

TRANSMITTAL SHEET FOR
NOTICE OF INTENDED ACTION

Control No. 335 Department or Agency Environmental Management
Rule No. 335-14-5-.10
Rule Title: Tank Systems

 New X Amend Repeal Adopt by Reference

Would the absence of the proposed rule significantly harm or endanger the public health, welfare, or safety? YES

Is there a reasonable relationship between the state's police power and the protection of the public health, safety, or welfare? YES

Is there another, less restrictive method of regulation available that could adequately protect the public? NO

Does the proposed rule have the effect of directly or indirectly increasing the costs of any goods or services involved and, if so, to what degree? NO

Is the increase in cost, if any, more harmful to the public than the harm that might result from the absence of the proposed rule? NO

Are all facets of the rulemaking process designed solely for the purpose of, and so they have, as their primary effect, the protection of the public? YES

Does the proposed rule have an economic impact? NO

If the proposed rule has an economic impact, the proposed rule is required to be accompanied by a fiscal note prepared in accordance with subsection (f) of section 41-22-23, Code of Alabama 1975.

Certification of Authorized Official

I certify that the attached proposed rule has been proposed in full compliance with the requirements of Chapter 22, Title 41, Code of Alabama 1975, and that it conforms to all applicable filing requirements of the Administrative Procedure Division of the Legislative Reference Service.

Signature of certifying officer Maury Elliott

Date October 20, 2016



**ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
LAND DIVISION**

NOTICE OF INTENDED ACTION

AGENCY NAME: Department of Environmental Management

RULE NO. & TITLE: 335-14-5-.02 General Facility Standards
335-14-5-.05 Manifest System, Recordkeeping and Reporting
335-14-5-.07 Closure and Post-Closure
335-14-5-.08 Financial Requirements
335-14-5-.10 Tank Systems
335-14-5-.19 Special Provisions for Cleanup
335-14-5-.23 Drip Pads
335-14-5-.27 Subpart AA - Air Emission Standards For Process Vents
335-14-5-.28 Subpart BB - Air Emission Standards For Equipment Leaks
335-14-5-.29 Subpart CC - Air Emission Standards For Tanks, Surface Impoundments, And Containers
335-14-5-.30 Containment Buildings
335-14-5 Appendix IX Groundwater Monitoring List

INTENDED ACTION: Amend chapter 335-14-5 of the ADEM Administrative Code

SUBSTANCE OF PROPOSED ACTION

The Department of Environmental Management proposes to amend portions of the Division 14 Hazardous Waste Program Regulations to make typographical and grammatical corrections, to make clarifications necessary to maintain consistency with analogous federal rules, and to adopt new amendments required by the USEPA which are necessary to maintain the programs fully authorized status.

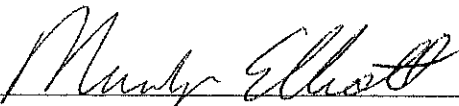
TIME, PLACE, MANNER OF PRESENTING VIEWS

Comments may be submitted in writing or orally at a public hearing to be held Wednesday, December 7, 2016 at 2:00 p.m. in the Main Hearing Room at the ADEM Central Office located at 1400 Coliseum Blvd, Montgomery, Alabama 36110.

FINAL DATE FOR COMMENT AND COMPLETION OF NOTICE

Wednesday, December 7, 2016 at 5:00 p.m.

CONTACT PERSON AT AGENCY: Chip Crockett, Chief of the Industrial Hazardous Waste Branch, ADEM Land Division, (334) 270-5627.



Lance R. LeFleur
Director

335-14-5-.10 Tank Systems.

(1) Applicability. The requirements of 335-14-5-.10 apply to owners and operators of facilities that use tank systems for storing or treating hazardous waste except as otherwise provided in 335-14-5-.10(1)(a), (b), and (c) or in 335-14-5-.01.

(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 335-14-5-.10(4). To demonstrate the absence or presence of free liquids in the stored/treated waste, the following test must be used: Method 9095 (Paint Filter Liquids Test) as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," EPA Publication No. SW-846, as incorporated by reference in 335-14-1-.02(2).

