084(b)(5)(iii) and the equations found in 40 CFR 265.1084(b)(5)(iv), which is adopted and incorporated by reference.

(v) The organic reduction efficiency of the process shall be calculated by using the results determined in accordance with Subsection R315-265-1084(b)(5)(iv) and the equation found in 40 CFR 265.1084(b)(5)(v), which is adopted and incorporated by reference.

(6) Procedure to determine the organic biodegradation efficiency for a treated hazardous waste.

(i) The fraction of organics biodegraded shall be determined using the procedure specified in 40 CFR part 63, appendix C.

(ii) The organic biodegradation efficiency shall be calculated by using the equation found in 40 CFR 265.1084(b)(6)(ii), which is adopted and incorporated by reference.

(7) Procedure to determine the required organic mass removal rate for a treated hazardous waste.

(i) All of the hazardous waste streams entering the treatment process shall be identified.

(ii) The average VO concentration of each hazardous waste stream at the point of waste origination shall be determined in accordance with the requirements of Subsection R315-265-1084(a).

(iii) For each individual hazardous waste stream that has an average VO concentration equal to or greater than 500 ppmw at the point of waste origination, the average volumetric flow rate and the density of the hazardous waste stream at the point of waste origination shall be determined.

(iv) The required organic mass removal rate shall be calculated by using the average VO concentration, average volumetric flow rate, and density determined for each individual hazardous waste stream, and the equation found in 40 CFR 265.1084(b)(7)(iv), which is adopted and incorporated by reference.

(8) Procedure to determine the actual organic mass removal rate (MR) for a treated hazardous waste.

(i) The MR shall be determined based on results for a minimum of three consecutive runs. The sampling time for each run shall be 1 hour.

(ii) The waste volatile organic mass flow entering the process (Eb) and the waste volatile organic mass flow exiting the process (Ea) shall be determined in accordance with the requirements of Subsection R315-265-1084(b)(5)(iv).

(iii) The MR shall be calculated by using the mass flow rate determined in accordance with the requirements of Subsection R315-265-1084(b)(8)(ii) and the following equation:

MR = Eb -- Ea

Where:

MR = Actual organic mass removal rate, kg/hr.

Eb = Waste volatile organic mass flow entering process as determined in accordance with the requirements of Subsection R315-265-1084(b)(5)(iv), kg/hr.

Ea = Waste volatile organic mass flow exiting process as determined in accordance with the requirements of Subsection R315-265-1084(b)(5)(iv), kg/hr.

(9) Procedure to determine the actual organic mass biodegradation rate (MRbio) for a treated hazardous waste.

(i) The MRbio shall be determined based on results for a minimum of three consecutive runs. The sampling time for each run shall be 1 hour.

(ii) The waste organic mass flow entering the process (Eb) shall be determined in accordance with the requirements of Subsection R315-265-1084(b)(5)(iv).

(iii) The fraction of organic biodegraded (Fbio) shall be determined using the procedure specified in 40 CFR part 63, appendix C.

(iv) The MRbio shall be calculated by using the mass flow rates and fraction of organic biodegraded determined in accordance with the requirements of Subsections R315-265-1084(b)(9)(ii) and (b)(9)(iii), respectively, and the following equation:

MRbio = Eb × Fbio

Where:

MRbio = Actual organic mass biodegradation rate, kg/hr.

Eb = Waste organic mass flow entering process as determined in accordance with the requirements of Subsection R315-265-1084(b)(5)(iv), kg/hr.

Fbio = Fraction of organic biodegraded as determined in accordance with the requirements of Subsection R315-265-1084(b)(9)(iii).

(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 Subsection R315-265-1085(c).

(2) An owner or operator shall use either direct measurement as specified in Subsection R315-265-1084(c)(3) or knowledge of the waste as specified by Subsection R315-265-1084(c)(4) to determine the maximum organic vapor pressure which is representative of the hazardous waste composition stored or treated in the tank.

(3) Direct measurement to determine the maximum organic vapor pressure of a hazardous waste.

(i) Sampling. A sufficient number of samples shall be collected to be representative of the waste contained in the tank. All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous waste are collected such that a minimum loss of organics occurs throughout the sample collection and handling process and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of acceptable sample collection and handling procedures may be found in Method 25D in 40 CFR part 60, appendix A.

(ii) Analysis. Any appropriate one of the following methods may be used to analyze the samples and compute the maximum organic vapor pressure of the hazardous waste:

(A) Method 25E in 40 CFR part 60 appendix A;

(B) Methods described in American Petroleum Institute Publication 2517, Third Edition, February 1989, "Evaporative Loss from External Floating-Roof Tanks," incorporated by reference---refer to Section R315-260-11;

(C) Methods obtained from standard reference texts;

(D) ASTM Method 2879-92, incorporated by reference---refer to Section R315-260-11; and

(E) Any other method approved by the Director.

(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 Subsection R315-265-1085(b)(1)(i) 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 Sections R315-265-1080 through R315-265-1090:

(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, for example, 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 if the unit contains a hazardous waste having an organic concentration representative of the range of concentrations for the hazardous waste expected to be managed in the unit. During the test, the cover and closure devices shall be secured in the closed position.

(3) The detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the average composition of the organic constituents in the hazardous waste placed in the waste management unit, not for each individual organic constituent.

(4) The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(5) Calibration gases shall be as follows:

(i) Zero air, less than 10 ppmv hydrocarbon in air, and

(ii) A mixture of methane 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. If the configuration of the cover or closure device prevents a complete traverse of the interface, all accessible portions of the interface shall be sampled. If the configuration of the closure device prevents any sampling at the interface and the device is equipped with an enclosed extension or horn, for example, 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 if monitoring a seal around a rotating shaft that passes through a cover opening, in which case the comparison shall be as specified in Subsection R315-265-1084(d)(9). 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.

**R315-265-1085. Air Emission Standards for Tanks, Surface Impoundments, and Containers -- Standards: Tanks.**

(a) The provisions of Section R315-265-1085 apply to the control of air pollutant emissions from tanks for which Subsection R315-265-1083(b) references the use of Section R315-265-1085 for such air emission control.

(b) The owner or operator shall control air pollutant emissions from each tank subject to Section R315-265-1085 in accordance with the following requirements, as applicable:

(1) For a tank that manages hazardous waste that meets all of the conditions specified in Subsections R315-265-1085(b)(1)(i) through R315-265-1085(b)(1)(iii), the owner or operator shall control air pollutant emissions from the tank in accordance with the Tank Level 1 controls specified in Subsection R315-265-1085(c) or the Tank Level 2 controls specified in Subsection R315-265-1085(d).

(i) The hazardous waste in the tank has a maximum organic vapor pressure which is less than the maximum organic vapor pressure limit for the tank's design capacity category as follows:

(A) For a tank design capacity equal to or greater than 151 m3, the maximum organic vapor pressure limit for the tank is 5.2 kPa.

(B) For a tank design capacity equal to or greater than 75 m3 but less than 151 m3, the maximum organic vapor pressure limit for the tank is 27.6 kPa.

(C) For a tank design capacity less than 75 m3, the maximum organic vapor pressure limit for the tank is 76.6 kPa.

(ii) The hazardous waste in the tank is not heated by the owner or operator to a temperature that is greater than the temperature at which the maximum organic vapor pressure of the hazardous waste is determined for the purpose of complying with Subsection R315-265-1085(b)(1)(i).

(iii) The hazardous waste in the tank is not treated by the owner or operator using a waste stabilization process, as defined in Section R315-265-1081.

(2) For a tank that manages hazardous waste that does not meet all of the conditions specified in Subsections R315-265-1085(b)(1)(i) through R315-265-1085(b)(1)(iii), the owner or operator shall control air pollutant emissions from the tank by using Tank Level 2 controls in accordance with the requirements of Subsection R315-265-1085(d). Examples of tanks required to use Tank Level 2 controls include: A tank used for a waste stabilization process; and a tank for which the hazardous waste in the tank has a maximum organic vapor pressure that is equal to or greater than the maximum organic vapor pressure limit for the tank's design capacity category as specified in Subsection R315-265-1085(b)(1)(i).

(c) Owners and operators controlling air pollutant emissions from a tank using Tank Level 1 controls shall meet the requirements specified in Subsections R315-265-1085(c)(1) through R315-265-1085(c)(4):

(1) The owner or operator shall determine the maximum organic vapor pressure for a hazardous waste to be managed in the tank using Tank Level 1 controls before the first time the hazardous waste is placed in the tank. The maximum organic vapor pressure shall be determined using the procedures specified in Subsection R315-265-1084(c). Thereafter, the owner or operator shall perform a new determination if changes to the hazardous waste managed in the tank could potentially cause the maximum organic vapor pressure to increase to a level that is equal to or greater than the maximum organic vapor pressure limit for the tank design capacity category specified in Subsection R315-265-1085(b)(1)(i), as applicable to the tank.

(2) The tank shall be equipped with a fixed roof designed to meet the following specifications:

(i) The fixed roof and its closure devices shall be designed to form a continuous barrier over the entire surface area of the hazardous waste in the tank. The fixed roof may be a separate cover installed on the tank, for example, a removable cover mounted on an open-top tank, or may be an integral part of the tank structural design, for example, a horizontal cylindrical tank equipped with a hatch.

(ii) The fixed roof shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between roof section joints or between the interface of the roof edge and the tank wall.

(iii) Each opening in the fixed roof, and any manifold system associated with the fixed roof, shall be either:

(A) Equipped with a closure device designed to operate such that if the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the opening and the closure device; or

(B) Connected by a closed-vent system that is vented to a control device. The control device shall remove or destroy organics in the vent stream, and shall be operating if hazardous waste is managed in the tank, except as provided for in Subsections R315-265-1085(c)(2)(iii)(B)(1) and (2).

(1) During periods it is necessary to provide access to the tank for performing the activities of Subsection R315-265-1085(c)(2)(iii)(B)(2), venting of the vapor headspace underneath the fixed roof to the control device is not required, opening of closure devices is allowed, and removal of the fixed roof is allowed. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, and resume operation of the control device.

(2) During periods of routine inspection, maintenance, or other activities needed for normal operations, and for the removal of accumulated sludge or other residues from the bottom of the tank.

(iv) The fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include: Organic vapor permeability, the effects of any contact with the hazardous waste or its vapors managed in the tank; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the tank on which the fixed roof is installed.

