ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
AIR DIVISION – AIR POLLUTION CONTROL PROGRAM
ADMINISTRATIVE CODE

CHAPTER 335-3-3
OPEN BURNING AND INCINERATION

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335-3-3-.01 Open Burning.

(1) No person shall ignite, cause to be ignited, permit to be ignited, or maintain any open fire except as follows:

(a) Open fires for the cooking of food for human consumption on other than commercial premises;

(b) Fires for recreational or ceremonial purposes;

(c) Fires to abate a fire hazard, providing the hazard is so declared by the fire department or fire district having jurisdiction;

(d) Fires for prevention or control of disease or pests;

(e) Fires for training personnel in the methods of fighting fires, provided that all requirements of ADEM Admin. Code R. 335-3-11-.02(12) are met;

(f) Fires for the disposal of dangerous materials where there is no practical alternate method of disposal and burning is approved by the Director;

(g) Fires set for recognized agricultural, silvicultural, range, and wildlife management practices;

(h) Fires set in salamanders or other devices, utilizing only wood, vegetation, coal, propane, kerosene, fuel oil or used oil (used oil as defined in ADEM Admin. Code Chapter

335-14-17) as fuel, and used by construction or other workers for heating purposes;

(i) Open fires specifically or expressly approved by the Director.

(2) Open burning may also be conducted for the purposes listed below and if it meets all the requirements of this paragraph. Authority to conduct open burning under the provisions of this paragraph does not exempt or excuse a person from the consequences, damages, or injuries which may result from such conduct, nor does it exempt or excuse a person from complying with all applicable laws, ordinances, regulations, and orders of governmental entities having jurisdiction, even though the open burning is conducted as specified in this paragraph.

(a) Open burning of vegetation or untreated wood may be conducted if it is generated by clearing or maintaining land, or from demolition or operations conducted for any of the following purposes:

1. Erection of any structure;

2. Construction of any transportation, utility, or communications line;

3. Maintenance of rights-of-way;

4. Development or modification of a recreational or commercial area;

5. Plant husbandry practices.

(b) Open burning authorized by this paragraph shall comply with the following conditions:

1. The burning must take place on the property on which the combustible fuel originates;

2. The location of the burning must be at least 500 feet from the nearest occupied dwelling other than a dwelling located on the property on which the burning is conducted;

3. The burning must be controlled so as to avoid creating a traffic hazard on any public road, street, or highway as a result of the air contaminants emitted;

4. Only vegetation and untreated wood may be burned. It is unauthorized to open burn heavy oils, asphalt products, plastics, vinyl materials, insulation, paper, cardboard, natural or synthetic rubber, salvage or scrap

materials, chemicals, garbage, treated or painted wood, or any trash;

5. Initial burning may be commenced only between the hours of 8:00 a.m. and 3:00 p.m. No combustible material is to be added to the fire between 3:00 p.m. and 8:00 a.m. the following day;

6. Burning shall be conducted only when there is good ventilation and when the prevailing wind direction is away from any built-up area in the vicinity. No burning shall be conducted in areas under a current air stagnation advisory issued by the National Weather Service or during a "Drought Emergency" declared by the Governor;

7. The fire shall be attended at all times.

(c) The Director or his authorized representative may impose additional conditions to cover specific open burning situations where additional controls or requirements are deemed necessary to minimize air pollution.

(d) Permission to open burn under the provisions of this paragraph is revoked during the months of May, June, July, August, September, and October in Baldwin, DeKalb, Etowah, Jefferson, Lawrence, Madison, Mobile, Montgomery, Morgan, Shelby, Russell, and Talladega Counties.

Author: James W. Cooper, John E. Daniel, Ronald W. Gore
Statutory Authority: Code of Ala. 1975, §§22-28-14, 22-22A-5, 22-22A-6, 22-22A-8.
History: Effective Date January 18, 1972. **Amended:** Filed October 17, 1996; effective November 21, 1996. **Amended:** Filed August 21, 1997; effective September 25, 1997. **Amended:** Filed August 3, 2000; effective September 7, 2000. **Amended:** Filed February 27, 2003; effective April 3, 2003. **Amended:** Filed August 28, 2003; effective October 2, 2003. **Amended:** Filed February 15, 2005; effective March 22, 2005. **Amended:** Filed February 28, 2006; effective April 4, 2006. **Amended:** Filed December 18, 2007; effective January 22, 2008.

335-3-3-.02 Incinerators.

(1) The provisions of this Rule are applicable to any incinerator except as provided in Rule 335-3-3-.03 and Rule 335-3-3-.04.

(2) Incinerators shall be designed and operated in such manner as is necessary to prevent the emission of objectionable odors.

(3) No person shall cause or permit to be emitted into the open air from any incinerator, particulate matter in the exhaust gases

to exceed 0.20 pounds per 100 pounds of refuse charged; provided that: for incinerators of more than 50 tons per day charging rate, particulate matter in the exhaust gases may not exceed 0.10 pounds per 100 pounds of refuse charged.

(4) Emission tests shall be conducted at maximum burning capacity of the incinerator.

(5) The burning capacity of an incinerator shall be the manufacturer's or designer's guaranteed maximum rate or such other rate as may be determined by the Director in accordance with good engineering practices. In cases of conflict, the determination made by the Director shall govern.

(6) For the purposes of this Rule, the total of the capacities of all furnaces within one system shall be considered as the incinerator capacity.

Author: James W. Cooper, John E. Daniel
Statutory Authority: Code of Ala. 1975, §§22-28-14, 22-22A-5, 22-22A-6, 22-22A-8.
History: Effective Date January 18, 1972. **Amended:** Effective Date July 26, 1972, September 19, 1991.

335-3-3-.03 Incineration Of Wood, Peanut, And Cotton Ginning Wastes.

(1) No person shall cause or permit to be emitted into the open air from any incinerator which incinerates wood, peanut, or cotton ginning wastes, particulate matter in the exhaust gases to exceed 0.40 pounds per 100 pounds of materials charged.

(2) Emission tests shall be conducted at maximum burning capacity of the incinerator.

(3) The burning capacity of an incinerator shall be the manufacturer's or designer's guaranteed maximum rate or such other rate as may be determined by the Director in accordance with good engineering practices. In case of conflict, the determination made by the Director shall govern.

(4) Each incinerator subject to this Rule shall be properly designed, equipped, and maintained for its maximum burning capacity and shall be equipped with a temperature recorder which shall be operated continuously with the incinerator; and the temperature records shall be made available for inspection at the request of the Director and shall either:

(a) be equipped with an underfire forced air system, which shall be electronically controlled to insure that optimum temperature range for the complete combustion of the amount

and type of material waste being charged into the incinerator, and a variable damper, or

(b) consist of an all-metal shell with refractory lining, circular furnace, and a built-in cinder catching system for either reburning or other disposition; all primary combustion air shall be supplied under pressure through nozzle openings located around the periphery of the lower furnace; over-fire air shall be provided under pressure through ports which shall be directed downward and tangentially in the same direction as the primary air; cinder collection shall be accomplished by the provision of openings through the shell located above the furnace section.