(b) Tank systems, including sumps, as defined in 335-14-1-.02, that serve as part of a secondary containment system to collect or contain releases of hazardous wastes are exempted from the requirements in 335-14-5-.10(4)(a).

(c) Tanks, sumps, and other such collection devices or systems used in conjunction with drip pads, as defined in 335-14-1-.02 and regulated under 335-14-5-.23, must meet the requirements of 335-14-5-.10.

(2) Assessment of existing tank system's integrity.

(a) For each existing tank system that does not have secondary containment meeting the requirements of 335-14-5-.10(4), the owner or operator must determine that the tank system is not leaking or is unfit for use. Except as provided in 335-14-5-.10(2)(c), the owner or operator must obtain and keep on file at the facility a written assessment reviewed and certified by a qualified Professional Engineer, in accordance with 335-14-8-.02(2)(d), that attests to the tank system's integrity by January 12, 1988.

(b) This assessment must determine that the tank system is adequately designed and has sufficient structural strength and compatibility with the waste(s) to be stored or treated, to ensure that it will not collapse, rupture, or fail. At a minimum, this assessment must consider the following:

1. Design standard(s), if available, according to which the tank and ancillary equipment were constructed;

2. Hazardous characteristics of the waste(s) that have been and will be handled;

3. Existing corrosion protection measures;

4. Documented age of the tank system, if available (otherwise, an estimate of the age); and

5. Results of a leak test, internal inspection, or other tank integrity examination such that:

(i) For non-enterable underground tanks, the assessment must include a leak test that is capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets, and high water table effects, and

(ii) For other than non-enterable underground tanks and for ancillary equipment, this assessment must include either a leak test, as described above, or other integrity examination that is certified by a qualified Professional Engineer in accordance with 335-14-8-.02(2)(d) that addresses cracks, leaks, corrosion, and erosion.

[**Note:** The practices described in the American Petroleum Institute (API) Publication, Guide for Inspection of Refinery Equipment, Chapter XIII, "Atmospheric and Low Pressure Storage Tanks," 4th edition, 1981, may be used, where applicable, as guidelines in conducting other than a leak test.]

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

(d) If, as a result of the assessment conducted in accordance with s335-14-5-.10(2)(a), a tank system is found to be leaking or unfit for use, the owner or operator must comply with the requirements of 335-14-5-.10(7).

(3) Design and installation of new tank systems or components.

(a) Owners or operators of new tank systems or components must obtain and submit to the Department, at time of submittal of Part B information, a written assessment, reviewed and certified by a qualified Professional Engineer, in accordance with 335-14-8-.02(2)(d) attesting that the tank system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste. The assessment must show that the foundation, structural support, seams, connections, and pressure controls (if applicable) are adequately designed and that the tank system has sufficient structural strength, compatibility with the waste(s) to be stored or treated, and corrosion protection to ensure that it will not collapse, rupture, or fail. This assessment, which will be used by the Department to review and approve or disapprove the acceptability of the tank system design, must include, at a minimum, the following information:

1. Design standard(s) according to which tank(s) and/or the ancillary equipment are constructed;

2. Hazardous characteristics of the waste(s) to be handled;

3. For new tank systems or components in which the external shell of a metal tank or any external metal component of the tank system will be in contact with the soil or with water, a determination by a corrosion expert of:

(i) Factors affecting the potential for corrosion, including but not limited to:

- (I) Soil moisture content;
- (II) Soil pH;
- (III) Soil sulfides level;
- (IV) Soil resistivity;
- (V) Structure to soil potential;
- (VI) Influence of nearby underground metal structures (e.g., piping);
- (VII) Existence of stray electric current;
- (VIII) Existing corrosion-protection measures (e.g., coating, cathodic protection), and

(ii) The type and degree of external corrosion protection that are needed to ensure the integrity of the tank system during the use of the tank system or component, consisting of one or more of the following:

- (I) Corrosion-resistant materials of construction such as special alloys, fiberglass reinforced plastic, etc;
- (II) Corrosion-resistant coating (such as epoxy, fiberglass, etc.) with cathodic protection (e.g., impressed current or sacrificial anodes); and
- (III) Electrical isolation devices such as insulating joints, flanges, etc.