(3) If a hazardous waste is in the tank, the fixed roof shall be installed with each closure device secured in the closed position except as follows:

(i) Opening of closure devices or removal of the fixed roof is allowed at the following times:

(A) To provide access to the tank for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample the liquid in the tank, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank.

(B) To remove accumulated sludge or other residues from the bottom of tank.

(ii) Opening of a spring-loaded pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the tank internal pressure in accordance with the tank design specifications. The device shall be designed to operate with no detectable organic emissions if the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the tank internal pressure is within the internal pressure operating range determined by the owner or operator based on the tank manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the tank internal pressure exceeds the internal pressure operating range for the tank as a result of loading operations or diurnal ambient temperature fluctuations.

(iii) Opening of a safety device, as defined in Section R315-265-1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(4) The owner or operator shall inspect the air emission control equipment in accordance with the following requirements.

(i) The fixed roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the tank wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The owner or operator shall perform an initial inspection of the fixed roof and its closure devices on or before the date that the tank becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except under the special conditions provided for in Subsection R315-265-1085(l).

(iii) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of Subsection R315-265-1085(k).

(iv) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in Subsection R315-265-1090(b).

(d) Owners and operators controlling air pollutant emissions from a tank using Tank Level 2 controls shall use one of the following tanks:

(1) A fixed-roof tank equipped with an internal floating roof in accordance with the requirements specified in Subsection R315-265-1085(e);

(2) A tank equipped with an external floating roof in accordance with the requirements specified in Subsection R315-265-1085(f);

(3) A tank vented through a closed-vent system to a control device in accordance with the requirements specified in Subsection R315-265-1085(g);

(4) A pressure tank designed and operated in accordance with the requirements specified in Subsection R315-265-1085(h); or

(5) A tank located inside an enclosure that is vented through a closed-vent system to an enclosed combustion control device in accordance with the requirements specified in Subsection R315-265-1085(i).

(e) The owner or operator who controls air pollutant emissions from a tank using a fixed-roof with an internal floating roof shall meet the requirements specified in Subsections R315-265-1085(e)(1) through R315-265-1085(e)(3).

(1) The tank shall be equipped with a fixed roof and an internal floating roof in accordance with the following requirements:

(i) The internal floating roof shall be designed to float on the liquid surface except when the floating roof must be supported by the leg supports.

(ii) The internal floating roof shall be equipped with a continuous seal between the wall of the tank and the floating roof edge that meets either of the following requirements:

(A) A single continuous seal that is either a liquid-mounted seal or a metallic shoe seal, as defined in Section R315-265-1081; or

(B) Two continuous seals mounted one above the other. The lower seal may be a vapor-mounted seal.

(iii) The internal floating roof shall meet the following specifications:

(A) Each opening in a noncontact internal floating roof except for automatic bleeder vents, vacuum breaker vents, and the rim space vents is to provide a projection below the liquid surface.

(B) Each opening in the internal floating roof shall be equipped with a gasketed cover or a gasketed lid except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains.

(C) Each penetration of the internal floating roof for the purpose of sampling shall have a slit fabric cover that covers at least 90 percent of the opening.

(D) Each automatic bleeder vent and rim space vent shall be gasketed.

(E) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(F) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

(2) The owner or operator shall operate the tank in accordance with the following requirements:

(i) If the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be completed as soon as practical.

(ii) Automatic bleeder vents are to be set closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the leg supports.

(iii) Prior to filling the tank, each cover, access hatch, gauge float well or lid on any opening in the internal floating roof shall be bolted or fastened closed, for example, no visible gaps. Rim space vents are to be set to open only if the internal floating roof is not floating or if the pressure beneath the rim exceeds the manufacturer's recommended setting.

(3) The owner or operator shall inspect the internal floating roof in accordance with the procedures specified as follows:

(i) The floating roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to: The internal floating roof is not floating on the surface of the liquid inside the tank; liquid has accumulated on top of the internal floating roof; any portion of the roof seals have detached from the roof rim; holes, tears, or other openings are visible in the seal fabric; the gaskets no longer close off the hazardous waste surface from the atmosphere; or the slotted membrane has more than 10 percent open area.

(ii) The owner or operator shall inspect the internal floating roof components as follows except as provided in Subsection R315-265-1085(e)(3)(iii):

(A) Visually inspect the internal floating roof components through openings on the fixed-roof, for example, manholes and roof hatches, at least once every 12 months after initial fill, and

(B) Visually inspect the internal floating roof, primary seal, secondary seal, if one is in service, gaskets, slotted membranes, and sleeve seals, if any, each time the tank is emptied and degassed and at least every 10 years.

(iii) As an alternative to performing the inspections specified in Subsection R315-265-1085(e)(3)(ii) for an internal floating roof equipped with two continuous seals mounted one above the other, the owner or operator may visually inspect the internal floating roof, primary and secondary seals, gaskets, slotted membranes, and sleeve seals, if any, each time the tank is emptied and degassed and at least every 5 years.

(iv) Prior to each inspection required by Subsections R315-265-1085(e)(3)(ii) or R315-265-1085(e)(3)(iii), the owner or operator shall notify the Director in advance of each inspection to provide the Director with the opportunity to have an observer present during the inspection. The owner or operator shall notify the Director of the date and location of the inspection as follows:

(A) Prior to each visual inspection of an internal floating roof in a tank that has been emptied and degassed, written notification shall be prepared and sent by the owner or operator so that it is received by the Director at least 30 calendar days before refilling the tank except when an inspection is not planned as provided for in Subsection R315-265-1085(e)(3)(iv)(B).

(B) If a visual inspection is not planned and the owner or operator could not have known about the inspection 30 calendar days before refilling the tank, the owner or operator shall notify the Director as soon as possible, but no later than 7 calendar days before refilling of the tank. This notification may be made by telephone and immediately followed by a written explanation for why the inspection is unplanned. Alternatively, written notification, including the explanation for the unplanned inspection, may be sent so that it is received by the Director at least 7 calendar days before refilling the tank.

(v) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of Subsection R315-265-1085(k).

(vi) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in Subsection R315-265-1090(b).

(4) Safety devices, as defined in Section R315-265-1081, may be installed and operated as necessary on any tank complying with the requirements of Subsection R315-265-1085(e).

(f) The owner or operator who controls air pollutant emissions from a tank using an external floating roof shall meet the requirements specified in Subsections R315-265-1085(f)(1) through R315-265-1085(f)(3).

(1) The owner or operator shall design the external floating roof in accordance with the following requirements:

(i) The external floating roof shall be designed to float on the liquid surface except if the floating roof must be supported by the leg supports.

(ii) The floating roof shall be equipped with two continuous seals, one above the other, between the wall of the tank and the roof edge. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

(A) The primary seal shall be a liquid-mounted seal or a metallic shoe seal, as defined in Section R315-265-1081. The total area of the gaps between the tank wall and the primary seal shall not exceed 212 square centimeters (cm2) per meter of tank diameter, and the width of any portion of these gaps shall not exceed 3.8 centimeters (cm). If a metallic shoe seal is used for the primary seal, the metallic shoe seal shall be designed so that one end extends into the liquid in the tank and the other end extends a vertical distance of at least 61 centimeters above the liquid surface.

(B) The secondary seal shall be mounted above the primary seal and cover the annular space between the floating roof and the wall of the tank. The total area of the gaps between the tank wall and the secondary seal shall not exceed 21.2 square centimeters (cm2) per meter of tank diameter, and the width of any portion of these gaps shall not exceed 1.3 centimeters (cm).

(iii) The external floating roof shall meet the following specifications:

(A) Except for automatic bleeder vents, vacuum breaker vents, and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface.

(B) Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof shall be equipped with a gasketed cover, seal, or lid.

(C) Each access hatch and each gauge float well shall be equipped with a cover designed to be bolted or fastened if the cover is secured in the closed position.

(D) Each automatic bleeder vent and each rim space vent shall be equipped with a gasket.

(E) Each roof drain that empties into the liquid managed in the tank shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(F) Each unslotted and slotted guide pole well shall be equipped with a gasketed sliding cover or a flexible fabric sleeve seal.

(G) Each unslotted guide pole shall be equipped with a gasketed cap on the end of the pole.

(H) Each slotted guide pole shall be equipped with a gasketed float or other device which closes off the liquid surface from the atmosphere.

(I) Each gauge hatch and each sample well shall be equipped with a gasketed cover.

(2) The owner or operator shall operate the tank in accordance with the following requirements:

(i) If the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be completed as soon as practical.

(ii) Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof shall be secured and maintained in a closed position at all times except when the closure device must be open for access.

(iii) Covers on each access hatch and each gauge float well shall be bolted or fastened when secured in the closed position.

(iv) Automatic bleeder vents shall be set closed at all times if the roof is floating, except if the roof is being floated off or is being landed on the leg supports.

(v) Rim space vents shall be set to open only at those times that the roof is being floated off the roof leg supports or if the pressure beneath the rim seal exceeds the manufacturer's recommended setting.

(vi) The cap on the end of each unslotted guide pole shall be secured in the closed position at all times except if measuring the level or collecting samples of the liquid in the tank.

(vii) The cover on each gauge hatch or sample well shall be secured in the closed position at all times except if the hatch or well must be opened for access.

(viii) Both the primary seal and the secondary seal shall completely cover the annular space between the external floating roof and the wall of the tank in a continuous fashion except during inspections.

(3) The owner or operator shall inspect the external floating roof in accordance with the procedures specified as follows:

(i) The owner or operator shall measure the external floating roof seal gaps in accordance with the following requirements:

(A) The owner or operator shall perform measurements of gaps between the tank wall and the primary seal within 60 calendar days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every five years.

(B) The owner or operator shall perform measurements of gaps between the tank wall and the secondary seal within 60 calendar days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every year.

(C) If a tank ceases to hold hazardous waste for a period of one year or more, subsequent introduction of hazardous waste into the tank shall be considered an initial operation for the purposes of Subsections R315-265-1085(f)(3)(i)(A) and R315-265-1085(f)(3)(i)(B).

(D) The owner or operator shall determine the total surface area of gaps in the primary seal and in the secondary seal individually using the following procedure:

(1) The seal gap measurements shall be performed at one or more floating roof levels if the roof is floating off the roof supports.

(2) Seal gaps, if any, shall be measured around the entire perimeter of the floating roof in each place where a 0.32-centimeter (cm) diameter uniform probe passes freely, without forcing or binding against the seal, between the seal and the wall of the tank and measure the circumferential distance of each such location.

(3) For a seal gap measured under Subsection R315-265-1085(f)(3), the gap surface area shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.