(5) Each incinerator subject to this Rule shall be properly designed, equipped, and maintained for its maximum rated burning capacity and shall be equipped with an underfire forced air system, an over-fire air recirculation secondary combustion system, and variable control damper, all of which shall be electronically controlled to insure the optimum temperature range for the complete combustion of the amount and type of material waste being charged into the incinerator. Each such incinerator shall be equipped with a temperature recorder which shall be operated continuously with the incinerator, and the temperature records shall be made available for inspection at the request of the Director.

Author: James W. Cooper, John E. Daniel
Statutory Authority: Code of Ala. 1975, §§22-28-14, 22-22A-5, 22-22A-6, 22-22A-8.
History: Effective Date January 18, 1972. **Amended:** Effective Date July 26, 1972.

335-3-3-.04 Incineration Of Hospital/Medical/Infectious Waste.

(1) For the purpose of this Rule, the following definitions apply:

(a) "Batch HMIWI" means an HMIWI that is designed such that neither waste charging nor ash removal can occur during combustion.

(b) "Biologicals" means preparations made from living organisms and their products, including vaccines, cultures, etc., intended for use in diagnosing, immunizing, or treating humans or animals or in research pertaining thereto.

(c) "Blood Products" means any product derived from human blood, including but not limited to blood plasma, platelets, red or white blood corpuscles, and other derived licensed products, such as interferon, etc.

(d) "Body Fluids" means liquid emanating or derived from humans and limited to blood; dialysate; amniotic, cerebrospinal, synovial, pleural, peritoneal and pericardial fluids; and semen and vaginal secretions.

(e) "Bypass stack" means a device used for discharging combustion gases to avoid severe damage to the air pollution control device or other equipment.

(f) "Chemotherapeutic waste" means waste material resulting from the production or use of antineoplastic agents used for the purpose of stopping or reversing the growth of malignant cells.

(g) "Co-fired combustor" means a unit combusting hospital waste and/or medical/infectious waste with other fuels or wastes (e.g., coal, municipal solid waste) and subject to an enforceable requirement limiting the unit to combusting a fuel feed stream, 10 percent or less of the weight of which is comprised, in aggregate, of hospital waste and medical/ infectious waste as measured on a calendar quarter basis. For purposes of this definition, pathological waste, chemotherapeutic waste, and low-1evel radioactive waste are considered "other" wastes when calculating the percentage of hospital waste and medical/infectious waste combusted.

(h) "Continuous emission monitoring system or CEMS" means a monitoring system for continuously measuring and recording the emissions of a pollutant from an affected facility.

(i) "Continuous HMIWI" means an HMIWI that is designed to allow waste charging and ash removal during combustion.

(j) "Dioxins/furans" means the combined emissions of tetra- through octa-chlorinated dibenzo-para-dioxins and dibenzofurans, as measured by EPA Reference Method 23.

(k) "Dry scrubber" means an add-on air pollution control system that injects dry alkaline sorbent (dry injection) or sprays an alkaline sorbent (spray dryer) to react with and neutralize acid gases in the HMIWI exhaust stream forming a dry powder material.

(l) "Fabric filter or baghouse" means an add-on air pollution control system that removes particulate matter (PM) and nonvaporous metals emissions by passing flue gas through filter bags.

(m) "High-air phase" means the stage of the batch operating cycle when the primary chamber reaches and maintains maximum operating temperatures.

(n) "Hospital" means any facility which has an organized medical staff, maintains at least six inpatient beds, and where the primary function of the institution is to provide diagnostic and therapeutic patient services and continuous nursing care primarily to human inpatients who are not related and who stay on average in excess of 24 hours per admission. This definition does not include facilities maintained for the sole purpose of providing nursing or convalescent care to human patients who generally are not acutely ill but who require continuing medical supervision.

(o) "Hospital/medical/infectious waste incinerator or HMIWI or HMIWI unit" means any device that combusts any amount of hospital waste and/or medical/ infectious waste.

(p) "Hospital/medical/infectious waste incinerator operator or HMIWI operator" means any person who operates, controls or supervises the day-to-day operation of an HMIWI.

(q) "Hospital waste" means discards generated at a hospital, except unused items returned to the manufacturer. The definition of hospital waste does not include human corpses, remains, and anatomical parts that are intended for interment or cremation.

(r) "Infectious agent" means any organism (such as a virus or bacteria) that is capable of being communicated by invasion and multiplication in body tissues and capable of causing disease or adverse health impacts in humans.

(s) "Intermittent HMIWI" means an HMIWI that is designed to allow waste charging, but not ash removal, during combustion.

(t) "Large HMIWI" means:

1. Except as provided in subparagraph 2.;

(i) An HMIWI whose maximum design waste burning capacity is more than 500 pounds per hour; or

(ii) A continuous or intermittent HMIWI whose maximum charge rate is more than 500 pounds per hour; or

(iii) A batch HMIWI whose maximum charge rate is more than 4,000 pounds per day.

2. The following are not large HMIWI:

(i) A continuous or intermittent HMIWI whose maximum charge rate is less than or equal to 500 pounds per hour; or

(ii) A batch HMIWI whose maximum charge rate is less than or equal to 4,000 pounds per day.

(u) "Low-1evel radioactive waste" means waste material which contains radioactive nuclides emitting primarily beta or gamma radiation, or both, in concentrations or quantities that exceed applicable federal or State standards for unrestricted release. Low-1evel radioactive waste is not high-1evel radioactive waste, spent nuclear fuel, or by-product material as defined by the Atomic Energy Act of 1954 [42 U.S.C. 2014(e)(2)].

(v) "Maximum charge rate" means:

1. For continuous and intermittent HMIWI, 110 percent of the lowest 3-hour average charge rate measured during the most recent performance test demonstrating compliance with all applicable emission limits.

2. For batch HMIWI, 110 percent of the lowest daily charge rate measured during the most recent performance test demonstrating compliance with all applicable emission limits.

(w) "Maximum design waste burning capacity" means:

1. For intermittent and continuous HMIWI,

$$C = PV \times 15,000/8,500$$

Where:

C = HMIWI capacity, lb/hr

PV = primary chamber volume, ft^3

15,000 = primary chamber heat release rate factor, $Btu/ft^3/hr$

8,500 = standard waste heating value, Btu/lb;

2. For batch HMIWI,

$$C = PV \times 4.5/8$$

Where:

C = HMIWI capacity, lb/hr

PV = primary chamber volume, ft^3

4.5 = waste density, lb/ft^3

8 = typical hours of operation of a batch HMIWI, hours.

(x) "Maximum fabric filter inlet temperature" means 110 percent of the lowest 3-hour average temperature at the inlet to the fabric filter (taken, at a minimum, once every minute) measured during the most recent performance test demonstrating compliance with the dioxin/furan emission limit.