[Note: The practices described in the National Association of Corrosion Engineers (NACE) standard, "Recommended Practice (RP-02-85)-Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems", and the American Petroleum Institute (API) Publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems", may be used, where applicable, as guidelines in providing corrosion protection for tank systems.]

4. For underground tank system components that are likely to be adversely affected by vehicular traffic, a determination of design or operational measures that will protect the tank system against potential damage; and

- 5. Design considerations to ensure that:
 - (i) Tank foundations will maintain the load of a full tank;
 - (ii) Tank systems will be anchored to prevent flotation or dislodgment where the tank system is placed in a saturated zone; and
 - (iii) Tank systems will withstand the effects of frost heave.

(b) The owner or operator of a new tank system must ensure that proper handling procedures are adhered to in order to prevent damage to the system during installation. Prior to covering, enclosing, or placing a new tank system or component in use, an independent, qualified installation inspector or a qualified Professional Engineer, either of whom is trained and experienced in the proper installation of tank systems or components, must inspect the system for the presence of any of the following items:

1. Weld breaks;
 2. Punctures;
 3. Scrapes of protective coatings;
 4. Cracks;
 5. Corrosion;
 6. Other structural damage or inadequate construction/installation.
- All discrepancies must be remedied before the tank system is covered, enclosed, or placed in use.

(c) New tank systems or components that are placed underground and that are backfilled must be provided with a backfill material that is a noncorrosive, porous, homogeneous substance and that is installed so that the backfill is placed completely around the tank and compacted to ensure that the tank and piping are fully and uniformly supported.

(d) All new tanks and ancillary equipment must be tested for tightness prior to being covered, enclosed, or placed in use. If a tank system is found not to be tight, all repairs necessary to remedy the leak(s) in the system must be performed prior to the tank system being covered, enclosed, or placed into use.

(e) Ancillary equipment must be supported and protected against physical damage and excessive stress due to settlement, vibration, expansion, or contraction.

[Note: The piping system installation procedures described in American Petroleum Institute (API) Publication 1615 (November 1979), "Installation of Underground Petroleum Storage Systems", or ANSI Standard B31.3, "Petroleum Refinery Piping", and ANSI Standard B31.4 "Liquid Petroleum Transportation Piping System," may be used, where applicable, as guidelines for proper installation of piping systems.]

(f) The owner or operator must provide the type and degree of corrosion protection recommended by an independent corrosion expert, based on the information provided under 335-14-5-.10(3)(a)3. or other corrosion protection if the Department believes other corrosion protection is necessary to ensure the integrity of the tank system during use of the tank system. The installation of a corrosion protection system

that is field fabricated must be supervised by an independent corrosion expert to ensure proper installation.

(g) The owner or operator must obtain and keep on file at the facility written statements by those persons required to certify the design of the tank system and supervise the installation of the tank system in accordance with the requirements of 335-14-5-.10(3)(b) through (f) that attest that the tank system was properly designed and installed and that repairs, pursuant to 335-14-5-.10(3)(b) and (d) were performed. These written statements must also include the certification statement as required in 335-14-8-.02(2)(d).

(4) 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 335-14-5-.10(4) must be provided (except as provided in 335-14-5-.10(4)(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 two years of the hazardous waste listing, or when the tank system has reached 15 years of age, whichever comes later.

(b) Secondary containment systems must be:

1. Designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, groundwater, or surface water at any time during the use of the tank system; and

2. Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

(c) To meet the requirements of 335-14-5-.10(4)(b), secondary containment systems must be at a minimum:

1. Constructed of or lined with materials that are compatible with the waste(s) to be placed in the tank system and must have sufficient strength and thickness to prevent failure owing to pressure gradients (including static head and external hydrological forces), physical contact with the waste to which it is exposed, climatic conditions, and the stress of daily operation (including stresses from nearby vehicular traffic).

