

TRANSMITTAL SHEET FOR  
NOTICE OF INTENDED ACTION

Control 335 Department or Agency Environmental Management  
Rule No. ADEM Admin. Code r. 335-14-5-.15  
Rule Title: Incinerators

         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

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Does the proposed rule have an economic impact?          NO

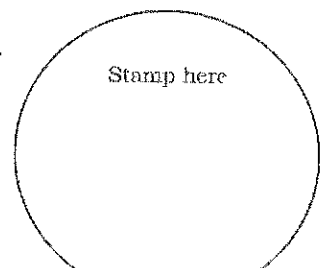
If the proposed rule has an economic impact, the proposed rule is required to be accompanied by a fiscal note prepared in accordance with subsection (f) of section 41-22-23, Code of Alabama 1975.

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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         Mandy Elliott        

Date 10/21/2015



335-14-3-.08 Special Requirements for Generators of Waste  
Destined For Disposal at Commercial Hazardous  
Waste Disposal Facilities Located in the State of  
Alabama (Amend)  
335-14-5-.07 Closure and Post-Closure (Amend)  
335-14-5-.15 Incinerators (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 December 16, 2015 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: December 16, 2015

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

  
Lance R. LeFleur  
Director

**335-14-5-.15      Incinerators.**

(1)            Applicability.

(a)            The requirements of 335-14-5-.15 apply to owners and operators of hazardous waste incinerators (as defined in 335-14-1-.02), except as 335-14-5-.01(1) provides otherwise.

(b)            Integration of the MACT standards.

1.            Except as provided by 335-14-5-.15(1)(b)2., (b)3. and (b)4., the standards of 335-14-5 no longer apply when an owner or operator demonstrates compliance with the maximum achievable control technology (MACT) requirements of 335-3-11-.06(56) by conducting a comprehensive performance test and submitting to the Director a Notification of Compliance under 335-3-11-.06(56) and 40 CFR § 63.1210(d) documenting compliance with the requirements of 335-3-11-.06(56). Nevertheless, even after this demonstration of compliance with the MACT standards, RCRA permit conditions that were based on the standards of 335-14-5 will continue to be in effect until they are removed from the permit or the permit is terminated or revoked, unless the permit expressly provides otherwise.

2.            The MACT standards do not replace the closure requirements of 335-14-5-.15(12) or the applicable requirements of 335-14-5-.01 through 5-.08, 5-.28, and 5-.29.

3.            The particulate matter standard of 335-14-5-.15(4)(c) remains in effect for incinerators that elect to comply with the alternative to the particulate matter standard of 40 CFR § 63.1206(b)(14) and § 63.1219(e).

4.            The following requirements remain in effect for startup, shutdown, and malfunction events if the facility elects to comply with 335-14-8-.15(1)(a)1.(i) to minimize emissions of toxic compounds from these events:

(i)            335-14-5-.15(6)(a) requiring that an incinerator operate in accordance with operating requirements specified in the permit; and

(ii)           335-14-5-.15(6)(c) requiring compliance with the emission standards and operating requirements during startup and shutdown if hazardous waste is in the combustion chamber, except for particular hazardous wastes.

(c)            After consideration of the waste analysis included with Part B of the permit application, the Department, in establishing the permit conditions, may exempt the applicant from all requirements of 335-14-5-.15 except 335-14-5-.15(2) (Waste analysis) and 335-14-5-.15(12) (Closure).

1.            If the Department finds that the waste to be burned is:

(i)            Listed as a hazardous waste in 335-14-2-.04 solely because it is ignitable (Hazard Code I), corrosive (Hazard Code C), or both; or

(ii) Listed as a hazardous waste in 335-14-2-.04 solely because it is reactive (Hazard Code R) for characteristics other than those listed in 335-14-2-.03(4)(a)4. and 5., and will not be burned when other hazardous wastes are present in the combustion zone; or

(iii) A hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the test for characteristics of hazardous wastes under 335-14-2-.03; or

(iv) A hazardous waste solely because it possesses any of the reactivity characteristics described by 335-14-2-.03 (4)(a)1., 2., 3., 6., 7. and 8., and will not be burned when other hazardous wastes are present in the combustion zone; and

2. If the waste analysis shows that the waste contains none of the hazardous constituents listed in 335-14-2 - Appendix VIII, which would reasonably be expected to be in the waste.

(d) If the waste to be burned is one which is described by 335-14-5-.15(1)(c)1.(i), (c)1.(ii), (c)1.(iii), or (c)1.(iv) and contains insignificant concentrations of the hazardous constituents listed in 335-14-2 - Appendix VIII, then the Department may, in establishing permit conditions, exempt the applicant from all requirements of 335-14-5-.15, except 335-14-5-.15(2) (Waste analysis) and 335-14-5-.15(12) (Closure), after consideration of the waste analysis included with Part B of the permit application, unless the Department finds that the waste will pose a threat to human health and the environment when burned in an incinerator.