(y) "Maximum flue gas temperature" means 110 percent of the lowest 3-hour average temperature at the outlet from the wet scrubber (taken, at a minimum, once every minute) measured during the most recent performance test demonstrating compliance with the mercury (Hg) emission limit.

(z) "Medical/infectious waste" means any waste generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals that is listed below: The definition of medical/infectious waste does not include hazardous waste identified or listed under the regulations in ADEM Admin. Code R. 335-14-2; household waste, as defined in ADEM Admin. Code R. 335-14-2-.01(4)(b)1.; ash from incineration of medical/ infectious waste, once the incineration process has been completed; human corpses, remains, and anatomical parts that are intended for interment or cremation; and domestic sewage materials identified in ADEM Admin. Code R. 335-14-2-.01(4)(a)1.

1. Cultures and stocks of infectious agents and associated biologicals, including: cultures from medical and pathological laboratories; cultures and stocks of infectious agents from research and industrial laboratories; wastes from the production of biologicals; discarded live and attenuated vaccines; and culture dishes and devices used to transfer, inoculate, and mix cultures.

2. Human pathological waste, including tissues, organs, and body parts and body fluids that are removed during surgery or autopsy, or other medical procedures, and specimens of body fluids and their containers.

3. Human blood and blood products including:

(i) Liquid waste human blood;

(ii) Products of blood;

(iii) Items saturated and/or dripping with human blood; or

(iv) Items that were saturated and/or dripping with human blood that are now caked with dried human blood; including serum, plasma, and other blood components, and their containers, which were used or intended for use in either patient care, testing and laboratory analysis or the development of pharmaceuticals. Intravenous bags are also included in this category.

4. Sharps that have been used in animal or human patient care or treatment or in medical, research, or industrial laboratories, including hypodermic needles, syringes (with or without the attached needle), Pasteur pipettes, scalpel blades, blood vials, needles with attached tubing, and culture dishes (regardless of presence of infectious agents). Also included are other types of broken or unbroken glassware that were in contact with infectious agents, such as used slides and cover slips.

5. Animal waste including contaminated animal carcasses, body parts, and bedding of animals that were known to have been exposed to infectious agents during research (including research in veterinary hospitals), production of biologicals or testing of pharmaceuticals.

6. Isolation wastes including biological waste and discarded materials contaminated with blood, excretions, exudates, or secretions from humans who are isolated to protect others from certain highly communicable diseases, or isolated animals known to be infected with highly communicable diseases.

7. Unused sharps including the following unused, discarded sharps: hypodermic needles, suture needles, syringes, and scalpel blades.

(aa) "Medium HMIWI" means:

1. Except as provided in subparagraph 2.;

(i) An HMIWI whose maximum design waste burning capacity is more than 200 pounds per hour but less than or equal to 500 pounds per hour; or

(ii) A continuous or intermittent HMIWI whose maximum charge rate is more than 200 pounds per hour but less than or equal to 500 pounds per hour; or

(iii) A batch HMIWI whose maximum charge rate is more than 1,600 pounds per day but less than or equal to 4,000 pounds per day.

2. The following are not medium HMIWI:

(i) A continuous or intermittent HMIWI whose maximum charge rate is less than or equal to 200 pounds per hour or more than 500 pounds per hour; or

(ii) A batch HMIWI whose maximum charge rate is more than 4,000 pounds per day or less than or equal to 1,600 pounds per day.

(bb) "Minimum dioxin/furan sorbent flow rate" means 90 percent of the highest 3-hour average dioxin/furan sorbent flow rate (taken, at a minimum, once every hour) measured during the most recent performance test demonstrating compliance with the dioxin/furan emission limit.

(cc) "Minimum Hg sorbent flow rate" means 90 percent of the highest 3-hour average Hg sorbent flow rate (taken, at a minimum, once every hour) measured during the most recent performance test demonstrating compliance with the Hg emission limit.

(dd) "Minimum hydrogen chloride (HCl) sorbent flow rate" means 90 percent of the highest 3-hour average HCl sorbent flow rate (taken, at a minimum, once every hour) measured during the most recent performance test demonstrating compliance with the HCl emission limit.

(ee) "Minimum horsepower or amperage" means 90 percent of the highest 3-hour average horsepower or amperage to the wet scrubber (taken, at a minimum, once every minute) measured during the most recent performance test demonstrating compliance with the applicable emission limits.

(ff) "Minimum pressure drop across the wet scrubber" means 90 percent of the highest 3-hour average pressure drop across the wet scrubber PM control device (taken, at a minimum, once every minute) measured during the most recent performance test demonstrating compliance with the PM emission limit.

(gg) "Minimum scrubber liquor flow rate" means 90 percent of the highest 3-hour average liquor flow rate at the inlet to the wet scrubber (taken, at a minimum, once every minute) measured during the most recent performance test demonstrating compliance with all applicable emission limits.

(hh) "Minimum scrubber liquor pH" means 90 percent of the highest 3-hour average liquor pH at the inlet to the wet scrubber (taken, at a minimum, once every minute) measured

during the most recent performance test demonstrating compliance with the HCl emission limit.

(ii) "Minimum secondary chamber temperature" means 90 percent of the highest 3-hour average secondary chamber temperature (taken, at a minimum, once every minute) measured during the most recent performance test demonstrating compliance with the PM, CO, or dioxin/furan emission limits.

(jj) "Modification or Modified HMIWI" means any change to an HMIWI unit on or after June 20, 1996 such that:

1. The cumulative costs of the modifications, over the life of the unit, exceed 50 per centum of the original cost of the construction and installation of the unit (not including the cost of any land purchased in connection with such construction or installation) updated to current costs, or

2. The change involves a physical change in or change in the method of operation of the unit which increases the amount of any air pollutant emitted by the unit for which standards have been established under Section 129 or Section 111.

(kk) "Operating day" means a 24-hour period between 12:00 midnight and the following midnight during which any amount of hospital waste or medical/ infectious waste is combusted at any time in the HMIWI.

(ll) "Operation" means the period during which waste is combusted in the incinerator excluding periods of startup or shutdown.

(mm) "Particulate matter or PM" means the total particulate matter emitted from an HMIWI as measured by EPA Reference Method 5 or EPA Reference Method 29.

(nn) "Pathological waste" means waste material consisting of only human or animal remains, anatomical parts, and/or tissue, the bags/containers used to collect and transport the waste material, and animal bedding (if applicable).

(oo) "Primary chamber" means the chamber in an HMIWI that receives waste material, in which the waste is ignited, and from which ash is removed.

(pp) "Pyrolysis" means the endothermic gasification of hospital waste and/or medical/infectious waste using external energy.