(4) The total gap area shall be calculated by adding the gap surface areas determined for each identified gap location for the primary seal and the secondary seal individually, and then dividing the sum for each seal type by the nominal diameter of the tank. These total gap areas for the primary seal and secondary seal are then compared to the respective standards for the seal type as specified in Subsection R315-265-1085(f)(1)(ii).

(E) In the event that the seal gap measurements do not conform to the specifications in Subsection R315-265-1085(f)(1)(ii), the owner or operator shall repair the defect in accordance with the requirements of Subsection R315-265-1085(k).

(F) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in Subsection R315-265-1090(b).

(ii) The owner or operator shall visually inspect the external floating roof in accordance with the following requirements:

(A) The floating roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to: Holes, tears, or other openings in the rim seal or seal fabric of the floating roof; a rim seal detached from the floating roof; all or a portion of the floating roof deck being submerged below the surface of the liquid in the tank; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(B) The owner or operator shall perform an initial inspection of the external floating roof and its closure devices on or before the date that the tank becomes subject to Section R315-265-1085. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in Subsection R315-265-1085(l).

(C) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of Subsection R315-265-1085 (k).

(D) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in Subsection R315-265-1090(b).

(iii) Prior to each inspection required by Subsections R315-265-1085(f)(3)(i) or R315-265-1085(f)(3)(ii), the owner or operator shall notify the Director in advance of each inspection to provide the Director with the opportunity to have an observer present during the inspection. The owner or operator shall notify the Director of the date and location of the inspection as follows:

(A) Prior to each inspection to measure external floating roof seal gaps as required under Subsection R315-265-1085(f)(3)(i), written notification shall be prepared and sent by the owner or operator so that it is received by the Director at least 30 calendar days before the date the measurements are scheduled to be performed.

(B) Prior to each visual inspection of an external floating roof in a tank that has been emptied and degassed, written notification shall be prepared and sent by the owner or operator so that it is received by the Director at least 30 calendar days before refilling the tank except when an inspection is not planned as provided for in Subsection R315-265-1085(f)(3)(iii)(C).

(C) If a visual inspection is not planned and the owner or operator could not have known about the inspection 30 calendar days before refilling the tank, the owner or operator shall notify the Director as soon as possible, but no later than 7 calendar days before refilling of the tank. This notification may be made by telephone and immediately followed by a written explanation for why the inspection is unplanned. Alternatively, written notification, including the explanation for the unplanned inspection, may be sent so that it is received by the Director at least 7 calendar days before refilling the tank.

(4) Safety devices, as defined in Section R315-265-1081, may be installed and operated as necessary on any tank complying with the requirements of Subsection R315-265-1085(f).

(g) The owner or operator who controls air pollutant emissions from a tank by venting the tank to a control device shall meet the requirements specified in Subsections R315-265-1085(g)(1) through R315-265-1085(g)(3).

(1) The tank shall be covered by a fixed roof and vented directly through a closed-vent system to a control device in accordance with the following requirements:

(i) The fixed roof and its closure devices shall be designed to form a continuous barrier over the entire surface area of the liquid in the tank.

(ii) Each opening in the fixed roof not vented to the control device shall be equipped with a closure device. If the pressure in the vapor headspace underneath the fixed roof is less than atmospheric pressure when the control device is operating, the closure devices shall be designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the pressure in the vapor headspace underneath the fixed roof is equal to or greater than atmospheric pressure when the control device is operating, the closure device shall be designed to operate with no detectable organic emissions.

(iii) The fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include: Organic vapor permeability, the effects of any contact with the liquid and its vapor managed in the tank; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the tank on which the fixed roof is installed.

(iv) The closed-vent system and control device shall be designed and operated in accordance with the requirements of Section R315-265-1088.

(2) If a hazardous waste is in the tank, the fixed roof shall be installed with each closure device secured in the closed position and the vapor headspace underneath the fixed roof vented to the control device except as follows:

(i) Venting to the control device is not required, and opening of closure devices or removal of the fixed roof is allowed at the following times:

(A) To provide access to the tank for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample liquid in the tank, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank.

(B) To remove accumulated sludge or other residues from the bottom of a tank.

(ii) Opening of a safety device, as defined in Section R315-265-1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(3) The owner or operator shall inspect and monitor the air emission control equipment in accordance with the following procedures:

(i) The fixed roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the tank wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The closed-vent system and control device shall be inspected and monitored by the owner or operator in accordance with the procedures specified in Section R315-265-1088.

(iii) The owner or operator shall perform an initial inspection of the air emission control equipment on or before the date that the tank becomes subject to Section R315-265-1085. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in Subsection R315-265-1085(l).

(iv) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of Subsection R315-265-1085(k).

(v) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in Subsection R315-265-1090(b).

(h) The owner or operator who controls air pollutant emissions by using a pressure tank shall meet the following requirements.

(1) The tank shall be designed not to vent to the atmosphere as a result of compression of the vapor headspace in the tank during filling of the tank to its design capacity.

(2) All tank openings shall be equipped with closure devices designed to operate with no detectable organic emissions as determined using the procedure specified in Subsection R315-265-1084(d).

(3) If a hazardous waste is in the tank, the tank shall be operated as a closed system that does not vent to the atmosphere except under either of the following conditions as specified in Subsections R315-265-1085(h)(3)(i) or R315-265-1085(h)(3)(ii).

(i) At those times when opening of a safety device, as defined in Section R315-265-1081, is required to avoid an unsafe condition.

(ii) At those times when purging of inerts from the tank is required and the purge stream is routed to a closed-vent system and control device designed and operated in accordance with the requirements of Section R315-265-1088.

(i) The owner or operator who controls air pollutant emissions by using an enclosure vented through a closed-vent system to an enclosed combustion control device shall meet the requirements specified in Subsections R315-265-1085(i)(1) through R315-265-1085(i)(4).

(1) The tank shall be located inside an enclosure. The enclosure shall be designed and operated in accordance with the criteria for a permanent total enclosure as specified in "Procedure T--Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the enclosure by conveyor, vehicles, or other mechanical means; entry of permanent mechanical or electrical equipment; or direct airflow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in Section 5.0 to "Procedure T--Criteria for and Verification of a Permanent or Temporary Total Enclosure" initially when the enclosure is first installed and, thereafter, annually.

(2) The enclosure shall be vented through a closed-vent system to an enclosed combustion control device that is designed and operated in accordance with the standards for either a vapor incinerator, boiler, or process heater specified in Section R315-265-1088.

(3) Safety devices, as defined in Section R315-265-1081, may be installed and operated as necessary on any enclosure, closed-vent system, or control device used to comply with the requirements of Subsections R315-265-1085(i)(1) and R315-265-1085(i)(2).

(4) The owner or operator shall inspect and monitor the closed-vent system and control device as specified in Section R315-265-1088.

(j) The owner or operator shall transfer hazardous waste to a tank subject to Section R315-265-1085 in accordance with the following requirements:

(1) Transfer of hazardous waste, except as provided in Subsection R315-265-1085(j)(2), to the tank from another tank subject to Section R315-265-1085 or from a surface impoundment subject to Section R315-265-1086 shall be conducted using continuous hard-piping or another closed system that does not allow exposure of the hazardous waste to the atmosphere. For the purpose of complying with this provision, an individual drain system is considered to be a closed system if it meets the requirements of 40 CFR part 63, subpart RR--National Emission Standards for Individual Drain Systems.

(2) The requirements of Subsection R315-265-1085(j)(1) do not apply if transferring a hazardous waste to the tank under any of the following conditions:

(i) The hazardous waste meets the average VO concentration conditions specified in Subsection R315-265-1083(c)(1) at the point of waste origination.

(ii) The hazardous waste has been treated by an organic destruction or removal process to meet the requirements in Subsection R315-265-1083(c)(2).

(iii) The hazardous waste meets the requirements of Subsection R315-265-1083(c)(4).

(k) The owner or operator shall repair each defect detected during an inspection performed in accordance with the requirements of Subsections R315-265-1085(c)(4), R315-265-1085(e)(3), R315-265-1085(f)(3), or R315-265-1085(g)(3) as follows:

(1) The owner or operator shall make first efforts at repair of the defect no later than 5 calendar days after detection, and repair shall be completed as soon as possible but no later than 45 calendar days after detection except as provided in Subsection R315-265-1085(k)(2).

(2) Repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the tank and no alternative tank capacity is available at the site to accept the hazardous waste normally managed in the tank. In this case, the owner or operator shall repair the defect the next time the process or unit that is generating the hazardous waste managed in the tank stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

(l) Following the initial inspection and monitoring of the cover as required by the applicable provisions of Sections R315-265-1080 through R315-265-1090, subsequent inspection and monitoring may be performed at intervals longer than one year under the following special conditions:

(1) In the case when inspecting or monitoring the cover would expose a worker to dangerous, hazardous, or other unsafe conditions, then the owner or operator may designate a cover as an "unsafe to inspect and monitor cover" and comply with all of the following requirements:

(i) Prepare a written explanation for the cover stating the reasons why the cover is unsafe to visually inspect or to monitor, if required.

(ii) Develop and implement a written plan and schedule to inspect and monitor the cover, using the procedures specified in the applicable section of Sections R315-265-1080 through R315-265-1090, as frequently as practicable during those times when a worker can safely access the cover.

(2) In the case when a tank is buried partially or entirely underground, an owner or operator is required to inspect and monitor, as required by the applicable provisions of Section R315-265-1085, only those portions of the tank cover and those connections to the tank, for example, fill ports, access hatches, gauge wells, etc., that are located on or above the ground surface.

**R315-265-1086. Air Emission Standards for Tanks, Surface Impoundments, and Containers -- Standards: Surface Impoundments.**

(a) The provisions of Section R315-265-1086 apply to the control of air pollutant emissions from surface impoundments for which Subsection R315-265-1083(b) references the use of Section R315-265-1086 for such air emission control.

(b) The owner or operator shall control air pollutant emissions from the surface impoundment by installing and operating either of the following:

(1) A floating membrane cover in accordance with the provisions specified in Subsection R315-265-1086(c); or

(2) A cover that is vented through a closed-vent system to a control device in accordance with the requirements specified in Subsection R315-265-1086(d).

(c) The owner or operator who controls air pollutant emissions from a surface impoundment using a floating membrane cover shall meet the requirements specified in Subsections R315-265-1086(c)(1) through R315-265-1086(c)(3).

