

**TRANSMITTAL SHEET FOR  
NOTICE OF INTENDED ACTION**

Control 335 Department or Agency Environmental Management  
Rule No. 335-14-6-.11  
Rule Title: Surface Impoundments

         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         Mary Ellett        

Date September 20, 2011

APA-2  
11/96

**DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
LAND DIVISION**

**NOTICE OF INTENDED ACTION**

AGENCY NAME: DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

<u>RULE NO. &amp; TITLE:</u>	335-14-6-.02	<u>General Facility Standards</u> (Amend)
	335-14-6-.05	<u>Manifest System, Recordkeeping and Reporting</u> (Amend)
	335-14-6-.07	<u>Closure and Post-Closure</u> (Amend)
	335-14-6-.08	<u>Financial Requirements</u> (Amend)
	335-14-6-.11	<u>Surface Impoundments</u> (Amend)
	335-14-6-.14	<u>Landfills</u> (Amend)
	335-14-6-.15	<u>Incinerators</u> (Amend)
	335-14-6-.16	<u>Thermal Treatment</u> (Amend)
	335-14-6-.23	<u>Drip Pads</u> (Amend)
	335-14-6-.31	<u>Hazardous Waste Munitions and Explosive Storage</u> (Amend)
	335-14-6-Appendix I	<u>Recordkeeping Instructions</u> (Amend)

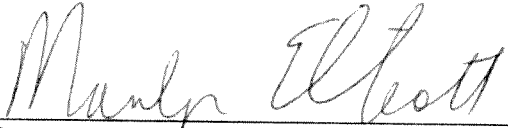
INTENDED ACTION: Revise Division 14 of the ADEM Administrative Code.

SUBSTANCE OR PROPOSED ACTION: Revise portions of Division 14 Regulations to incorporate changes to ensure consistency with State and Federal Statutes; to adopt certain State specific requirements; and to provide clarification of State requirements for the management of hazardous waste.

TIME, PLACE, MANNER OF PRESENTING VIEWS: Comments may be submitted in writing or orally at a public hearing to be held Monday, December 5, 2011 at 10:00 a.m. in the Main Hearing Room at the ADEM Central Office located at 1400 Coliseum Boulevard, Montgomery, Alabama 36110.

FINAL DATE FOR COMMENT AND COMPLETION OF NOTICE: Monday, December 5, 2011 at 5:00 p.m.

CONTACT PERSON AT AGENCY: James L. Bryant, Chief of the Environmental Services Branch, ADEM Land Division (334/271-7771)

  
\_\_\_\_\_  
Lance R. LeFleur  
Director

**335-14-6-.11 Surface Impoundments.**

(1) Applicability.

The requirements of 335-14-6-.11 apply to owners and operators of facilities that use surface impoundments to treat, store, or dispose of hazardous waste except as 335-14-6-.01(1) provides otherwise.

(2) 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, must 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 335-14-5-.11(2)(c), unless exempted under 335-14-5-.11(2)(d), (e), or (f).

(b) The owner or operator of each unit referred to in 335-14-6-.11(2)(a) must notify the Department at least sixty days prior to receiving waste. The owner or operator of each facility submitting notice must file a Part B application within six months of the receipt of such notice.

(c) The owner or operator of any replacement surface impoundment unit is exempt from 335-14-6-.11(2)(a) if:

1. The existing unit was constructed in accordance with the design standards of Sections 3004(o)(1)(A)(i) and (o)(5) of the Resource Conservation and Recovery Act and the AHWMA; and

2. There is no reason to believe that the liner is not functioning as designed.

(d) The double liner requirement set forth in 335-14-6-.11(2)(a) may be waived by the Department for any monofill if:

1. The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the EP toxicity characteristics in 335-14-2-.03(5);

2. (i) (I) The monofill has at least one liner for which there is no evidence that such liner is leaking. For the purposes of 335-14-6-.11(2) 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, groundwater, or surface water at any time during the active life of the facility. In the case of any surface impoundment which has been exempted from the requirements of 335-14-6-.11(2)(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 such impoundment the owner or operator must remove or decontaminate all waste residues, all contaminated liner material, and contaminated soil to the extent practicable. If all contaminated soil is not removed or decontaminated, the owner or operator of such impoundment must comply with appropriate post-closure requirements, including but not limited to groundwater monitoring and corrective action:

(II) The monofill is located more than one-quarter mile from an "underground source of drinking water" (as that term is defined in 335-14-1-.02); and

(III) The monofill is in compliance with generally applicable groundwater monitoring requirements for facilities with permits under Division 335-14; 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 groundwater or surface water at any future time.

(e) In the case of any unit which the liner and leachate collection system has been installed pursuant to the requirements of 335-14-6-.11(2)(a) and in good faith compliance with 335-14-6-.11(2)(a) and with guidance documents governing liners and leachate collection systems under 335-14-6-.11(2)(a), no liner or leachate collection system which is different from that which was so installed pursuant to 335-14-6-.11(2)(a) will be required for such unit by the Department when issuing the first permit to such facility, except that the Department will not be precluded from requiring installation of a new liner when the Department has reason to believe that any liner installed pursuant to the requirements of 335-14-6-.11(2)(a) is leaking.

(f) A surface impoundment must maintain enough freeboard to prevent any overtopping of the dike by overfilling, wave action or a storm. Except as provided in 335-14-6-.11(2)(b), there must be at least 60 centimeters (two feet) of freeboard.

(g) A freeboard level less than 60 centimeters (two feet) may be maintained if the owner or operator obtains certification by a qualified professional engineer that alternate design features or operating plans will, to the best of his knowledge and opinion, prevent overtopping of the dike. The certification, along with a written identification of alternate design features or operating plans preventing overtopping must be maintained at the facility.

(h) Surface impoundments that are newly subject to 335-14-6-.11 due to the promulgation of additional listings or characteristics for the identification of hazardous waste must be in compliance with 335-14-6-.11(2)(a), (c), and (d) not later than 48 months after the promulgation of the additional listing or characteristic. This compliance period shall not be cut short as the result of the promulgation of land disposal prohibitions under

335-14-9 or the granting of an extension to the effective date of a prohibition pursuant to rule 335-14-9-.01(5), within this 48-month period.

(3) Action leakage rate.

(a) The owner or operator of surface impoundment units subject to 335-14-6-.11(2)(a) must submit a proposed action leakage rate to the Director when submitting the notice required under 335-14-6-.11(2)(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 335-14-6-.11(3); or extend the review period for up to 60 days. If no action is taken by the Director before the original 60 or extended 120 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 335-14-6-.11(2)(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 must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(c) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under 335-14-6-.11(7)(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 must be calculated weekly during the active life and closure period, and if the unit closes in accordance with 335-14-6-.11(9)(a)2., monthly during the post-closure care period when monthly monitoring is required under 335-14-6-.11(7)(b).

(4) Containment system.

All earthen dikes must have a protective cover, such as grass, shale or rock, to minimize wind and water erosion and to preserve their structural integrity.

(5) Response actions.

(a) The owner or operator of surface impoundment units subject to 335-14-6-.11(2)(a) must develop and keep on-site until closure of the facility a response action plan. The response action plan must set forth the actions to

be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in 335-14-6-.11(5)(b).

(b) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator must:

1. Notify the 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 335-14-6-.11(5)(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 and/or remediation determinations in 335-14-6-.11(5)(b)3., 4., and 5., the owner or operator must:

1. (i) Assess the source of liquids and amounts of liquids by source,

(ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

(iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

2. Document why such assessments are not needed.

(6) Waste analysis and trial tests.

(a) In addition to the waste analyses required by 335-14-6-.042(4), whenever a surface impoundment is to be used to:

1. Chemically treat a hazardous waste which is substantially different from waste previously treated in that impoundment; or

2. Chemically treat hazardous waste with a substantially different process than any previously used in that impoundment; the owner or operator must, before treating the different waste or using the different process:

(i) Conduct waste analyses and trial treatment tests (e.g., bench scale or pilot plant scale tests); or

(ii) Obtain written, documented information on similar treatment of similar waste under similar operating conditions; to show that this treatment will comply with 335-14-6-.02(8)(b).