2. Placed on a foundation or base capable of providing support to the secondary containment system, resistance to pressure gradients above and below the system, and capable of preventing failure due to settlement, compression, or uplift;

3. Provided with a leak-detection system that is designed and operated so that it will detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous waste or accumulated liquid in the

secondary containment system within 24 hours, or at the earliest practicable time if the owner or operator can demonstrate to the Department that existing detection technologies or site conditions will not allow detection of a release within 24 hours; and

4. Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation. Spilled or leaked waste and accumulated precipitation must be removed from the secondary containment system within 24 hours, or in as timely a manner as is possible to prevent harm to human health and the environment, if the owner or operator can demonstrate to the Department that removal of the released waste or accumulated precipitation cannot be accomplished within 24 hours.

[**Note:** If the collected material is a hazardous waste under 335-14-2, it is subject to management as a hazardous waste in accordance with all applicable requirements of Chapters 335-14-3 through 335-14-6. If the collected material is discharged through a point source to waters of the United States, it is subject to the requirements of Sections 301, 304, and 402 of the Clean Water Act, as amended. If discharged to a Publicly Owned Treatment Works (POTW), it is subject to the requirements of Section 307 of the Clean Water Act, as amended. If the collected material is released to the environment, it may be subject to the reporting requirements of 40 CFR Part 302.]

(d) Secondary containment for tanks must include one or more of the following devices:

1. A liner (external to the tank);
2. A vault;
3. A double-walled tank; or
4. An equivalent device as approved by the Department.

(e) In addition to the requirements of 335-14-5-.10(4)(b), (c), and (d), secondary containment systems must satisfy the following requirements:

1. External liner systems must be:

(i) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

(ii) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event.

(iii) Free of cracks or gaps, and

(iv) Designed and installed to surround the tank completely and to cover all surrounding earth likely to come into contact with the waste if the waste is

released from the tank(s) (i.e., capable of preventing lateral as well as vertical migration of the waste).

(v) Provided with an impermeable interior coating or lining if a concrete liner is used. The interior coating or lining must be compatible with the stored waste and prevent migration of the waste into the concrete.

2. Vault systems must be:

(i) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

(ii) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event;

(iii) Constructed with chemical-resistant water stops in place at all joints (if any);

(iv) Provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of waste into the concrete;

(v) Provided with a means to protect against the formation of and ignition of vapors within the vault, if the waste being stored or treated:

(I) Meets the definition of ignitable waste under 335-14-2-.03(2); or

(II) Meets the definition of reactive waste under 335-14-2-.03(4) and may form an ignitable or explosive vapor; and

(vi) Provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure.

3. Double-walled tanks must be:

(i) Designed as an integral structure (i.e., an inner tank completely enveloped within an outer shell) so that any release from the inner tank is contained by the outer shell.

(ii) Protected, if constructed of metal, from both corrosion of the primary tank interior and of the external surface of the outer shell; and

(iii) Provided with a built-in continuous leak detection system capable of detecting a release within 24 hours, or at the earliest practicable time, if the owner or operator can demonstrate to the Department, and the Department concludes, that the existing detection technology or site conditions would not allow detection of a release within 24 hours.

[**Note:** The provisions outlined in the Steel Tank Institute's (STI) "Standard for Dual Wall Underground Steel Storage Tanks" may be used as guidelines for aspects of the design of underground steel double-walled tanks.]

(f) Ancillary equipment must be provided with secondary containment (e.g., trench, jacketing, doublewalled piping) that meets the requirements of 335-14-5-.10(4)(b) and (c) except for:

1. Aboveground piping (exclusive of flanges, joints, valves, and other connections) that are visually inspected for leaks on a daily basis;
2. Welded flanges, welded joints, and welded connections that are visually inspected for leaks on a daily basis;
3. Sealless or magnetic coupling pumps and sealless valves, that are visually inspected for leaks on a daily basis; and
4. Pressurized aboveground piping systems with automatic shut off devices (e.g., excess flow check valves, flow metering shutdown devices, loss of pressure actuated shut-off devices) that are visually inspected for leaks on a daily basis.