(1) The surface impoundment shall be equipped with a floating membrane cover designed to meet the following specifications:

(i) The floating membrane cover shall be designed to float on the liquid surface during normal operations and form a continuous barrier over the entire surface area of the liquid.

(ii) The cover shall be fabricated from a synthetic membrane material that is either:

(A) High density polyethylene (HDPE) with a thickness no less than 2.5 millimeters (mm); or

(B) A material or a composite of different materials determined to have both organic permeability properties that are equivalent to those of the material listed in Subsection R315-265-1086(c)(1)(ii)(A) and chemical and physical properties that maintain the material integrity for the intended service life of the material.

(iii) The cover shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between cover section seams or between the interface of the cover edge and its foundation mountings.

(iv) Except as provided for in Subsection R315-265-1086(c)(1)(v), each opening in the floating membrane cover shall be equipped with a closure device designed to operate such that if the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device.

(v) The floating membrane cover may be equipped with one or more emergency cover drains for removal of stormwater. Each emergency cover drain shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening or a flexible fabric sleeve seal.

(vi) The closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the closure devices throughout their intended service life. Factors to be considered when selecting the materials of construction and designing the cover and closure devices shall include: Organic vapor permeability; the effects of any contact with the liquid and its vapor managed in the surface impoundment; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the surface impoundment on which the floating membrane cover is installed.

(2) If a hazardous waste is in the surface impoundment, the floating membrane cover shall float on the liquid and each closure device shall be secured in the closed position except as follows:

(i) Opening of closure devices or removal of the cover is allowed at the following times:

(A) To provide access to the surface impoundment for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample the liquid in the surface impoundment, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly replace the cover and secure the closure device in the closed position, as applicable.

(B) To remove accumulated sludge or other residues from the bottom of surface impoundment.

(ii) Opening of a safety device, as defined in Section R315-265-1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(3) The owner or operator shall inspect the floating membrane cover in accordance with the following procedures:

(i) The floating membrane cover and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the cover section seams or between the interface of the cover edge and its foundation mountings; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The owner or operator shall perform an initial inspection of the floating membrane cover and its closure devices on or before the date that the surface impoundment becomes subject to Section R315-265-1086. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in Subsection R315-265-1086(g).

(iii) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of Subsection R315-265-1086(f).

(iv) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in Subsection R315-265-1090(c).

(d) The owner or operator who controls air pollutant emissions from a surface impoundment using a cover vented to a control device shall meet the requirements specified in Subsections R315-265-1086(d)(1) through R315-265-1086(d)(3).

(1) The surface impoundment shall be covered by a cover and vented directly through a closed-vent system to a control device in accordance with the following requirements:

(i) The cover and its closure devices shall be designed to form a continuous barrier over the entire surface area of the liquid in the surface impoundment.

(ii) Each opening in the cover not vented to the control device shall be equipped with a closure device. If the pressure in the vapor headspace underneath the cover is less than atmospheric pressure if the control device is operating, the closure devices shall be designed to operate such that if the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the pressure in the vapor headspace underneath the cover is equal to or greater than atmospheric pressure if the control device is operating, the closure device shall be designed to operate with no detectable organic emissions using the procedure specified in Subsection R315-265-1084(d).

(iii) The cover and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the cover and closure devices throughout their intended service life. Factors to be considered when selecting the materials of construction and designing the cover and closure devices shall include: Organic vapor permeability; the effects of any contact with the liquid or its vapors managed in the surface impoundment; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the surface impoundment on which the cover is installed.

(iv) The closed-vent system and control device shall be designed and operated in accordance with the requirements of Section R315-265-1088.

(2) If a hazardous waste is in the surface impoundment, the cover shall be installed with each closure device secured in the closed position and the vapor headspace underneath the cover vented to the control device except as follows:

(i) Venting to the control device is not required, and opening of closure devices or removal of the cover is allowed at the following times:

(A) To provide access to the surface impoundment for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample liquid in the surface impoundment, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the surface impoundment.

(B) To remove accumulated sludge or other residues from the bottom of the surface impoundment.

(ii) Opening of a safety device, as defined in Section R315-265-1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(3) The owner or operator shall inspect and monitor the air emission control equipment in accordance with the following procedures:

(i) The surface impoundment cover and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the cover section seams or between the interface of the cover edge and its foundation mountings; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The closed-vent system and control device shall be inspected and monitored by the owner or operator in accordance with the procedures specified in Section R315-265-1088.

(iii) The owner or operator shall perform an initial inspection of the air emission control equipment on or before the date that the surface impoundment becomes subject to Section R315-265-1086. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in Subsection R315-265-1086(g).

(iv) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of Subsection R315-265-1086(f).

(v) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in Subsection R315-265-1090(c).

(e) The owner or operator shall transfer hazardous waste to a surface impoundment subject to Section R315-265-1086 in accordance with the following requirements:

(1) Transfer of hazardous waste, except as provided in Subsection R315-265-1086(e)(2), to the surface impoundment from another surface impoundment subject to Section R315-265-1086 or from a tank subject to Section R315-265-1085 shall be conducted using continuous hard-piping or another closed system that does not allow exposure of the waste to the atmosphere. For the purpose of complying with this provision, an individual drain system is considered to be a closed system if it meets the requirements of 40 CFR part 63, subpart RR--National Emission Standards for Individual Drain Systems.

(2) The requirements of Subsection R315-265-1086(e)(1) do not apply if transferring a hazardous waste to the surface impoundment under either of the following conditions:

(i) The hazardous waste meets the average VO concentration conditions specified in Subsection R315-265-1083(c)(1) at the point of waste origination.

(ii) The hazardous waste has been treated by an organic destruction or removal process to meet the requirements in Subsection R315-265-1083(c)(2).

(iii) The hazardous waste meets the requirements of Subsection R315-265-1083(c)(4).

(f) The owner or operator shall repair each defect detected during an inspection performed in accordance with the requirements of Subsections R315-265-1086(c)(3) or R315-265-1086(d)(3) as follows:

(1) The owner or operator shall make first efforts at repair of the defect no later than 5 calendar days after detection, and repair shall be completed as soon as possible but no later than 45 calendar days after detection except as provided in Subsection R315-265-1086(f)(2).

(2) Repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the surface impoundment and no alternative capacity is available at the site to accept the hazardous waste normally managed in the surface impoundment. In this case, the owner or operator shall repair the defect the next time the process or unit that is generating the hazardous waste managed in the tank stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

(g) Following the initial inspection and monitoring of the cover as required by the applicable provisions of Sections R315-265-1080 through R315-265-1090, subsequent inspection and monitoring may be performed at intervals longer than one year in the case when inspecting or monitoring the cover would expose a worker to dangerous, hazardous, or other unsafe conditions. In this case, the owner or operator may designate the cover as an "unsafe to inspect and monitor cover" and comply with all of the following requirements:

(1) Prepare a written explanation for the cover stating the reasons why the cover is unsafe to visually inspect or to monitor, if required.

(2) Develop and implement a written plan and schedule to inspect and monitor the cover using the procedures specified in the applicable section of Sections R315-265-1080 through R315-265-1090 as frequently as practicable during those times when a worker can safely access the cover.

**R315-265-1087. Air Emission Standards for Tanks, Surface Impoundments, and Containers -- Standards: Containers.**

(a) The provisions of Section R315-265-1087 apply to the control of air pollutant emissions from containers for which Subsection R315-265-1083(b) references the use of Section R315-265-1087 for such air emission control.

(b) General requirements.

(1) The owner or operator shall control air pollutant emissions from each container subject to Section R315-265-1087 in accordance with the following requirements, as applicable to the container, except if the special provisions for waste stabilization processes specified in Subsection R315-265-1087(b)(2) apply to the container.

(i) For a container having a design capacity greater than 0.1 m3 and less than or equal to 0.46 m3, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 1 standards specified in Subsection R315-265-1087(c).

(ii) For a container having a design capacity greater than 0.46 m3 that is not in light material service, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 1 standards specified in Subsection R315-265-1087(c).

(iii) For a container having a design capacity greater than 0.46 m3 that is in light material service, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 2 standards specified in Subsection R315-265-1087(d).

(2) If a container having a design capacity greater than 0.1 m3 is used for treatment of a hazardous waste by a waste stabilization process, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 3 standards specified in Subsection R315-265-1087(e) at those times during the waste stabilization process when the hazardous waste in the container is exposed to the atmosphere.

(c) Container Level 1 standards.

(1) A container using Container Level 1 controls is one of the following:

(i) A container that meets the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as specified in Subsection R315-265-1087(f).

(ii) A container equipped with a cover and closure devices that form a continuous barrier over the container openings such that if the cover and closure devices are secured in the closed position there are no visible holes, gaps, or other open spaces into the interior of the container. The cover may be a separate cover installed on the container, for example, a lid on a drum or a suitably secured tarp on a roll-off box, or may be an integral part of the container structural design, for example, a "portable tank" or bulk cargo container equipped with a screw-type cap.

(iii) An open-top container in which an organic-vapor suppressing barrier is placed on or over the hazardous waste in the container such that no hazardous waste is exposed to the atmosphere. One example of such a barrier is application of a suitable organic-vapor suppressing foam.

(2) A container used to meet the requirements of Subsections R315-265-1087(c)(1)(ii) or R315-265-1087(c)(1)(iii) shall be equipped with covers and closure devices, as applicable to the container, that are composed of suitable materials to minimize exposure of the hazardous waste to the atmosphere and to maintain the equipment integrity for as long as it is in service. Factors to be considered in selecting the materials of construction and designing the cover and closure devices shall include: Organic vapor permeability, the effects of contact with the hazardous waste or its vapor managed in the container; the effects of outdoor exposure of the closure device or cover material to wind, moisture, and sunlight; and the operating practices for which the container is intended to be used.

(3) If a hazardous waste is in a container using Container Level 1 controls, the owner or operator shall install all covers and closure devices for the container, as applicable to the container, and secure and maintain each closure device in the closed position except as follows:

(i) Opening of a closure device or cover is allowed for the purpose of adding hazardous waste or other material to the container as follows:

(A) If the container is filled to the intended final level in one continuous operation, the owner or operator shall promptly secure the closure devices in the closed position and install the covers, as applicable to the container, upon conclusion of the filling operation.

(B) If discrete quantities or batches of material intermittently are added to the container over a period of time, the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon either the container being filled to the intended final level; the completion of a batch loading after which no additional material will be added to the container within 15 minutes; the person performing the loading operation leaving the immediate vicinity of the container; or the shutdown of the process generating the material being added to the container, whichever condition occurs first.