(qq) "Responsible Official" means one of the following:

1. For a corporation: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

(i) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars); or

(ii) The delegation of authority to such representatives is approved in advance by the Department;

2. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;

3. For a municipality, State, Federal, or other public agency: Either a principal executive officer or ranking elected official. For the purposes of this Rule, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of EPA); or

4. For affected sources: the designated representative for any other purposes under this Rule.

(rr) "Secondary chamber" means a component of the HMIWI that receives combustion gases from the primary chamber and in which the combustion process is completed.

(ss) "Shutdown" means the period of time after all waste has been combusted in the primary chamber. For continuous HMIWI, shutdown shall commence no less than 2 hours after the last charge to the incinerator. For intermittent HMIWI, shutdown shall commence no less than 4 hours after the last charge to the incinerator. For batch HMIWI, shutdown shall commence no less than 5 hours after the high-air phase of combustion has been completed.

(tt) "Small HMIWI" means:

1. Except as provided in subparagraph 2.;

(i) An HMIWI whose maximum design waste burning capacity is less than or equal to 200 pounds per hour; or

(ii) A continuous or intermittent HMIWI whose maximum charge rate is less than or equal to 200 pounds per hour; or

(iii) A batch HMIWI whose maximum charge rate is less than or equal to 1,600 pounds per day.

2. The following are not small HMIWI:

(i) A continuous or intermittent HMIWI whose maximum charge rate is more than 200 pounds per hour;

(ii) A batch HMIWI whose maximum charge rate is more than 1,600 pounds per day.

(uu) "Standard conditions" means a temperature of 20 °C and a pressure of 101.3 kilopascals.

(vv) "Standard Metropolitan Statistical Area or SMSA" means any areas listed in OMB Bulletin No. 93-17 entitled "Revised Statistical Definitions for Metropolitan Areas" dated June 30, 1993 (see 40 CFR §60.17).

(ww) "Startup" means the period of time between the activation of the system and the first charge to the unit. For batch HMIWI, startup means the period of time between activation of the system and ignition of the waste.

(xx) "Wet scrubber" means an add-on air pollution control device that utilizes an alkaline scrubbing liquor to collect particulate matter (including nonvaporous metals and condensed organics) and/or to absorb and neutralize acid gases.

(2) Applicability.

(a) Except as provided in subparagraphs (b) through (h) of this paragraph, the designated facility to which this Rule applies is each individual HMIWI for which construction was commenced on or before June 20, 1996.

(b) A combustor is not subject to this Rule during periods when only pathological waste, low-1evel radioactive waste, and/or chemotherapeutic waste is burned, provided the owner or operator of the combustor:

1. Notifies the Director of an exemption claim [see Appendix H]; and

2. Keeps records on a calendar quarter basis of the periods of time when only pathological waste, low-1evel radioactive waste, and/or chemotherapeutic waste is burned.

(c) Any co-fired combustor is not subject to this Rule if the owner or operator of the co-fired combustor:

1. Notifies the Director of an exemption claim [see Appendix H];

2. Provides an estimate of the relative weight of hospital waste, medical/ infectious waste, and other fuels and/or wastes to be combusted; and

3. Keeps records on a calendar quarter basis of the weight of hospital waste and medical/infectious waste combusted, and the weight of all other fuels and wastes combusted at the co-fired combustor.

(d) Any combustor required to have a permit under Section 3005 of the Solid Waste Disposal Act is not subject to this Rule.

(e) Any combustor which meets the applicability requirements under 40 CFR, Subpart Cb, Ea, or Eb [ADEM Admin. Code R. 335-3-10-.02(3)(a) and (3)(b)] (standards or guidelines for certain municipal waste combustors) is not subject to this Rule.

(f) Any pyrolysis unit is not subject to this Rule.

(g) Cement kilns firing hospital waste and/or medical/ infectious waste are not subject to this Rule.

(h) Physical or operational changes made to an existing HMIWI unit solely for the purpose of complying with this Rule are not considered a modification and do not result in an existing HMIWI unit becoming subject to the provisions of 40 CFR, Subpart Ec [ADEM Admin. Code R. 335-3-10-.02(c)].

(i) Each existing HMIWI is subject to the permitting requirements in ADEM Admin. Code Chapter 335-3-16. Each owner and operator of an existing HMIWI shall submit a Major Source Operating Permit application to the Department by December 15, 1999.

(j) Beginning September 15, 2000, designated facilities subject to this Rule shall operate pursuant to a permit issued under ADEM Admin. Code Chapter 335-3-16.

(3) Emission limits.

(a) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility shall cause to be discharged into the atmosphere from that affected facility any gases that contain stack emissions in excess of the limits presented in Table 1

of this paragraph. The emission limits in Table 2 apply to any small HMIWI which is located more than 50 miles from the boundary of the nearest Standard Metropolitan Statistical Area (SMSA) and which burns less than 2,000 pounds per week of hospital waste and medical/infectious waste. The 2,000 lb/week limitation does not apply during performance tests.

(b) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility shall cause to be discharged into the atmosphere from the stack of that affected facility any gases that exhibit greater than 10 percent opacity (6-minute block average).

TABLE 1. EMISSION LIMITS FOR SMALL, MEDIUM, AND LARGE HMIWI

		Emission Limits		
		HMIWI Size		
Pollutant	**Units (7 percent oxygen, dry basis)**	**Small**	**Medium**	**Large**
Particulate Matter	Milligrams per dry standard cubic meter (grains per dry standard cubic foot)	115 (0.05)	69 (0.03)	34 (0.015)
Carbon Monoxide	Parts per million by volume	40	40	40
Dioxins/ furans	Nanograms per dry standard cubic meter total dioxins/ furans (grains per billion dry standard cubic feet) or nanograms per dry standard cubic meter total dioxins/ furans TEQ (grains per billion dry	125 (55) or 2.3 (1.0)	125 (55) or 2.3 (1.0)	125 (55) or 2.3 (1.0)

Pollutant	**Units (7 percent oxygen, dry basis)**	**Small**	**Medium**	**Large**
	standard cubic feet)			
Hydrogen Chloride	Parts per million by volume or percent reduction	100 or 93%	100 or 93%	100 or 93%
Sulfur Dioxide	Parts per million by volume	55	55	55
Nitrogen Oxides	Parts per million by volume	250	250	250
Lead	Milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet) or percent reduction	1.2 (0.52) or 70%	1.2 (0.52) or 70%	1.2 (0.52) or 70%
Cadmium	Milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet) or percent reduction	0.16 (0.07) or 65%	0.16 (0.07) or 65%	0.16 (0.07) or 65%
Mercury	Milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet) or percent reduction	0.55 (0.24) or 85%	0.55 (0.24) or 85%	0.55 (0.24) or 85%

TABLE 2. EMISSION LIMITS FOR SMALL HMIWI

Pollutant	**Units (7 percent oxygen, dry basis)**	**HMIWI Emission Limits**
Particulate Matter	Milligrams per dry standard cubic meter (grains per dry standard cubic foot)	197 (0.086)
Carbon Monoxide	Parts per million by volume	40
Dioxins/furans	Nanograms per dry standard cubic meter total dioxins/ furans (grains per billion dry standard cubic feet) or nanograms per dry standard cubic meter total dioxins/ furans TEQ (grains per billion dry standard cubic feet)	800 (350) or 15 (6.6)
Hydrogen Chloride	Parts per million by volume	3100
Sulfur Dioxide	Parts per million by volume	55
Nitrogen Oxides	Parts per million by volume	250
Lead	Milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet)	10 (4.4)
Cadmium	Milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet)	4 (1.7)
Mercury	Milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet)	7.5 (3.3)

(4) Operator Training and Qualification Requirements.