(g) The owner or operator may obtain a variance from the requirements of 335-14-5-.10(4) if the Department finds, as a result of a demonstration by the owner or operator that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous waste or hazardous constituents into the groundwater; 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 groundwater or surface water, no substantial present or potential hazard will be posed to human health or the environment. New underground tank systems may not, per a demonstration in accordance with 335-14-5-.10(4)(g)2., be exempted from the secondary containment requirements of 335-14-5-.10(4).

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

- (i) The nature and quantity of the wastes;
- (ii) The proposed alternate design and operation;
- (iii) The hydrogeologic setting of the facility, including the thickness of soils present between the tank system and groundwater; and
- (iv) All other factors that would influence the quality and mobility of the hazardous constituents and the potential for them to migrate to groundwater or surface water.

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

(i) The potential adverse effects on groundwater, surface water, and land quality taking into account:

(I) The physical and chemical characteristics of the waste in the tank system, including its potential for migration,

(II) The hydrogeological characteristics of the facility and surrounding land,

(III) The potential for health risks caused by human exposure to waste constituents,

(IV) The potential for damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents, and

(V) The persistence and permanence of the potential adverse effects;

(ii) The potential adverse effects of a release on groundwater quality, taking into account:

(I) The quantity and quality of groundwater and the direction of groundwater flow,

(II) The proximity and withdrawal rates of groundwater users,

(III) The current and future uses of groundwater in the area, and

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

(iii) The potential adverse effects of a release on surface water quality, taking into account:

(I) The quantity and quality of groundwater and the direction of groundwater flow,

(II) The patterns of rainfall in the region,

(III) The proximity of the tank system to surface waters,

(IV) The current and future uses of surface waters in the area and any water quality standards established for those surface waters, and

(V) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface-water quality, and

(iv) The potential adverse effects of a release on the land surrounding the tank system, taking into account:

- (I) The patterns of rainfall in the region, and
- (II) The current and future uses of the surrounding land.

3. The owner or operator of a tank system for which a variance from secondary containment had been granted in accordance with the requirements of 335-14-5-.10(4)(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 variance), must:

(i) Comply with the requirements of 335-14-5-.10(7), except 335-14-5-.10(7)(d), and

(ii) Decontaminate or remove contaminated soil to the extent necessary to:

(I) Enable the tank system for which the variance was granted to resume operation with the capability for the detection of releases at least equivalent to the capability it had prior to the release; and

(II) Prevent the migration of hazardous waste or hazardous constituents to groundwater or surface water; and

(iii) If contaminated soil cannot be removed or decontaminated in accordance with 335-14-5-.10(4)(g)3.(ii), comply with the requirements of 335-14-5-.10(8)(b).

4. The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of 335-14-5-.10(4)(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 variance), must:

(i) Comply with the requirements of 335-14-5-.10(7)(a), (b), (c), and (d);

(ii) Prevent the migration of hazardous waste or hazardous constituents to groundwater or surface water, if possible, and decontaminate or remove contaminated soil. If contaminated soil cannot be decontaminated or removed or if groundwater has been contaminated, the owner or operator must comply with the requirements of 335-14-5-.10(8)(b); and

(iii) If repairing, replacing, or reinstalling the tank system, provide secondary containment in accordance with the requirements of 335-14-5-.10(4)(a) through (f) or reapply for a variance from secondary containment and meet the requirements for new tank systems in 335-14-5-.10(3) if the tank system is replaced. The owner or operator must comply with these requirements even if contaminated soil can be decontaminated or removed and groundwater or surface water has not been contaminated.

(h) The following procedures must be followed in order to request a variance from secondary containment:

1. The Department must be notified in writing by the owner or operator that he intends to conduct and submit a demonstration for a variance from secondary containment as allowed in 335-14-5-.10(4)(g) according to the following schedule:

(i) For existing tank systems, at least 24 months prior to the date that secondary containment must be provided in accordance with 335-14-5-.10(4)(a).

(ii) For new tank systems, at least 30 days prior to entering into a contract for installation.