(ii) Opening of a closure device or cover is allowed for the purpose of removing hazardous waste from the container as follows:

(A) For the purpose of meeting the requirements of Section R315-265-1087, an empty container as defined in Subsection R315-261-7(b) may be open to the atmosphere at any time, for example, covers and closure devices are not required to be secured in the closed position on an empty container.

(B) If discrete quantities or batches of material are removed from the container but the container does not meet the conditions to be an empty container as defined in Subsection R315-261-7(b), the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon the completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first.

(iii) Opening of a closure device or cover is allowed if access inside the container is needed to perform routine activities other than transfer of hazardous waste. Examples of such activities include those times when a worker needs to open a port to measure the depth of or sample the material in the container, or if a worker needs to open a manhole hatch to access equipment inside the container. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable to the container.

(iv) Opening of a spring-loaded, pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the container internal pressure in accordance with the design specifications of the container. The device shall be designed to operate with no detectable organic emissions if the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position if the internal pressure of the container is within the internal pressure operating range determined by the owner or operator based on container manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the internal pressure of the container exceeds the internal pressure operating range for the container as a result of loading operations or diurnal ambient temperature fluctuations.

(v) Opening of a safety device, as defined in Section R315-265-1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(4) The owner or operator of containers using Container Level 1 controls shall inspect the containers and their covers and closure devices as follows:

(i) If a hazardous waste already is in the container at the time the owner or operator first accepts possession of the container at the facility and the container is not emptied within 24 hours after the container is accepted at the facility, for example, does not meet the conditions for an empty container as specified in Subsection R315-261-7(b), the owner or operator shall visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps, or other open spaces into the interior of the container if the cover and closure devices are secured in the closed position. The container visual inspection shall be conducted on or before the date that the container is accepted at the facility, for example, the date the container becomes subject to the container standards of Sections R315-265-1080 through R315-265-1090. For purposes of this requirement, the date of acceptance is the date of signature that the facility owner or operator enters on Item 20 of the Uniform Hazardous Waste Manifest, EPA Forms 8700-22 and 8700-22A, as required under Section R315-265-71. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of Subsection R315-265-1087(c)(4)(iii).

(ii) If a container used for managing hazardous waste remains at the facility for a period of one year or more, the owner or operator shall visually inspect the container and its cover and closure devices initially and thereafter, at least once every 12 months, to check for visible cracks, holes, gaps, or other open spaces into the interior of the container if the cover and closure devices are secured in the closed position. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of Subsection R315-265-1087(c)(4)(iii).

(iii) If a defect is detected for the container, cover, or closure devices, the owner or operator shall make first efforts at repair of the defect no later than 24 hours after detection, and repair shall be completed as soon as possible but no later than five calendar days after detection. If repair of a defect cannot be completed within five calendar days, then the hazardous waste shall be removed from the container and the container shall not be used to manage hazardous waste until the defect is repaired.

(5) The owner or operator shall maintain at the facility a copy of the procedure used to determine that containers with capacity of 0.46 m3 or greater, which do not meet applicable DOT regulations as specified in Subsection R315-265-1087(f), are not managing hazardous waste in light material service.

(d) Container Level 2 standards.

(1) A container using Container Level 2 controls is one of the following:

(i) A container that meets the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as specified in Subsection R315-265-1087(f).

(ii) A container that operates with no detectable organic emissions as defined in Section R315-265-1081 and determined in accordance with the procedure specified in Subsection R315-265-1087(g).

(iii) A container that has been demonstrated within the preceding 12 months to be vapor-tight by using 40 CFR part 60, appendix A, Method 27 in accordance with the procedure specified in Subsection R315-265-1087(h).

(2) Transfer of hazardous waste in or out of a container using Container Level 2 controls shall be conducted in such a manner as to minimize exposure of the hazardous waste to the atmosphere, to the extent practical, considering the physical properties of the hazardous waste and good engineering and safety practices for handling flammable, ignitable, explosive, reactive or other hazardous materials. Examples of container loading procedures that the Director considers to meet the requirements of Subsection R315-265-1087(d) include using any one of the following: A submerged-fill pipe or other submerged-fill method to load liquids into the container; a vapor-balancing system or a vapor-recovery system to collect and control the vapors displaced from the container during filling operations; or a fitted opening in the top of a container through which the hazardous waste is filled and subsequently purging the transfer line before removing it from the container opening.

(3) If a hazardous waste is in a container using Container Level 2 controls, the owner or operator shall install all covers and closure devices for the container, and secure and maintain each closure device in the closed position except as follows:

(i) Opening of a closure device or cover is allowed for the purpose of adding hazardous waste or other material to the container as follows:

(A) If the container is filled to the intended final level in one continuous operation, the owner or operator shall promptly secure the closure devices in the closed position and install the covers, as applicable to the container, upon conclusion of the filling operation.

(B) If discrete quantities or batches of material intermittently are added to the container over a period of time, the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon either the container being filled to the intended final level; the completion of a batch loading after which no additional material will be added to the container within 15 minutes; the person performing the loading operation leaving the immediate vicinity of the container; or the shutdown of the process generating the material being added to the container, whichever condition occurs first.

(ii) Opening of a closure device or cover is allowed for the purpose of removing hazardous waste from the container as follows:

(A) For the purpose of meeting the requirements of Section R315-265-1087, an empty container as defined in Subsection R315-261-7(b) may be open to the atmosphere at any time, for example, covers and closure devices are not required to be secured in the closed position on an empty container.

(B) If discrete quantities or batches of material are removed from the container but the container does not meet the conditions to be an empty container as defined in Subsection R315-261-7(b), the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon the completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first.

(iii) Opening of a closure device or cover is allowed if access inside the container is needed to perform routine activities other than transfer of hazardous waste. Examples of such activities include those times when a worker needs to open a port to measure the depth of or sample the material in the container, or if a worker needs to open a manhole hatch to access equipment inside the container. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable to the container.

(iv) Opening of a spring-loaded, pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the internal pressure of the container in accordance with the container design specifications. The device shall be designed to operate with no detectable organic emission if the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position if the internal pressure of the container is within the internal pressure operating range determined by the owner or operator based on container manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the internal pressure of the container exceeds the internal pressure operating range for the container as a result of loading operations or diurnal ambient temperature fluctuations.

(v) Opening of a safety device, as defined in Section R315-265-1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(4) The owner or operator of containers using Container Level 2 controls shall inspect the containers and their covers and closure devices as follows:

(i) If a hazardous waste already is in the container at the time the owner or operator first accepts possession of the container at the facility and the container is not emptied within 24 hours after the container is accepted at the facility, for example, does not meet the conditions for an empty container as specified in Subsection R315-261-7(b), the owner or operator shall visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps, or other open spaces into the interior of the container if the cover and closure devices are secured in the closed position. The container visual inspection shall be conducted on or before the date that the container is accepted at the facility, for example, the date the container becomes subject to the container standards of Sections R315-265-1080 through R315-265-1090. For purposes of this requirement, the date of acceptance is the date of signature that the facility owner or operator enters on Item 20 of the Uniform Hazardous Waste Manifest, EPA Forms 8700-22 and 8700-22A, as required under Section R315-265-71. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of Subsection R315-265-1087(d)(4)(iii).

(ii) If a container used for managing hazardous waste remains at the facility for a period of one year or more, the owner or operator shall visually inspect the container and its cover and closure devices initially and thereafter, at least once every 12 months, to check for visible cracks, holes, gaps, or other open spaces into the interior of the container if the cover and closure devices are secured in the closed position. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of Subsection R315-265-1087(d)(4)(iii).

(iii) If a defect is detected for the container, cover, or closure devices, the owner or operator shall make first efforts at repair of the defect no later than 24 hours after detection, and repair shall be completed as soon as possible but no later than five calendar days after detection. If repair of a defect cannot be completed within five calendar days, then the hazardous waste shall be removed from the container and the container shall not be used to manage hazardous waste until the defect is repaired.

(e) Container Level 3 standards.

(1) A container using Container Level 3 controls is one of the following:

(i) A container that is vented directly through a closed-vent system to a control device in accordance with the requirements of Subsection R315-265-1087(e)(2)(ii).

(ii) A container that is vented inside an enclosure which is exhausted through a closed-vent system to a control device in accordance with the requirements of Subsections R315-265-1087(e)(2)(i) and R315-265-1087(e)(2)(ii).

(2) The owner or operator shall meet the following requirements, as applicable to the type of air emission control equipment selected by the owner or operator:

(i) The container enclosure shall be designed and operated in accordance with the criteria for a permanent total enclosure as specified in "Procedure T--Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of containers through the enclosure by conveyor or other mechanical means; entry of permanent mechanical or electrical equipment; or direct airflow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in Section 5.0 to "Procedure T--Criteria for and Verification of a Permanent or Temporary Total Enclosure" initially when the enclosure is first installed and, thereafter, annually.

(ii) The closed-vent system and control device shall be designed and operated in accordance with the requirements of Section R315-265-1088.

(3) Safety devices, as defined in Section R315-265-1081, may be installed and operated as necessary on any container, enclosure, closed-vent system, or control device used to comply with the requirements of Subsection R315-265-1087(e)(1).

(4) Owners and operators using Container Level 3 controls in accordance with the provisions of Sections R315-265-1080 through R315-265-1090 shall inspect and monitor the closed-vent systems and control devices as specified in Section R315-265-1088.

(5) Owners and operators that use Container Level 3 controls in accordance with the provisions of Sections R315-265-1080 through R315-265-1090 shall prepare and maintain the records specified in Subsection R315-265-1090(d).

(6) Transfer of hazardous waste in or out of a container using Container Level 3 controls shall be conducted in such a manner as to minimize exposure of the hazardous waste to the atmosphere, to the extent practical, considering the physical properties of the hazardous waste and good engineering and safety practices for handling flammable, ignitable, explosive, reactive, or other hazardous materials. Examples of container loading procedures that the Director considers to meet the requirements of Subsection R315-265-1087(e) include using any one of the following: A submerged-fill pipe or other submerged-fill method to load liquids into the container; a vapor-balancing system or a vapor-recovery system to collect and control the vapors displaced from the container during filling operations; or a fitted opening in the top of a container through which the hazardous waste is filled and subsequently purging the transfer line before removing it from the container opening.