(a) Compliance with the requirements of this paragraph shall occur no later than one year after EPA approval of these Rules.

(b) No owner or operator of an affected facility shall allow the affected facility to operate at any time unless a fully

trained and qualified HMIWI operator is accessible, either at the facility or available within 1 hour. The trained and qualified HMIWI operator may operate the HMIWI directly or be the direct supervisor of one or more HMIWI operators.

(c) Operator training and qualification shall be obtained through a State-approved program that meets the requirements included in subparagraphs (d) through (k) of this paragraph.

(d) Training shall be obtained by completing an HMIWI operator training course that includes, at a minimum, the following provisions:

1. 24 hours of training on the following subjects:

(i) Environmental concerns, including pathogen destruction and types of emissions;

(ii) Basic combustion principles, including products of combustion;

(iii) Operation of the type of incinerator to be used by the operator, including proper startup, waste charging, and shutdown procedures;

(iv) Combustion controls and monitoring;

(v) Operation of air pollution control equipment and factors affecting performance (if applicable);

(vi) Methods to monitor pollutants (continuous emission monitoring systems and monitoring of HMIWI and air pollution control device operating parameters) and equipment calibration procedures (where applicable);

(vii) Inspection and maintenance of the HMIWI, air pollution control devices, and continuous emission monitoring systems;

(viii) Bottom and fly ash characteristics and handling procedures;

(ix) Applicable Federal, State, and local regulations;

(x) Work safety procedures;

(xi) Pre-startup inspections; and

(xii) Recordkeeping requirements.

2. An examination designed and administered by the instructor.

3. Reference material distributed to the attendees covering the course topics.

(e) Qualification shall be obtained by:

1. Completion of a training course that satisfies the criteria under subparagraph (d) of this paragraph; and

2. Either 6 months experience as an HMIWI operator, 6 months experience as a direct supervisor of an HMIWI operator, or completion of at least two burn cycles under the observation of two qualified HMIWI operators.

(f) Qualification is valid from the date on which the examination is passed or the completion of the required experience, whichever is later.

(g) To maintain qualification, the trained and qualified HMIWI operator shall complete and pass an annual review or refresher course of at least 4 hours covering, at a minimum, the following:

1. Update of regulations;

2. Incinerator operation, including startup and shutdown procedures;

3. Inspection and maintenance;

4. Discussion of operating problems encountered by attendees.

(h) A lapsed qualification shall be renewed by one of the following methods:

1. For a lapse of less than 3 years, the HMIWI operator shall complete and pass a standard annual refresher course described in subparagraph (g) of this paragraph above.

2. For a lapse of 3 years or more, the HMIWI operator shall complete and pass a training course with the minimum criteria described in subparagraph (d) of this paragraph above.

(i) The owner or operator of an affected facility shall maintain documentation at the facility that address the following:

1. Summary of the applicable standards under this Rule;

2. Description of basic combustion theory applicable to an HMIWI;

3. Procedures for receiving, handling, and charging waste;

4. HMIWI startup, or shutdown procedures;

5. Procedures for maintaining proper combustion air supply levels;

6. Procedures for operating the HMIWI and associated air pollution control systems within the standards established under this Rule;

7. Procedures for monitoring HMIWI emissions;

8. Reporting and recordkeeping procedures; and

9. Procedures for handling ash.

(j) The owner or operator of an affected facility shall establish a program for reviewing the information listed in subparagraph (i) of this paragraph annually with each HMIWI operator.

1. The initial review of the information listed in subparagraph (i) of this paragraph shall be conducted within 6 months after EPA approval of these Rules or prior to assumption of responsibilities affecting HMIWI operation, whichever date is later.

2. Subsequent reviews of the information listed in subparagraph (i) of this paragraph shall be conducted annually.

(k) The information listed in subparagraph (i) of this paragraph shall be kept in a readily accessible location for all HMIWI operators. This information, along with records of training shall be available for inspection by the Department.

(5) Waste Management Guidelines. The owner or operator of an affected facility shall prepare a waste management plan. The waste management plan shall identify both the feasibility and the approach to separate certain components of solid waste from the health care waste stream in order to reduce the amount of toxic emissions from incinerated waste. A waste management plan may include, but is not limited to, elements such as paper, cardboard, plastics, glass, battery, or metal recycling; or purchasing recycled or recyclable products. A waste management plan may include different goals or approaches for different areas or departments of the facility and need not include new waste management goals for every waste stream. It should identify, where

possible, reasonably available additional waste management measures, taking into account the effectiveness of waste management measures already in place, the costs of additional measures, the emission reductions expected to be achieved, and any other environmental or energy impacts they might have. The American Hospital Association publication entitled "An Ounce of Prevention: Waste Reduction Strategies for Health Care Facilities" shall be considered in the development of the waste management plan.

(6) Inspection Guidelines.

(a) The requirements of this paragraph apply to small HMIWI subject to the emission limits in Table 2 of paragraph (3) of this Rule.

(b) Within one year of EPA approval of these Rules and annually thereafter (no more than 12 months following the previous annual equipment inspection) an equipment inspection shall be performed.

1. At a minimum, an inspection shall include the following:

(i) Inspect all burners, pilot assemblies, and pilot sensing devices for proper operation; clean pilot flame sensor, as necessary;

(ii) Ensure proper adjustment of primary and secondary chamber combustion air, and adjust as necessary;

(iii) Inspect hinges and door latches, and lubricate as necessary;

(iv) Inspect dampers, fans, and blowers for proper operation;

(v) Inspect HMIWI door and door gaskets for proper sealing;

(vi) Inspect motors for proper operation;

(vii) Inspect primary chamber refractory lining; clean and repair/replace lining as necessary;

(viii) Inspect incinerator shell for corrosion and/or hot spots;

(ix) Inspect secondary/tertiary chamber and stack, clean as necessary;

(x) Inspect mechanical loader, including limit switches, for proper operation, if applicable;

(xi) Visually inspect waste bed (grates), and repair/ seal, as appropriate;

(xii) For the burn cycle that follows the inspection, document that the incinerator is operating properly and make any necessary adjustments;

(xiii) Inspect air pollution control device(s) for proper operation, if applicable;

(xiv) Inspect waste heat boiler systems to ensure proper operation, if applicable;

(xv) Inspect bypass stack components;

(xvi) Ensure proper calibration of thermocouples, sorbent feed systems and any other monitoring equipment; and

(xvii) Generally observe that the equipment is maintained in good operating condition.