(e) The owner or operator of an incinerator may conduct trial burns subject only to the requirements of 335-14-8-.06(2) (Short term and incinerator permits).

(2) Waste analysis.

(a) As a portion of the trial burn plan required by 335-14-8-.06(2), or with Part B of the permit application, the owner or operator must have included an analysis of the waste feed sufficient to provide all information required by 335-14-8-.06(2)(b) or 335-14-8-.02(10). Owners or operators of new hazardous waste incinerators must provide the information required by 335-14-8-.06(2)(c) or 335-14-8-.02(10) to the greatest extent possible.

(b) Throughout normal operation the owner or operator must conduct sufficient waste analysis to verify that waste feed to the incinerator is within the physical and chemical composition limits specified in his permit (under 335-14-5-.15(6)(b)).

(3) Principal organic hazardous constituents (POHCS).

(a) Principal Organic Hazardous Constituents (POHCs) in the waste feed must be treated to the extent required by the performance standard of 335-14-5-.15(4).

1. One or more POHCs will be specified in the facility's permit, from among those constituents listed in of 335-14-2 - Appendix VIII, for each waste feed to be burned. This specification will be based on the degree of difficulty of incineration of the organic constituents in the waste and on their concentration or mass in the waste feed, considering the results of waste analyses and trial burns or alternative data submitted with Part B of the facility's permit application. Organic constituents which represent the greatest degree of difficulty of incineration will be those most likely to be designated as POHCs. Constituents are more likely to be designated as POHCs if they are present in large quantities or concentrations in the waste.

2. Trial POHCs will be designated for performance of trial burns in accordance with the procedure specified in 335-14-8-.06(2) for obtaining trial burn permits.

(4) Performance standards. An incinerator burning hazardous waste must be designed, constructed, and maintained so that, when operated in accordance with the operating requirements specified under 335-14-5-.15(6), it will meet the following performance standards:

(a)1. Except as provided in 335-14-5-.15(4)(a)2., an incinerator burning hazardous waste must achieve a destruction and removal efficiency (DRE) of 99.99% for each principal organic hazardous constituent (POHC) designated (under 335-14-5-.15(3)) in its permit for each waste feed. DRE is determined for each POHC from the following equation:

$$DRE = \frac{(W_{in} - W_{out})}{W_{in}} \times 100\%$$

Where:

$W_{in}$  = Mass feed rate of one principal organic hazardous constituent (POHC) in the waste stream feeding the incinerator, and

$W_{out}$  = Mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

2. An incinerator burning hazardous wastes F020, F021, F022, F023, F026, or F027 must achieve a destruction and removal efficiency (DRE) of 99.9999% for each principal organic hazardous constituent (POHC) designated (under 335-14-5-.15(3)) in its permit. This performance must be demonstrated on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-p-dioxins and dibenzofurans. DRE is determined for each POHC from the equation in 335-14-5-.15(4)(a)1.

(b) An incinerator burning hazardous waste and producing stack emissions of more than 1.8 kilograms per hour (4 pounds per hour) of hydrogen chloride (HCl) must control HCl emissions such that the rate of emission is no greater than the larger of either 1.8 kilograms per hour or 1% of the HCl in the stack gas prior to entering any pollution control equipment.

(c) An incinerator burning hazardous waste must not emit particulate matter in excess of 180 milligrams per dry standard cubic meter (0.08 grains per dry standard cubic foot) when corrected for the amount of oxygen in the stack gas according to the formula:

$$P_c = P_m \times \frac{14}{21 - Y}$$

Where

$P_c$  is the corrected concentration of particulate matter,

$P_m$  is the measured concentration of particulate matter, and

$Y$  is the measured concentration of oxygen in the stack gas, using the Orsat method for oxygen analysis of dry flue gas, presented in Part 60, Appendix A (Method 3), of Chapter 1, Environmental Protection Agency, of the Code of Federal Regulations. This correction procedure is to be used by all hazardous waste incinerators except those operating under conditions of oxygen enrichment. For these facilities, the Department will select an appropriate correction procedure, to be specified in the facility permit.

(d) For purposes of permit enforcement, compliance with the operating requirements specified in the permit (under 335-14-5-.15(6)) will be regarded as compliance with 335-14-5-.15(4). However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the performance requirements of 335-14-5-.15(4) may be "information" justifying modification, revocation, or reissuance of a permit under 335-14-8-.04(2).

(5) Hazardous waste incinerator permits.

(a) The owner or operator of a hazardous waste incinerator may burn only wastes specified in his permit and only under operating conditions specified for those wastes under 335-14-5-.15(6), except:

1. In approved trial burns under 335-14-8-.06(2); or
2. Under exemptions created by 335-14-5-.15(1).

(b) Other hazardous wastes may be burned only after operating conditions have been specified in a new permit or a permit modification as applicable. Operating requirements for new wastes may be based on either trial burn results or alternative data included with Part B of a permit application under 335-14-8-.02(10).