2. As part of the notification, the owner or operator must also submit to the Department a description of the steps necessary to conduct the demonstration and a timetable for completing each of the steps. The demonstration must address each of the factors listed in 335-14-5-.10(4)(g)1. or 335-14-5-.10(4)(g)2.

3. The demonstration for a variance must be completed within 180 days after notifying the Department of an intent to conduct the demonstration; and

4. If a variance is granted under 335-14-5-.10(4)(h), the Department will require the permittee to construct and operate the tank system in the manner that was demonstrated to meet the requirements for the variance.

(i) All tank systems, until such time as secondary containment that meets the requirements of 335-14-5-.10(4) is provided, must comply with the following:

1. For non-enterable underground tanks, a leak test that meets the requirements of 335-14-5-.10(2)(b)5. or other tank integrity method, as approved or required by the Department, must be conducted at least annually.

2. For other than non-enterable underground tanks, the owner or operator must either conduct a leak test as in 335-14-5-.10(4)(i)1. or develop a schedule and procedure for an assessment of the overall condition of the tank system by a qualified Professional Engineer. The schedule and procedure must be adequate to detect obvious cracks, leaks, and corrosion or erosion that may lead to cracks and leaks. The owner or operator must remove the stored waste from the tank, if necessary, to allow the condition of all internal tank surfaces to be assessed. The frequency of these assessments must be based on the material of construction of the tank and its ancillary equipment, the age of the system, the type of corrosion or erosion protection used, the rate of corrosion or erosion observed during the previous inspection, and the characteristics of the waste being stored or treated.

3. For ancillary equipment, a leak test or other integrity assessment as approved by the Department must be conducted at least annually.

[Note: The practices described in the American Petroleum Institute (API) Publication, Guide for Inspection of Refinery Equipment, Chapter XIII, "Atmospheric

and Low-Pressure Storage Tanks", 4th Edition, 1981, may be used, where applicable, as guidelines for assessing the overall condition of the tank system.]

4. The owner or operator must maintain on file at the facility a record of the results of the assessments conducted in accordance with 335-14-5-.10(4)(i)1. through (i)3.

5. If a tank system or component is found to be leaking or unfit for use as a result of the leak test or assessment in 335-14-5-.10(4)(i)1. through (i)3., the owner or operator must comply with the requirements of 335-14-5-.10(7).

(5) General operating requirements.

(a) Hazardous wastes or treatment reagents must not be placed in a tank system if they could cause the tanks, its ancillary equipment, or the containment system to rupture, leak, corrode, or otherwise fail.

(b) The owner or operator must use appropriate controls and practices to prevent spills and overflows from tank or containment systems. These include at a minimum:

1. Spill prevention controls (e.g., check valves, dry disconnect couplings);

2. Overfill prevention controls (e.g., level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank); and

3. Maintenance of sufficient freeboard in uncovered tanks to prevent overtopping by wave or wind action or by precipitation.

(c) The owner or operator must comply with the requirements of 335-14-5-.10(7) if a leak or spill occurs in the tank system.

(6) Inspections.

(a) The owner or operator must develop and follow a schedule and procedure for inspecting overfill controls.

(b) The owner or operator must inspect at least once each operating day data gathered from monitoring and leak detection equipment (e.g., pressure or temperature gauges, monitoring wells) to ensure that the tank system is being operated according to its design.

[**Note:** 335-14-5-.02(6)(c) requires the owner or operator to remedy any deterioration or malfunction he finds. 335-14-5--.10(7) requires the owner or operator to notify the Department within 24 hours of confirming a leak. Also, 40 CFR Part 302 may require the owner or operator to notify the National Response Center of a release.]

(c) In addition, except as noted under 335-14-5-.10(6)(d), the owner or operator must inspect at least once each operating day:

1. Above ground portions of the tank system, if any, to detect corrosion or releases of waste; and

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

(d) Owners or operators of tank systems that either use leak detection systems to alert facility personnel to leaks, or implement established workplace practices to ensure leaks are promptly identified, must inspect at least weekly those areas described in 335-14-5-.10(6)(c) 1. and 2. Use of the alternate inspection schedule must be documented in the facility's operating record. This documentation must include a description of the established workplace practices at the facility.