2. Within 10 operating days following an equipment inspection, all necessary repairs shall be completed unless the owner or operator obtains written approval from the Department establishing a date whereby all necessary repairs of the designated facility shall be completed.

(7) Compliance and Performance Testing.

(a) The emission limits under this Rule apply at all times except during periods of startup or shutdown, provided that no hospital waste or medical/infectious waste is charged to the affected facility during startup or shutdown.

(b) The owner or operator of an affected facility shall conduct an initial performance test as required under §60.8 to determine compliance with the emission limits using the procedures and test methods listed in subparagraphs (b)1. through (b)11. of this paragraph. The use of the bypass stack during a performance test shall invalidate the performance test.

1. All performance tests shall consist of a minimum of three test runs conducted under representative operating conditions.

2. The minimum sample time shall be 1 hour per test run unless otherwise indicated.

3. EPA Reference Method 1 of Appendix A of 40 CFR 60 shall be used to select the sampling location and number of traverse points.

4. EPA Reference Method 3 or 3A of Appendix A of 40 CFR 60 shall be used for gas composition analysis, including measurement of oxygen concentration. EPA Reference Method 3 or 3A of Appendix A of 40 CFR 60 shall be used simultaneously with each reference method.

5. The pollutant concentrations shall be adjusted to 7 percent oxygen using the following equation:

$$C_{adj} = C_{meas}(20.9-7)/(20.9-\%O_2)$$

Where:

C_{adj} = pollutant concentration adjusted to 7 percent adjoxygen;

C_{meas} = pollutant concentration measured on a dry basis (20.9 meas- 7) = 20.9 percent oxygen - 7 percent oxygen (defined oxygen correction basis);

20.9 = oxygen concentration in air, percent; and

$\%O_2$ = oxygen concentration measured on a dry basis, percent.

6. EPA Reference Method 5 or 29 of Appendix A of 40 CFR 60 shall be used to measure the particulate matter emissions.

7. EPA Reference Method 9 of Appendix A of 40 CFR 60 shall be used to measure stack opacity.

8. EPA Reference Method 10 or 10B of Appendix A of 40 CFR 60 shall be used to measure the CO emissions.

9. EPA Reference Method 23 of Appendix A of 40 CFR 60 shall be used to measure total dioxin/furan emissions. The minimum sample time shall be 4 hours per test run. If the affected facility has selected the toxic equivalency standards for dioxin/furans, under paragraph (3) of this Rule, the following procedures shall be used to determine compliance:

(i) Measure the concentration of each dioxin/furan tetra-through octa-congener emitted using EPA Reference Method 23.

(ii) For each dioxin/furan congener measured in accordance with subparagraph (b)9.(i) of this paragraph, multiply the congener concentration by its corresponding toxic equivalency factor specified in Table 3 of this Rule.

(iii) Sum the products calculated in accordance with subparagraph (b)9.(ii) of this paragraph to obtain the total concentration of dioxins/furans emitted in terms of toxic equivalency.

TABLE

3. TOXIC EQUIVALENCY FACTORS

Dioxin/Furan Congener	**Toxic Equivalency Factor**
2,3,7,8-tetrachlorinated dibenzo-p-dioxin	1
1,2,3,7,8- pentachlorinated dibenzo-p-dioxin	0.5
1,2,3,4,7,8-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,7,8,9-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,6,7,8-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,4,6,7,8-heptachlorinated dibenzo-p-dioxin	0.01
octachlorinated dibenzo-p-dioxin	0.001
2,3,7,8-tetrachlorinated dibenzofuran	0.1
2,3,4,7,8-pentachlorinated dibenzofuran	0.5
1,2,3,7,8-pentachlorinated dibenzofuran	0.05
1,2,3,4,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,6,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,7,8,9-hexachlorinated dibenzofuran	0.1
2,3,4,6,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,4,6,7,8-heptachlorinated dibenzofuran	0.01
1,2,3,4,7,8,9-heptachlorinated dibenzofuran	0.01
octachlorinated dibenzofuran	0.001

10. EPA Reference Method 26 or 26A of Appendix A of 40 CFR 60 shall be used to measure HCl emissions. If the affected facility has selected the percentage reduction standards for HCl under paragraph (3) of this Rule, the

percentage reduction in HCl emissions (%R) is computed using HClthe following formula:

$$\left(\%R_{HCl}\right) = \left(\frac{E_i - E_o}{E_i}\right) \times 100$$

Where:

$\%R_{HCl}$ = percentage reduction of HCl emissions achieved;

Ei = HCl emission concentration measured at the control device inlet, corrected to 7 percent oxygen (dry basis); and

Eo = HCl emission concentration measured at the control device outlet, corrected to 7 percent oxygen (dry basis).

11. EPA Reference Method 29 of Appendix A of 40 CFR 60 shall be used to measure Pb, Cd, and Hg emissions. If the affected facility has selected the percentage reduction standards for metals under paragraph (3) of this Rule, the percentage reduction in emissions (%Rmetal) is computed using the following formula:

$$\left(\%R_{metal}\right) = \left(\frac{E_i - E_o}{E_i}\right) - 100$$

Where:

%R metal = percentage reduction of metal emission (Pb, Cd, or Hg) achieved;

Ei = metal emission concentration (Pb, Cd, or Hg) measured at the control device inlet, corrected to 7 percent oxygen (dry basis); and

Eo = metal emission concentration (Pb, Cd, or Hg) measured at the control device outlet, corrected to 7 percent oxygen (dry basis).

(c) Following the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility shall:

1. Determine compliance with the opacity limit by conducting an annual performance test (no more than 12 months following the previous performance test) using the applicable procedures and test methods listed in subparagraph (b) of this paragraph.

2. Determine compliance with the PM, CO, and HCl emission limits by conducting an annual performance test (no more than 12 months following the previous performance test) using the applicable procedures and test methods listed in subparagraph (b) of this paragraph. If all three performance tests over a 3-year period indicate compliance with the emission limit for a pollutant (PM, CO, or HCl), the owner or operator may forego a performance test for that pollutant for the subsequent 2 years, if specifically approved by the Director. At a minimum, a performance test for PM, CO, and HCl shall be conducted every third year (no more than 36 months following the previous performance test). If a performance test conducted every third year indicates compliance with the emission limit for a pollutant (PM, CO, or HCl), the owner or operator may forego a performance test for that pollutant for up to an additional 2 years, if specifically approved by the Director. If any performance test indicates noncompliance with the respective emission limit, a performance test for that pollutant shall be conducted annually until all annual performance tests over a 3-year period indicate compliance with the emission limit. The use of the bypass stack during a performance test shall invalidate the performance test.