(f) For the purpose of compliance with Subsections R315-265-1087(c)(1)(i) or R315-265-1087(d)(1)(i), containers shall be used that meet the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as follows:

(1) The container meets the applicable requirements specified in 49 CFR part 178--Specifications for Packaging or 49 CFR part 179--Specifications for Tank Cars.

(2) Hazardous waste is managed in the container in accordance with the applicable requirements specified in 49 CFR part 107, subpart B--Exemptions; 49 CFR part 172--Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements; 49 CFR part 173--Shippers--General Requirements for Shipments and Packages; and 49 CFR part 180--Continuing Qualification and Maintenance of Packagings.

(3) For the purpose of complying with Sections R315-265-1080 through R315-265-1090, no exceptions to the 49 CFR part 178 or part 179 regulations are allowed except as provided for in Subsection R315-265-1087(f)(4).

(4) For a lab pack that is managed in accordance with the requirements of 49 CFR part 178 for the purpose of complying with Sections R315-265-1080 through R315-265-1090, an owner or operator may comply with the exceptions for combination packagings specified in 49 CFR 173.12(b).

(g) To determine compliance with the no detectable organic emissions requirements of Subsection R315-265-1087(d)(1)(ii), the procedure specified in Subsection R315-265-1084(d) shall be used.

(1) Each potential leak interface, for example, a location where organic vapor leakage could occur, on the container, its cover, and associated closure devices, as applicable to the container, shall be checked. Potential leak interfaces that are associated with containers include, but are not limited to: The interface of the cover rim and the container wall; the periphery of any opening on the container or container cover and its associated closure device; and the sealing seat interface on a spring-loaded pressure-relief valve.

(2) The test shall be performed if the container is filled with a material having a volatile organic concentration representative of the range of volatile organic concentrations for the hazardous wastes expected to be managed in this type of container. During the test, the container cover and closure devices shall be secured in the closed position.

(h) Procedure for determining a container to be vapor-tight using Method 27 of 40 CFR part 60, appendix A for the purpose of complying with Subsection R315-265-1087(d)(1)(iii).

(1) The test shall be performed in accordance with Method 27 of 40 CFR part 60, appendix A.

(2) A pressure measurement device shall be used that has a precision of plus or minus 2.5 mm water and that is capable of measuring above the pressure at which the container is to be tested for vapor tightness.

(3) If the test results determined by Method 27 indicate that the container sustains a pressure change less than or equal to 750 Pascals within five minutes after it is pressurized to a minimum of 4,500 Pascals, then the container is determined to be vapor-tight.

**R315-265-1088. Air Emission Standards for Tanks, Surface Impoundments, and Containers -- Standards: Closed-Vent Systems and Control Devices.**

(a) Section R315-265-1088 applies to each closed-vent system and control device installed and operated by the owner or operator to control air emissions in accordance with standards of Sections R315-265-1080 through R315-265-1090.

(b) The closed-vent system shall meet the following requirements:

(1) The closed-vent system shall route the gases, vapors, and fumes emitted from the hazardous waste in the waste management unit to a control device that meets the requirements specified in Subsection R315-265-1088(c).

(2) The closed-vent system shall be designed and operated in accordance with the requirements specified in Subsection R315-265-1033(j).

(3) If the closed-vent system includes bypass devices that could be used to divert the gas or vapor stream to the atmosphere before entering the control device, each bypass device shall be equipped with either a flow indicator as specified in Subsection R315-265-1088(b)(3)(i) or a seal or locking device as specified in Subsection R315-265-1088(b)(3)(ii). For the purpose of complying with Subsection R315-265-1088(b), low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, spring-loaded pressure relief valves, and other fittings used for safety purposes are not considered to be bypass devices.

(i) If a flow indicator is used to comply with Subsection R315-265-1088(b)(3), the indicator shall be installed at the inlet to the bypass line used to divert gases and vapors from the closed-vent system to the atmosphere at a point upstream of the control device inlet. For Subsection R315-265-1088(b), a flow indicator means a device which indicates the presence of either gas or vapor flow in the bypass line.

(ii) If a seal or locking device is used to comply with Subsection R315-265-1088(b)(3), the device shall be placed on the mechanism by which the bypass device position is controlled, for example, valve handle, damper lever, if the bypass device is in the closed position such that the bypass device cannot be opened without breaking the seal or removing the lock. Examples of such devices include, but are not limited to, a car-seal or a lock-and-key configuration valve. The owner or operator shall visually inspect the seal or closure mechanism at least once every month to verify that the bypass mechanism is maintained in the closed position.

(4) The closed-vent system shall be inspected and monitored by the owner or operator in accordance with the procedure specified in Subsection R315-265-1033(k).

(c) The control device shall meet the following requirements:

(1) The control device shall be one of the following devices:

(i) A control device designed and operated to reduce the total organic content of the inlet vapor stream vented to the control device by at least 95 percent by weight;

(ii) An enclosed combustion device designed and operated in accordance with the requirements of Subsection R315-265-1033(c); or

(iii) A flare designed and operated in accordance with the requirements of Subsection R315-265-1033(d).

(2) The owner or operator who elects to use a closed-vent system and control device to comply with the requirements of Section R315-265-1088 shall comply with the requirements specified in Subsections R315-265-1088(c)(2)(i) through R315-265-1088(c)(2)(vi).

(i) Periods of planned routine maintenance of the control device, during which the control device does not meet the specifications of Subsections R315-265-1088(c)(1)(i), R315-265-1088(c)(1)(ii), or R315-265-1088(c)(1)(iii), as applicable, shall not exceed 240 hours per year.

(ii) The specifications and requirements in Subsections R315-265-1088(c)(1)(i), R315-265-1088(c)(1)(ii), or R315-265-1088(c)(1)(iii) for control devices do not apply during periods of planned routine maintenance.

(iii) The specifications and requirements in Subsections R315-265-1088(c)(1)(i), R315-265-1088(c)(1)(ii), or R315-265-1088(c)(1)(iii) for control devices do not apply during a control device system malfunction.

(iv) The owner or operator shall demonstrate compliance with the requirements of Subsection R315-265-1088(c)(2)(i), for example, planned routine maintenance of a control device, during which the control device does not meet the specifications of Subsections R315-265-1088(c)(1)(i), R315-265-1088(c)(1)(ii), or R315-265-1088(c)(1)(iii), as applicable, shall not exceed 240 hours per year, by recording the information specified in Subsection R315-265-1090(e)(1)(v).

(v) The owner or operator shall correct control device system malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of air pollutants.

(vi) The owner or operator shall operate the closed-vent system such that gases, vapors, and fumes are not actively vented to the control device during periods of planned maintenance or control device system malfunction, for example, periods if the control device is not operating or not operating normally, except in cases if it is necessary to vent the gases, vapors, or fumes to avoid an unsafe condition or to implement malfunction corrective actions or planned maintenance actions.

(3) The owner or operator using a carbon adsorption system to comply with Subsection R315-265-1088(c)(1) shall operate and maintain the control device in accordance with the following requirements:

(i) Following the initial startup of the control device, all activated carbon in the control device shall be replaced with fresh carbon on a regular basis in accordance with the requirements of Subsections R315-265-1033(g) or R315-265-1033(h).

(ii) All carbon that is a hazardous waste and that is removed from the control device shall be managed in accordance with the requirements of Subsection R315-265-1033(m), regardless of the average volatile organic concentration of the carbon.

(4) An owner or operator using a control device other than a thermal vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system to comply with Subsection R315-265-1088(c)(1) shall operate and maintain the control device in accordance with the requirements of R315-265-1033(i).

(5) The owner or operator shall demonstrate that a control device achieves the performance requirements of Subsection R315-265-1088(c)(1) as follows:

(i) An owner or operator shall demonstrate using either a performance test as specified in Subsection R315-265-1088(c)(5)(iii) or a design analysis as specified in Subsection R315-265-1088(c)(5)(iv) the performance of each control device except for the following:

(A) A flare;

(B) A boiler or process heater with a design heat input capacity of 44 megawatts or greater;

(C) A boiler or process heater into which the vent stream is introduced with the primary fuel;

(D) A boiler or industrial furnace burning hazardous waste for which the owner or operator has been issued a final permit under Rule R315-270 and has designed and operates the unit in accordance with the requirements of Sections R315-266-100 through R315-266-112; or

(E) A boiler or industrial furnace burning hazardous waste for which the owner or operator has designed and operates in accordance with the interim status requirements of Sections R315-266-100 through R315-266-112.

(ii) An owner or operator shall demonstrate the performance of each flare in accordance with the requirements specified in Subsection R315-265-1033(e).

(iii) For a performance test conducted to meet the requirements of Subsection R315-265-1088(c)(5)(i), the owner or operator shall use the test methods and procedures specified in Subsections R315-265-1034(c)(1) through R315-265-1034(c)(4).

(iv) For a design analysis conducted to meet the requirements of Subsection R315-265-1088(c)(5)(i), the design analysis shall meet the requirements specified in Subsection R315-265-1035(b)(4)(iii).

(v) The owner or operator shall demonstrate that a carbon adsorption system achieves the performance requirements of Subsection R315-265-1088(c)(1) based on the total quantity of organics vented to the atmosphere from all carbon adsorption system equipment that is used for organic adsorption, organic desorption or carbon regeneration, organic recovery, and carbon disposal.

(6) If the owner or operator and the Director do not agree on a demonstration of control device performance using a design analysis then the disagreement shall be resolved using the results of a performance test performed by the owner or operator in accordance with the requirements of Subsection R315-265-1088(c)(5)(iii). The Director may choose to have an authorized representative observe the performance test.

(7) The closed-vent system and control device shall be inspected and monitored by the owner or operator in accordance with the procedures specified in Subsections R315-265-1033(f)(2) and R315-265-1033(k). The readings from each monitoring device required by Subsection R315-265-1033(f)(2) shall be inspected at least once each operating day to check control device operation. Any necessary corrective measures shall be immediately implemented to ensure the control device is operated in compliance with the requirements of Section R315-265-1088.

**R315-265-1089. Air Emission Standards for Tanks, Surface Impoundments, and Containers -- Inspection and Monitoring Requirements.**

(a) The owner or operator shall inspect and monitor air emission control equipment used to comply with Sections R315-265-1080 through R315-265-1090 in accordance with the applicable requirements specified in Sections R315-265-1085 through R315-265-1088.

(b) The owner or operator shall develop and implement a written plan and schedule to perform the inspections and monitoring required by Subsection R315-265-1089(a). The owner or operator shall incorporate this plan and schedule into the facility inspection plan required under Section R315-265-15.