(7) Monitoring and inspection.

(a) The owner or operator must inspect:

1. The freeboard level at least once each operating day to ensure compliance with 335-14-6-.11(3); 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.

3. These inspections must be documented in an inspection log as required by rule 335-14-6-.02(6)(d).

(b) 1. An owner or operator required to have a leak detection system under 335-14-6-.11(2)(a) must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

2. After the final cover is installed, the amount of liquids removed from each leak detection system sump must be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for two consecutive months, the amount of liquids in the sumps must be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps must be recorded at least semi-annually. If at any time during the post-closure care period the pump operating level is exceeded at units on quarterly or semi-annual recording schedules, the owner or operator must return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months.

3. "Pump operating level" is a liquid level proposed by the owner or operator and approved by the 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 335-14-6-.11(3)(a).

(8) [Reserved]

(9) Closure and post-closure care.

(a) At closure, the owner or operator must:

1. Remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless 335-14-2-.01(3)(d) applies; or

2. Close the impoundment and provide post-closure care for a landfill under rule 335-14-6-.07 and 335-14-6-.14(11), 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:

(I) Provide long-term minimization of the migration of liquids through the closed impoundment;

(II) Function with minimum maintenance;

(III) Promote drainage and minimize erosion or abrasion of the cover;

(IV) Accommodate settling and subsidence so that the cover's integrity is maintained; and

(V) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(VI) To meet the requirements of 335-14-6-.11(9)(a)2.(iii) the final cover must meet the requirements of 335-14-6-.14(11)(b)1. through 3., unless rule 335-14-6-.14(11)(c) applies.

(b) In addition to the requirements of rule 335-14-6-.07 and 335-14-6-.14(11), 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 335-14-6-.11(9)(a)2. must:

1. Maintain the integrity and effectiveness of the final cover, including making repairs to the cover as necessary to correct the effects of settling, subsidence, erosion, or other events;

2. Maintain and monitor the leak detection system in accordance with 335-14-5-.11(2)(c)2.(iv) and 335-14-5-.11(2)(c)3., and 335-14-6-.11(7)(b)



and comply with all other applicable leak detection system requirements of 335-14-6;

3. Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of rule 335-14-6-.06; and

4. Prevent run-on and run-off from eroding or otherwise damaging the final cover.

(10) Special requirements for ignitable or reactive waste.

Ignitable or reactive waste must not be placed in a surface impoundment unless the waste and impoundment satisfy all applicable requirements of 335-14-9, 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 335-14-2-.03(2) or (4); and

2. 335-14-6-.02(8)(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 professional engineer or qualified chemist 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 basis for it are maintained at the facility; or

(c) The surface impoundment is used solely for emergencies.

(11) Special requirements for incompatible wastes.

Incompatible wastes and materials (see 335-14-6-Appendix V for examples) must not be placed in the same surface impoundment, unless 335-14-6-.02(8)(b) is complied with.

(12) Air emission standards.

The owner or operator shall manage all hazardous waste placed in a surface impoundment in accordance with the applicable requirements of 335-14-6-.27, 335-14-6-.28, and 335-14-6-.29.

**Author:** Stephen C. Maurer; James W. Hathcock; C. Edwin Johnston; Michael B. Champion; Bradley N. Curvin; Theresa A. Maines.

**Statutory Authority:** Code of Alabama 1975, §§ 22-30-11 and 22-30-16.

**History:** November 19, 1980.

**Amended:** April 9, 1986; September 29, 1986; August 24, 1989;  
December 6, 1990; January 1, 1993; January 5, 1995; March 27, 1998;  
April 13, 2001; March 15, 2002; April 17, 2003; April 4, 2006; April 3,  
2007;XXXXXXXX.