3. Facilities using a CEMS to demonstrate compliance with any of the emission limits under paragraph (3) of this Rule shall:

(i) Determine compliance with the appropriate emission limit(s) using a 12-hour rolling average, calculated each hour as the average of the previous 12 operating hours (not including startup or shutdown).

(ii) Operate all CEMS in accordance with the applicable procedures under Appendices B and F of 40 CFR 60.

(d) The owner or operator of an affected facility equipped with a dry scrubber followed by a fabric filter, a wet scrubber, or a dry scrubber followed by a fabric filter and wet scrubber shall:

1. Establish the appropriate maximum and minimum operating parameters, indicated in Table 4 of this Rule for each control system, as site specific operating parameters during the initial performance test to determine compliance with the emission limits; and

2. Following the date on which the initial performance test is completed or is required to be completed under

§60.8, whichever date comes first, ensure that the affected facility does not operate above any of the applicable maximum operating parameters or below any of the applicable minimum operating parameters listed in Table 4 of this Rule and measured as 3-hour rolling averages (calculated each hour as the average of the previous 3 operating hours) at all times except during periods of startup or shutdown. Operating parameter limits do not apply during performance tests. Operation above the established maximum or below the established minimum operating parameter(s) shall constitute a violation of established operating parameter(s).

(e) Except as provided in subparagraph (h) of this paragraph, for affected facilities equipped with a dry scrubber followed by a fabric filter:

1. Operation of the affected facility above the maximum charge rate and below the minimum secondary chamber temperature (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the CO emission limit.

2. Operation of the affected facility above the maximum fabric filter inlet temperature, above the maximum charge rate, and below the minimum dioxin/furan sorbent flow rate (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the dioxin/furan emission limit.

3. Operation of the affected facility above the maximum charge rate and below the minimum HCl sorbent flow rate (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the HCl emission limit.

4. Operation of the affected facility above the maximum charge rate and below the minimum Hg sorbent flow rate (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the Hg emission limit.

5. Use of the bypass stack (except during startup or shutdown) shall constitute a violation of the PM, dioxin/furan, HCl, Pb, Cd and Hg emission limits.

(f) Except as provided in subparagraph (h) of this paragraph, for affected facilities equipped with a wet scrubber:

1. Operation of the affected facility above the maximum charge rate and below the minimum pressure drop across the wet scrubber or below the minimum horsepower or amperage to the system (each measured on a 3-hour rolling

average) simultaneously shall constitute a violation of the PM emission limit.

2. Operation of the affected facility above the maximum charge rate and below the minimum secondary chamber temperature (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the CO emission limit.

3. Operation of the affected facility above the maximum charge rate, below the minimum secondary chamber temperature, and below the minimum scrubber liquor flow rate (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the dioxin/furan emission limit.

4. Operation of the affected facility above the maximum charge rate and below the minimum scrubber liquor pH (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the HCl emission limit.

5. Operation of the affected facility above the maximum flue gas temperature and above the maximum charge rate (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the Hg emission limit.

6. Use of the bypass stack (except during startup or shutdown) shall constitute a violation of the PM, dioxin/furan, HCl, Pb, Cd and Hg emission limits.

(g) Except as provided in subparagraph (h) of this paragraph, for affected facilities equipped with a dry scrubber followed by a fabric filter and a wet scrubber:

1. Operation of the affected facility above the maximum charge rate and below the minimum secondary chamber temperature (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the CO emission limit.

2. Operation of the affected facility above the maximum fabric filter inlet temperature, above the maximum charge rate, and below the minimum dioxin/furan sorbent flow rate (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the dioxin/furan emission limit.

3. Operation of the affected facility above the maximum charge rate and below the minimum scrubber liquor pH (each measured on a 3-hour rolling average)

simultaneously shall constitute a violation of the HCl emission limit.

4. Operation of the affected facility above the maximum charge rate and below the minimum Hg sorbent flow rate (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the Hg emission limit.

5. Use of the bypass stack (except during startup or shutdown) shall constitute a violation of the PM, dioxin/ furan, HCl, Pb, Cd and Hg emission limits.

(h) The owner or operator of an affected facility may conduct a repeat performance test within 30 days of violation of applicable operating parameter(s) to demonstrate that the affected facility is not in violation of the applicable emission limit(s). Repeat performance tests conducted pursuant to this paragraph shall be conducted using the identical operating parameters that indicated a violation under subparagraph (e), (f), or (g) of this paragraph.

(i) The owner or operator of an affected facility using an air pollution control device other than a dry scrubber followed by a fabric filter, a wet scrubber, or a dry scrubber followed by a fabric filter and a wet scrubber to comply with the emission limits under paragraph (3) of this Rule shall petition the Administrator for other site-specific operating parameters to be established during the initial performance test and continuously monitored thereafter. The owner or operator shall not conduct the initial performance test until after the petition has been approved by the Administrator.

(j) The owner or operator of an affected facility may conduct a repeat performance test at any time to establish new values for the operating parameters. The Administrator may request a repeat performance test at any time.

(k) Any small HMIWI subject to the emission limits in Table 2 of paragraph (3) of this Rule shall meet the following compliance and performance testing requirements:

1. Conduct the performance testing requirements in subparagraphs (a), (b)1. through (b)9., (b)11. [Mercury only], and (c)1. of this paragraph. The 2,000 lb/week limitation does not apply during performance tests.

2. Establish maximum charge rate and minimum secondary chamber temperature as site-specific operating parameters during the initial performance test to determine compliance with applicable emission limits.

3. Following the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, ensure that the designated facility does not operate above the maximum charge rate or below the minimum secondary chamber temperature measured as 3-hour rolling averages (calculated each hour as the average of the previous 3 operating hours) at all times except during periods of startup or shutdown. Operating parameter limits do not apply during performance tests. Operation above the maximum charge rate or below the minimum secondary chamber temperature shall constitute a violation of the established operating parameter(s).

4. Except as provided in subparagraph (k)5. of this paragraph below, operation of the designated facility above the maximum charge rate and below the minimum secondary chamber temperature (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the PM, CO, and dioxin/furan emission limits.

5. The owner or operator of a designated facility may conduct a repeat performance test within 30 days of violation of applicable operating parameter(s) to demonstrate that the designated facility is not in violation of the applicable emission limit(s). Repeat performance tests conducted pursuant to this paragraph must be conducted using the identical operating parameters that indicated a violation under subparagraph (k)4. of this paragraph above.

(8) Monitoring.

(a) The owner or operator of an affected facility shall install, calibrate (to manufacturers' specifications), maintain, and operate devices (or establish methods) for monitoring the applicable maximum and minimum operating parameters listed in Table 4 of this Rule such that these devices (or methods) measure and record values for these operating parameters at the frequencies indicated in Table 4 of this Rule at all times except during periods of startup and shutdown.

(b) The owner or operator of an affected facility shall install, calibrate (to manufacturers' specifications), maintain, and operate a device or method for measuring the use of the bypass stack including date, time, and duration.