(c) The permit for a new hazardous waste incinerator must establish appropriate conditions for each of the applicable requirements of 335-14-5-.15, including but not limited to, allowable waste feeds and operating conditions necessary

to meet the requirements of 335-14-5-.15(6), sufficient to comply with the following standards:

1. For the period beginning with initial introduction of hazardous waste to the incinerator and ending with initiation of the trial burn, and only for the minimum time required to establish operating conditions required in 335-14-5-.15(5)(c)2., not to exceed a duration of 720 hours operating time for treatment of hazardous waste, the operating requirements must be those likely to ensure compliance with the performance standards of 335-14-5-.15(4), based on the Department's engineering judgment. The Department may extend the duration of this period once for up to 720 additional hours when good cause for the extension is demonstrated by the applicant;

2. For the duration of the trial burn, the operating requirements must be sufficient to demonstrate compliance with the performance standards of 335-14-5-.15(4) and must be in accordance with the approved trial burn plan;

3. For the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation, and submission of the trial burn results by the applicant, and review of the trial burn results and modification of the facility permit by the Department, the operating requirements must be those most likely to ensure compliance with the performance standards of 335-14-5-.15(4), based on the Department's engineering judgment; and

4. For the remaining duration of the permit, the operating requirements must be those demonstrated, in a trial burn or by alternative data specified in 335-14-8-.02(10)(c), as sufficient to ensure compliance with the performance standards of 335-14-5-.15(4).

(6) Operating requirements.

(a) An incinerator must be operated in accordance with operating requirements specified in the permit. These will be specified on a case-by-case basis as those demonstrated (in a trial burn or in alternative data as specified in 335-14-5-.15(5)(b) and included with Part B of a facility's permit application) to be sufficient to comply with the performance standards of 335-14-5-.15(4).

(b) Each set of operating requirements will specify the composition of the waste feed (including acceptable variations in the physical or chemical properties of the waste feed which will not affect compliance with the performance requirement of 335-14-5-.15(4)) to which the operating requirements apply. For each such waste feed, the permit will specify acceptable operating limits including the following conditions:

1. Carbon monoxide (CO) level in the stack exhaust gas;
2. Waste feed rate;
3. Combustion temperature;

4. An appropriate indicator of combustion gas velocity;
5. Allowable variations in incinerator system design or operating procedures; and
6. Such other operating requirements as are necessary to ensure that the performance standards of 335-14-5-.15(4) are met.

(c) During start-up and shut-down of an incinerator, hazardous waste (except wastes exempted in accordance with 335-14-5-.15(1)) must not be fed into the incinerator unless the incinerator is operating within the conditions of operation (temperature, air feed rate, etc.) specified in the permit.

(d) Fugitive emissions from the combustion zone must be controlled by:

1. Keeping the combustion zone totally sealed against fugitive emissions; or
2. Maintaining a combustion zone pressure lower than atmospheric pressure; or
3. An alternate means of control demonstrated (with Part B of the permit application) to provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure.

(e) An incinerator must be operated with a functioning system to automatically cut off waste feed to the incinerator when operating conditions deviate from limits established under 335-14-5-.15(6)(a).

(f) An incinerator must cease operation when changes in waste feed, incinerator design, or operating conditions exceed limits designated in its permit.

(7) **[Reserved].**

(8) Monitoring and inspections.

(a) The owner or operator must conduct, as a minimum, the following monitoring while incinerating hazardous waste:

1. Combustion temperature, waste feed rate, and the indicator of combustion gas velocity specified in the facility permit must be monitored on a continuous basis.

2. CO must be monitored on a continuous basis at a point in the incinerator downstream of the combustion zone and prior to release to the atmosphere.



3. Upon request by the Department, sampling and analysis of the waste and exhaust emissions must be conducted to verify that the operating requirements established in the permit achieve the performance standards of 335-14-5-.15(4).

(b) The incinerator and associated equipment (pumps, valves, conveyors, pipes, etc.) must be subjected to thorough visual inspection, at least daily, for leaks, spills, fugitive emissions, and signs of tampering.

(c) The emergency waste feed cutoff system and associated alarms must be tested at least weekly to verify operability, unless the applicant demonstrates to the Department that weekly inspections will unduly restrict or upset operations and that less frequent inspection will be adequate. At a minimum, operational testing must be conducted at least monthly.

(d) This monitoring and inspection data must be recorded and the records must be placed in the operating record required by 335-14-5-.05(4) and maintained in the operating record for five years.

(9) **[Reserved].**

(10) **[Reserved].**

(11) **[Reserved].**

(12) Closure. At closure the owner or operator must remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters, and scrubber sludges) from the incinerator site.

**Authors:** Stephen C. Maurer, C. Edwin Johnston, Bradley N. Curvin, Theresa A. Maines; Heather M. Jones; Ron Shell

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

**History:** July 19, 1982.

**Amended:** April 9, 1986; September 29, 1986; August 24, 1989; January 25, 1992; April 13, 2001; April 17, 2003; April 4, 2006; April 3, 2007; March 31, 2009; March 30, 2010; XXXXX, 2016.