**R315-265-1090. Air Emission Standards for Tanks, Surface Impoundments, and Containers -- Recordkeeping Requirements.**

(a) Each owner or operator of a facility subject to requirements in Sections R315-265-1080 through R315-265-1090 shall record and maintain the information specified in Subsections R315-265-1090(b) through R315-265-1090(j), as applicable to the facility. Except for air emission control equipment design documentation and information required by Subsections R315-265-1090(i) and R315-265-1090(j), records required by Section R315-265-1090 shall be maintained in the operating record for a minimum of three years. Air emission control equipment design documentation shall be maintained in the operating record until the air emission control equipment is replaced or otherwise no longer in service. Information required by Subsections R315-265-1090(i) and R315-265-1090(j) shall be maintained in the operating record for as long as the waste management unit is not using air emission controls specified in Sections R315-265-1085 through R315-265-1088 in accordance with the conditions specified in Subsections R315-265-1080(d) or R315-265-1080(b)(7), respectively.

(b) The owner or operator of a tank using air emission controls in accordance with the requirements of Section R315-265-1085 shall prepare and maintain records for the tank that include the following information:

(1) For each tank using air emission controls in accordance with the requirements of Section R315-265-1085, the owner or operator shall record:

(i) A tank identification number, or other unique identification description as selected by the owner or operator.

(ii) A record for each inspection required by Section R315-265-1085 that includes the following information:

(A) Date inspection was conducted.

(B) For each defect detected during the inspection: The location of the defect, a description of the defect, the date of detection, and corrective action taken to repair the defect. In the event that repair of the defect is delayed in accordance with the provisions of Section R315-265-1085, the owner or operator shall also record the reason for the delay and the date that completion of repair of the defect is expected.

(2) In addition to the information required by Subsection R315-265-1090(b)(1), the owner or operator shall record the following information, as applicable to the tank:

(i) The owner or operator using a fixed roof to comply with the Tank Level 1 control requirements specified in Subsection R315-265-1085(c) shall prepare and maintain records for each determination for the maximum organic vapor pressure of the hazardous waste in the tank performed in accordance with the requirements of Subsection R315-265-1085(c). The records shall include the date and time the samples were collected, the analysis method used, and the analysis results.

(ii) The owner or operator using an internal floating roof to comply with the Tank Level 2 control requirements specified in Subsection R315-265-1085(e) shall prepare and maintain documentation describing the floating roof design.

(iii) Owners and operators using an external floating roof to comply with the Tank Level 2 control requirements specified in Subsection R315-265-1085(f) shall prepare and maintain the following records:

(A) Documentation describing the floating roof design and the dimensions of the tank.

(B) Records for each seal gap inspection required by Subsection R315-265-1085(f)(3) describing the results of the seal gap measurements. The records shall include the date that the measurements were performed, the raw data obtained for the measurements, and the calculations of the total gap surface area. In the event that the seal gap measurements do not conform to the specifications in Subsection R315-265-1085(f)(1), the records shall include a description of the repairs that were made, the date the repairs were made, and the date the tank was emptied, if necessary.

(iv) Each owner or operator using an enclosure to comply with the Tank Level 2 control requirements specified in Subsection R315-265-1085(i) shall prepare and maintain the following records:

(A) Records for the most recent set of calculations and measurements performed by the owner or operator to verify that the enclosure meets the criteria of a permanent total enclosure as specified in "Procedure T--Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, appendix B.

(B) Records required for the closed-vent system and control device in accordance with the requirements of Subsection R315-265-1090(e).

(c) The owner or operator of a surface impoundment using air emission controls in accordance with the requirements of Section R315-265-1086 shall prepare and maintain records for the surface impoundment that include the following information:

(1) A surface impoundment identification number, or other unique identification description as selected by the owner or operator.

(2) Documentation describing the floating membrane cover or cover design, as applicable to the surface impoundment, that includes information prepared by the owner or operator or provided by the cover manufacturer or vendor describing the cover design, and certification by the owner or operator that the cover meets the specifications listed in Subsection R315-265-1086(c).

(3) A record for each inspection required by Section R315-265-1086 that includes the following information:

(i) Date inspection was conducted.

(ii) For each defect detected during the inspection the following information: The location of the defect, a description of the defect, the date of detection, and corrective action taken to repair the defect. In the event that repair of the defect is delayed in accordance with the provisions of Subsection R315-265-1086(f), the owner or operator shall also record the reason for the delay and the date that completion of repair of the defect is expected.

(4) For a surface impoundment equipped with a cover and vented through a closed-vent system to a control device, the owner or operator shall prepare and maintain the records specified in Subsection R315-265-1090(e).

(d) The owner or operator of containers using Container Level 3 air emission controls in accordance with the requirements of Section R315-265-1087 shall prepare and maintain records that include the following information:

(1) Records for the most recent set of calculations and measurements performed by the owner or operator to verify that the enclosure meets the criteria of a permanent total enclosure as specified in "Procedure T--Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, appendix B.

(2) Records required for the closed-vent system and control device in accordance with the requirements of Subsection R315-265-1090(e).

(e) The owner or operator using a closed-vent system and control device in accordance with the requirements of Section R315-265-1088 of this subpart shall prepare and maintain records that include the following information:

(1) Documentation for the closed-vent system and control device that includes:

(i) Certification that is signed and dated by the owner or operator stating that the control device is designed to operate at the performance level documented by a design analysis as specified in Subsection R315-265-1090(e)(1)(ii) or by performance tests as specified in Subsection R315-265-1090 (e)(1)(iii) if the tank, surface impoundment, or container is or would be operating at capacity or the highest level reasonably expected to occur.

(ii) If a design analysis is used, then design documentation as specified in Subsection R315-265-1035(b)(4). The documentation shall include information prepared by the owner or operator or provided by the control device manufacturer or vendor that describes the control device design in accordance with Subsection R315-265-1035(b)(4)(iii) and certification by the owner or operator that the control equipment meets the applicable specifications.

(iii) If performance tests are used, then a performance test plan as specified in Subsection R315-265-1035(b)(3) and all test results.

(iv) Information as required by Subsections R315-265-1035(c)(1) and R315-265-1035(c)(2), as applicable.

(v) An owner or operator shall record, on a semiannual basis, the information specified in Subsections R315-265-1090(e)(1)(v)(A) and R315-265-1090(e)(1)(v)(B) for those planned routine maintenance operations that would require the control device not to meet the requirements of Subsections R315-265-1088(c)(1)(i), R315-265-1088(c)(1)(ii), or R315-265-1088(c)(1)(iii), as applicable.

(A) A description of the planned routine maintenance that is anticipated to be performed for the control device during the next 6-month period. This description shall include the type of maintenance necessary, planned frequency of maintenance, and lengths of maintenance periods.

(B) A description of the planned routine maintenance that was performed for the control device during the previous 6-month period. This description shall include the type of maintenance performed and the total number of hours during those 6 months that the control device did not meet the requirements of Subsections R315-265-1088(c)(1)(i), R315-265-1088(c)(1)(ii), or R315-265-1088(c)(1)(iii), as applicable, due to planned routine maintenance.

(vi) An owner or operator shall record the information specified in Subsections R315-265-1090(e)(1)(vi)(A) through R315-265-1090(e)(1)(vi)(C) for those unexpected control device system malfunctions that would require the control device not to meet the requirements of Subsections R315-265-1088(c)(1)(i), 315-265-1088(c)(1)(ii), or 315-265-1088(c)(1)(iii), as applicable.

(A) The occurrence and duration of each malfunction of the control device system.

(B) The duration of each period during a malfunction if gases, vapors, or fumes are vented from the waste management unit through the closed-vent system to the control device while the control device is not properly functioning.

(C) Actions taken during periods of malfunction to restore a malfunctioning control device to its normal or usual manner of operation.

(vii) Records of the management of carbon removed from a carbon adsorption system conducted in accordance with Subsection R315-265-1088(c)(3)(ii).

(f) The owner or operator of a tank, surface impoundment, or container exempted from standards in accordance with the provisions of Subsection R315-265-1083(c) shall prepare and maintain the following records, as applicable:

(1) For tanks, surface impoundments, or containers exempted under the hazardous waste organic concentration conditions specified in Subsections R315-265-1083(c)(1) or R315-265-1083(c)(2)(i) through R315-265-1090(c)(2)(vi), the owner or operator shall record the information used for each waste determination, for example, test results, measurements, calculations, and other documentation, in the facility operating log. If analysis results for waste samples are used for the waste determination, then the owner or operator shall record the date, time, and location that each waste sample is collected in accordance with applicable requirements of Section R315-265-1084.

(2) For tanks, surface impoundments, or containers exempted under the provisions of Subsections R315-265-1083(c)(2)(vii) or R315-265-1083(c)(2)(viii), the owner or operator shall record the identification number for the incinerator, boiler, or industrial furnace in which the hazardous waste is treated.

(g) An owner or operator designating a cover as "unsafe to inspect and monitor" pursuant to Subsections R315-265-1085(l) or R315-265-1086(g) shall record in a log that is kept in the facility operating record the following information: The identification numbers for waste management units with covers that are designated as "unsafe to inspect and monitor," the explanation for each cover stating why the cover is unsafe to inspect and monitor, and the plan and schedule for inspecting and monitoring each cover.

(h) The owner or operator of a facility that is subject to Sections R315-265-1080 through R315-265-1090 and to the control device standards in 40 CFR part 60, subpart VV, or 40 CFR part 61, subpart V, may elect to demonstrate compliance with the applicable sections of Sections R315-265-1080 through R315-265-1090 by documentation either pursuant to Sections R315-265-1080 through R315-265-1090, or pursuant to the provisions of 40 CFR part 60, subpart VV or 40 CFR part 61, subpart V, to the extent that the documentation required by 40 CFR parts 60 or 61 duplicates the documentation required by Section R315-265-1090.

(i) For each tank or container not using air emission controls specified in Sections R315-265-1085 through R315-265-1088 in accordance with the conditions specified in Subsection R315-265-1080(d), the owner or operator shall record and maintain the following information:

(1) A list of the individual organic peroxide compounds manufactured at the facility that meet the conditions specified in Subsection R315-265-1080(d)(1).

(2) A description of how the hazardous waste containing the organic peroxide compounds identified in Subsection R315-265-1090(i)(1) are managed at the facility in tanks and containers. This description shall include the following information:

(i) For the tanks used at the facility to manage this hazardous waste, sufficient information shall be provided to describe for each tank: A facility identification number for the tank; the purpose and placement of this tank in the management train of this hazardous waste; and the procedures used to ultimately dispose of the hazardous waste managed in the tanks.