(e) Ancillary equipment that is not provided with secondary containment, as described in 335-14-5-.10(4)(f) 1. through 4., must be inspected at least once each operating day.

(f) The owner or operator must inspect cathodic protection systems, if present, according to, at a minimum, the following schedule to ensure that they are functioning properly:

1. The proper operation of the cathodic protection system must be confirmed within six months after initial installation and annually thereafter, and

2. All sources of impressed current must be inspected and/or tested, as appropriate, at least bimonthly (i.e., every other month).

[Note: The practices described in the National Association of Corrosion Engineers (NACE) standard, "Recommended Practice (RP-02-85)-Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems", and the American Petroleum Institute (API) Publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems", may be used, where applicable, as guidelines in maintaining and inspecting cathodic protection systems.]

(g) The owner or operator must document in the operating record of the facility an inspection of those items in 335-14-5-.10(6)(a) through (f).

(7) Response to leaks or spills and disposition of leaking or unfit-for-use tank systems. A tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use, must be removed from service immediately, and the owner or operator must satisfy the following requirements:

(a) Cessation of Use; prevent flow or addition of wastes. The owner or operator must immediately stop the flow of hazardous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release.

(b) Removal of waste from tank system or secondary containment system.

1. If the release was from the tank system, the owner/operator must, within 24 hours after detection of the leak or, if the owner/operator demonstrates that it is not possible, at the earliest practicable time, remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed.

2. If the material released was to a secondary containment system, all released materials must be removed within 24 hours or in as timely a manner as is possible to prevent harm to human health and the environment.

(c) Containment of visible releases to the environment. The owner/operator must immediately conduct a visual inspection of the release and, based upon that inspection:

1. Prevent further migration of the leak or spill to soils or surface water; and

2. Remove, and properly dispose of, any visible contamination of the soil or surface water.

(d) Notifications, reports.

1. Any release to the environment, except as provided in 335-14-5-.10(7)(d)2. of this paragraph, must be reported to the Department within 24 hours of its detection. Report of a release pursuant to 40 CFR Part 302 does not satisfy this requirement.

2. A leak or spill of hazardous waste is exempted from the requirements of 335-14-5-.10(7)(d) if it is:

(i) Less than or equal to a quantity of one (1) pound, and

(ii) Immediately contained and cleaned up.

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

(i) Likely route of migration of the release;

(ii) Characteristics of the surrounding soil (soil composition, geology, hydrogeology, climate);

(iii) Results of any monitoring or sampling conducted in connection with the release (if available). If sampling or monitoring data relating to the release are not available within 30 days, these data must be submitted to the Department as soon as they become available.

(iv) Proximity to downgradient drinking water, surface water, and populated areas; and

(v) Description of response actions taken or planned.

(e) Provision of secondary containment, repair, or closure.

1. Unless the owner/operator satisfies the requirements of 335-14-5-.10(7)(e)2. through (e)4., the tank system must be closed in accordance with 335-14-5-.10(8).

2. If the cause of the release was a spill that has not damaged the integrity of the system, the owner/operator may return the system to service as soon as the released waste is removed and repairs, if necessary, are made.

3. If the cause of the release was a leak from the primary tank system into the secondary containment system, the system must be repaired prior to returning the tank system to service.

4. If the source of the release was a leak to the environment from a component of a tank system without secondary containment, the owner/operator must provide the component of the system from which the leak occurred with secondary containment that satisfies the requirements of 335-14-5-.10(4) before it can be returned to service, unless the source of the leak is an aboveground portion of a tank system that can be inspected visually. If the source is an aboveground component that can be inspected visually, the component must be repaired and may be returned to service without secondary containment as long as the requirements of 335-14-5-.10(7)(f) are satisfied. If a component is replaced to comply with the requirements of 335-14-5-.10(7)(e), that component must satisfy the requirements for new tank systems or components in 335-14-5-.10(3) and 335-14-5-.10(4). Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection (e.g., the bottom of an inground or onground tank), the entire component must be provided with secondary containment in accordance with 335-14-5-.10(4) prior to being returned to use.