(ii) For containers used at the facility to manage these hazardous wastes, sufficient information shall be provided to describe: A facility identification number for the container or group of containers; the purpose and placement of this container, or group of containers, in the management train of this hazardous waste; and the procedures used to ultimately dispose of the hazardous waste handled in the containers.

(3) An explanation of why managing the hazardous waste containing the organic peroxide compounds identified in Subsection R315-265-1090(i)(1) in the tanks and containers as described in Subsection R315-265-1090(i)(2) would create an undue safety hazard if the air emission controls, as required under Sections R315-265-1085 through R315-265-1088, are installed and operated on these waste management units. This explanation shall include the following information:

(i) For tanks used at the facility to manage these hazardous wastes, sufficient information shall be provided to explain: How use of the required air emission controls on the tanks would affect the tank design features and facility operating procedures currently used to prevent an undue safety hazard during the management of this hazardous waste in the tanks; and why installation of safety devices on the required air emission controls, as allowed under this subpart, will not address those situations in which evacuation of tanks equipped with these air emission controls is necessary and consistent with good engineering and safety practices for handling organic peroxides.

(ii) For containers used at the facility to manage these hazardous wastes, sufficient information shall be provided to explain: How use of the required air emission controls on the containers would affect the container design features and handling procedures currently used to prevent an undue safety hazard during the management of this hazardous waste in the containers; and why installation of safety devices on the required air emission controls, as allowed under this subpart, will not address those situations in which evacuation of containers equipped with these air emission controls is necessary and consistent with good engineering and safety practices for handling organic peroxides.

(j) For each hazardous waste management unit not using air emission controls specified in Sections R315-265-1085 through R315-265-1088 in accordance with the provisions of Subsection R315-265-1080(b)(7), the owner and operator shall record and maintain the following information:

(1) Certification that the waste management unit is equipped with and operating air emission controls in accordance with the requirements of an applicable Clean Air Act regulation codified under 40 CFR part 60, part 61, or part 63.

(2) Identification of the specific requirements codified under 40 CFR part 60, part 61, or part 63 with which the waste management unit is in compliance.

**R315-265-1100. Containment Buildings -- Applicability.**

The requirements of Sections R315-265-1100 through R315-265-1102 apply to owners or operators who store or treat hazardous waste in units designed and operated under Section R315-265-1101. The owner or operator is not subject to the definition of land disposal in RCRA Section 3004(k) provided that the unit:

(a) is a completely enclosed, self-supporting structure that is designed and constructed of manmade materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the units, and to prevent failure due to pressure gradients, settlement, compression, or uplift, physical contact with the hazardous wastes to which they are exposed, climatic conditions, and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of that equipment with containment walls;

(b) has a primary barrier that is designed to be sufficiently durable to withstand the movement of personnel and handling equipment within the unit;

(c) if the unit is used to manage liquids, has:

(1) a primary barrier designed and constructed of materials to prevent migration of hazardous constituents into the barrier;

(2) a liquid collection system designed and constructed of materials to minimize the accumulation of liquid on the primary barrier; and

(3) a secondary containment system designed and constructed of materials to prevent migration of hazardous constituents into the barrier, with a leak detection and liquid collection system capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest possible time, unless the unit has been granted a variance from the secondary containment system requirements under Subsection R315-265-1101(b)(4);

(d) has controls as needed to prevent fugitive dust emissions; and

(e) is designed and operated to ensure containment and prevent the tracking of materials from the unit by personnel or equipment.

**R315-265-1101. Containment Buildings -- Design and Operating Standards.**

(a) Each containment building shall comply with the following design standards.

(1) The containment building shall be completely enclosed with a floor, walls, and a roof to prevent exposure to the elements, for example, precipitation, wind, run-on, and to assure containment of managed wastes.

(2) The floor and containment walls of the unit, including the secondary containment system if required by Subsection R315-265-1101(b), shall be designed and constructed of materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the unit, and to prevent failure due to pressure gradients, settlement, compression, or uplift, physical contact with the hazardous wastes to which they are exposed, climatic conditions, and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of that equipment with containment walls. The unit shall be designed so that it has sufficient structural strength to prevent collapse or other failure. Each surface to be in contact with hazardous wastes shall be chemically compatible with those wastes. The director will consider standards established by professional organizations generally recognized by the industry such as the American Concrete Institute (ACI) and the American Society of Testing Materials (ASTM) in judging the structural integrity requirements of Subsection R315-265-1101(a)(2). If appropriate to the nature of the waste management operation to take place in the unit, an exception to the structural strength requirement may be made for light-weight doors and windows that meet these criteria:

(i) they provide an effective barrier against fugitive dust emissions in accordance with Subsection R315-265-1101(c)(1)(iv); and

(ii) the unit is designed and operated in a fashion that assures that wastes will not contact these openings.

(3) Incompatible hazardous wastes or treatment reagents shall not be placed in the unit or its secondary containment system if they could cause the unit or secondary containment system to leak, corrode, or otherwise fail.

(4) A containment building shall 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 shall include.

(1) A primary barrier designed and constructed of materials to prevent the migration of hazardous constituents into the barrier, for example, a geomembrane covered by a concrete wear surface.

(2) A liquid collection and removal system to prevent the accumulation of liquid on the primary barrier of the containment building:

(i) the primary barrier shall be sloped to drain liquids to the associated collection system; and

(ii) liquids and waste shall 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 can detect failure of the primary barrier and collecting accumulated hazardous wastes and liquids at the earliest practicable time.

(i) The requirements of the leak detection component of the secondary containment system are satisfied by installation of a system that is, at a minimum:

(A) constructed with a bottom slope of 1 % or more; and

(B) constructed of a granular drainage material with a hydraulic conductivity of 1 × 10−2 cm per 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 m2 per sec or more.

(ii) If treatment is to be conducted in the building, an area in which treatment will be conducted shall be designed to prevent the release of liquids, wet materials, or liquid aerosols to other portions of the building.

(iii) The secondary containment system shall 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 may serve as secondary containment systems for tanks placed within the building under certain conditions. A containment building may serve as an external liner system for a tank, provided it meets the requirements of Subsection R315-265-193(e)(1). In addition, the containment building shall meet the requirements of Subsections R315-265-193 (b) and (c) to be considered an acceptable secondary containment system for a tank.

(4) For existing units other than 90-day generator units, the director 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 Sections R315-265-1100 through R315-265-1102. In making this demonstration, the owner or operator shall:

(i) provide written notice to the director of their request by February 18, 1993 that describes the unit and its operating practices with specific reference to the performance of existing containment systems, and specific plans for retrofitting the unit with secondary containment;

(ii) respond to any comments from the director on these plans within 30 days; and

(iii) fulfill the terms of the revised plans, if those plans are approved by the director.

(c) Owners or operators of containment buildings shall comply with the following.

(1) Use controls and practices to ensure containment of the hazardous waste within the unit, and, at a minimum:

(i) maintain the primary barrier to be free of significant cracks, gaps, corrosion, or other deterioration that could cause hazardous waste to be released from the primary barrier;

(ii) maintain the level of the stored or treated hazardous waste within the containment walls of the unit so that the height of any containment wall is not exceeded;

(iii) take measures to prevent the tracking of hazardous waste out of the unit by personnel or by equipment used in handling the waste. An area shall be designated to decontaminate equipment and any rinsate shall be collected and properly managed; and

(iv) take measures to control fugitive dust emissions so that any openings, doors, windows, vents, cracks, exhibit no visible emissions. In addition, each associated particulate collection device, for example, fabric filter, electrostatic precipitator, shall be operated and maintained with sound air pollution control practices. This state of no visible emissions shall be maintained effectively at any time 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 R315-265-1101(a), (b), and (c).

(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, the owner or operator shall repair the condition promptly, in accordance with the following procedures.

(i) Upon detection of a condition that has led to a release of hazardous waste, for example, upon detection of leakage from the primary barrier, the owner or operator shall:

(A) enter a record of the discovery in the facility operating record;

(B) immediately remove the portion of the containment building affected by the condition from service;

(C) determine what steps shall be taken to repair the containment building, remove any leakage from the secondary collection system, and establish a schedule for accomplishing the cleanup and repairs; and

(D) within 7 days after the discovery of the condition, notify the director of the condition, and within 14 working days, provide a written notice to the director with a description of the steps taken to repair the containment building, and the schedule for accomplishing the work.

(ii) The director will review the information submitted, make a determination regarding whether the containment building shall be removed from service completely or partially until repairs and cleanup are complete, and notify the owner or operator of the determination and the underlying rationale in writing.

(iii) Upon completing the repairs and cleanup the owner or operator shall notify the director 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 Subsection R315-265-1101(c)(3)(i)(D).

(4) Inspect and record in the facility's operating record at least once each seven days data gathered from monitoring and leak detection equipment as well as the containment building and the area immediately surrounding the containment building to detect signs of releases of hazardous waste.

(d) For a containment building that contains both areas with and without secondary containment, the owner or operator shall:

(1) design and operate each area in accordance with the requirements enumerated in Subsections R315-265-1101(a) through (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 Sections R315-265-1100 through R315-265-1102, the director may waive requirements for secondary containment for a permitted containment building if 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 if containment of managed wastes and liquids may be assured without a secondary containment system.

**R315-265-1102. Containment Buildings -- Closure and Post-Closure Care.**

(a) At closure of a containment building, the owner or operator shall remove or decontaminate any waste residues, contaminated containment system components, liners, contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless Subsection R315-261-3(d) applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for containment buildings shall meet the requirements specified in Sections R315-265-110 through R315-265-120 and R315-265-140 through R315-265-148.

(b) If, after removing or decontaminating any residues and making reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in Subsection R315-265-1102(a), the owner or operator finds that contaminated subsoils cannot be practicably removed or decontaminated, the owner or operator shall close the facility and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills, 40 CFR 265.310. In addition, for the purposes of closure, post-closure, and financial responsibility, such a containment building is then considered to be a landfill, and the owner or operator shall meet the requirements for landfills specified in Sections R315-265-110 through R315-265-120 and R315-265-140 through R315-265-148.

**R315-265-1400. Appendix V to Rule R315-265 - Examples of Potentially Incompatible Waste.**

Appendix V to 40 CFR Part 265, 2023 Edition, is incorporated by reference.

**KEY: hazardous waste, TSD facilities, interim status**

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