(f) Certification of major repairs. If the owner/operator has repaired a tank system in accordance with 335-14-5-.10(7)(e), and the repair has been extensive (e.g., installation of an internal liner; repair of a ruptured primary containment or secondary containment vessel), the tank system must not be returned to service unless the owner/operator has obtained a certification by a qualified Professional Engineer in accordance with 335-14-8-.02(2)(d) that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. This certification must be placed in the operating record and maintained until closure of the facility.

[Note: The Department may, on the basis of any information received that there is or has been a release of hazardous waste or hazardous constituents into the environment, issue an order under RCRA Section 3004(v), 3008(h), or 7003(a) or the AHWMA, respectively, requiring corrective action or such other response as deemed necessary to protect human health or the environment.]

[**Note:** See 335-14-5-.02(6)(c) for the requirements necessary to remedy a failure. Also, 40 CFR Part 302 may require the owner or operator to notify the National Response Center of certain releases.]

(8) Closure and post-closure care.

(a) At closure of a tank system, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste, unless 335-14-2-.01(3)(d) applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for tank systems must meet all of the requirements specified in 335-14-5-.07 and 335-14-5-.08.

(b) If the owner or operator demonstrates that not all contaminated soils can be practicably removed or decontaminated as required in 335-14-5-.10(8)(a), then the owner or operator must close the tank system and perform post-closure care in accordance with the closure and post-closure care requirements that apply to landfills [335-14-5-.14(11)]. In addition, for the purposes of closure, post-closure, and financial responsibility, such a tank system is then considered to be a landfill, and the owner or operator must meet all of the requirements for landfills specified in 335-14-5-.07 and 335-14-5-.08.

(c) If an owner or operator has a tank system that does not have secondary containment that meets the requirements of 335-14-5-.10(4)(b) through (f) and has not been granted a variance from the secondary containment requirements in accordance with 335-14-5-.10(4)(g), then:

1. The closure plan for the tank system must include both a plan for complying with 335-14-5-.10(8)(a) and a contingent plan for complying with 335-14-5-.10(8)(b).

2. A contingent post-closure plan for complying with 335-14-5-.10(8)(b) must be prepared and submitted as part of the permit application.

3. The cost estimates calculated for closure and post-closure care must reflect the costs of complying with the contingent closure plan and the contingent post-closure plan, if those costs are greater than the costs of complying with the closure plan prepared for the expected closure under 335-14-5-.10(8)(a).

4. Financial assurance must be based on the cost estimates in 335-14-5-.10(8)(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 must meet all of the closure, post-closure, and financial responsibility requirements for landfills under 335-14-5-.07 and 335-14-5-.08.

(9) Special requirements for ignitable or reactive wastes.

(a) Ignitable or reactive waste must not be placed in tank systems, unless:

1. The waste is treated, rendered, or mixed before or immediately after placement in the tank system so that:

(i) The resulting waste, mixture, or dissolved material no longer meets the definition of ignitable or reactive waste under 335-14-2-.03(2) or 335-14-2-.03(4); and

(ii) 335-14-5-.02(8)(b) is complied with; or

2. The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or

3. The tank system is used solely for emergencies.

(b) The owner or operator of a facility where ignitable or reactive waste is stored or treated in a tank must comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon as required in Tables 2-1 through 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code", (1977 or 1981), (incorporated by reference in 335-14-1-.02(2).

(10) Special requirements for incompatible wastes.

(a) Incompatible wastes, or incompatible wastes and materials, must not be placed in the same tank system, unless 335-14-5-.02(8)(b), is complied with.

(b) Hazardous waste must not be placed in a tank system that has not been decontaminated and that previously held an incompatible waste or material, unless 335-14-5-.02(8)(b) is complied with.

(11) Air emission standards. The owner or operator shall manage all hazardous waste placed in a tank in accordance with the applicable requirements of 335-14-5-.27, 335-14-5-.28, 335-14-5-.29.

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