(c) The owner or operator of an affected facility using something other than a dry scrubber followed by a fabric filter, a wet scrubber, or a dry scrubber followed by a fabric filter and a wet scrubber to comply with the emission limits

under paragraph (3) of this Rule shall install, calibrate (to the manufacturers' specifications), maintain, and operate the equipment necessary to monitor the site-specific operating parameters developed pursuant to subparagraph (7)(i) of this Rule.

(d) The owner or operator of an affected facility shall obtain monitoring data at all times during HMIWI operation except during periods of monitoring equipment malfunction, calibration, or repair. At a minimum, valid monitoring data shall be obtained for 75 percent of the operating hours per day and for 90 percent of the operating days per calendar quarter that the affected facility is combusting hospital waste and/or medical/infectious waste.

(e) Any small HMIWI subject to the emission limits in Table 2 of paragraph (3) of this Rule shall meet the following monitoring requirements:

1. Install, calibrate (to manufacturers' specifications), maintain, and operate a device for measuring and recording the temperature of the secondary chamber on a continuous basis, the output of which shall be recorded, at a minimum, once every minute throughout operation.

2. Install, calibrate (to manufacturers' specifications), maintain, and operate a device which automatically measures and records the date, time, and weight of each charge fed into the HMIWI.

3. The owner or operator of a designated facility shall obtain monitoring data at all times during HMIWI operation except during periods of monitoring equipment malfunction, calibration, or repair. At a minimum, valid monitoring data shall be obtained for 75 percent of the operating hours per day and for 90 percent of the operating hours per calendar quarter that the designated facility is combusting hospital waste and/or medical/infectious waste.

TABLE 4. OPERATING PARAMETERS TO BE MONITORED AND MINIMUM MEASUREMENT AND RECORDING FREQUENCIES

	Minimum Frequency		Control System		
Operating Parameters to be Monitored	**Data Measurement**	**Data Recording**	**Dry Scrubber followed by Fabric Filter**	**Wet Scrubber**	**Dry Scrubber followed by Fabric Filter and Wet Scrubber**

Operating Parameters to be Monitored	Data Measurement	Data Recording	Dry Scrubber followed by Fabric Filter	Wet Scrubber	Dry Scrubber followed by Fabric Filter and Wet Scrubber
Maximum operating parameters					
Maximum charge rate	Continuous	1 x hour	√	√	√
Maximum fabric filter inlet temperature	Continuous	1 x minute	√		√
Maximum flue gas temperature	Continuous	1 x minute	√	√	
Minimum operating parameters					
Minimum secondary chamber temperature	Continuous	1 x minute	√	√	√
Minimum dioxin/ furan sorbent flow rate	Hourly	1 x hour	√		√
Minimum HCI sorbent flow rate	Hourly	1 x hour	√		√
Minimum mercury (Hg) sorbent flow rate	Hourly	1 x hour	√		√
Minimum pressure drop across the wet scrubber or minimum horsepower or amperage	Continuous	1 x minute		√	√

Operating Parameters to be Monitored	**Data Measurement**	**Data Recording**	**Dry Scrubber followed by Fabric Filter**	**Wet Scrubber**	**Dry Scrubber followed by Fabric Filter and Wet Scrubber**
to the scrubber					
Minimum scrubber liquor flow rate	Continuous	1 x minute		√	√
Minimum scrubber liquor pH	Continuous	1 x minute		√	√

(9) Reporting and Recordkeeping Requirements.

(a) The owner or operator of an affected facility shall maintain the following information (as applicable) for a period of at least 5 years:

1. Calendar date of each record;

2. Records of the following data:

(i) Concentrations of any pollutant listed in paragraph (3) of this Rule or measurements of opacity as determined by the continuous emission monitoring system (if applicable);

(ii) Results of fugitive emissions (by EPA Reference Method 22) tests, if applicable;

(iii) HMIWI charge dates, times, and weights and hourly charge rates;

(iv) Fabric filter inlet temperatures during each minute of operation, as applicable;

(v) Amount and type of dioxin/furan sorbent used during each hour of operation, as applicable;

(vi) Amount and type of Hg sorbent used during each hour of operation, as applicable;

(vii) Amount and type of HCl sorbent used during each hour of operation, as applicable;

(viii) Secondary chamber temperatures recorded during each minute of operation;

(ix) Liquor flow rate to the wet scrubber inlet during each minute of operation, as applicable;

(x) Horsepower or amperage to the wet scrubber during each minute of operation, as applicable;

(xi) Pressure drop across the wet scrubber system during each minute of operation, as applicable,

(xii) Temperature at the outlet from the wet scrubber during each minute of operation, as applicable;

(xiii) pH at the inlet to the wet scrubber during each minute of operation, as applicable,

(xiv) Records indicating use of the bypass stack, including dates, times, and durations, and

(xv) For affected facilities complying with subparagraphs (7)(i) and (8)(c) of this Rule, the owner or operator shall maintain all operating parameter data collected.

3. Identification of calendar days for which data on emission rates or operating parameters specified under subparagraph (a)2. of this paragraph have not been obtained, with an identification of the emission rates or operating parameters not measured, reasons for not obtaining the data, and a description of corrective actions taken.

4. Identification of calendar days for which data on emission rates or operating parameters specified under subparagraph (a)2. of this paragraph exceeded the applicable limits, with a description of the exceedances, reasons for such exceedances, and a description of corrective actions taken.

5. The results of the initial, annual, and any subsequent performance tests conducted to determine compliance with the emission limits and/or to establish operating parameters, as applicable.

6. Records showing the names of HMIWI operators who have completed review of the information in subparagraph (4)(i) as required by subparagraph (4)(j), including the date of the initial review and all subsequent annual reviews;

7. Records showing the names of the HMIWI operators who have completed the operator training requirements, including documentation of training and the dates of the training;

8. Records showing the names of the HMIWI operators who have met the criteria for qualification under paragraph (4) of this Rule and the dates of their qualification; and

9. Records of calibration of any monitoring devices as required under subparagraphs (8)(a), (b), and (c) of this Rule.

(b) The owner or operator of an affected facility shall submit the information specified in subparagraphs (b)1. through (b)3. of this paragraph no later than 60 days following the initial performance test. All reports shall be signed by the responsible official.

1. The initial performance test data as recorded under subparagraphs (7)(b)1. through (b)11., as applicable.

2. The values for the site-specific operating parameters established pursuant to subparagraphs (7)(d) or (i), as applicable.

3. The waste management plan as specified in paragraph (5) of this Rule.

(c) An annual report shall be submitted 1 year following the submission of the information in subparagraph (b) of this paragraph and subsequent reports shall be submitted no more than 12 months following the previous report (once the unit is subject to permitting requirements under Chapter 335-3-16, the owner or operator of an affected facility must submit these reports semiannually). The annual report shall include the information specified in subparagraphs (c)1. through (c)8. of this paragraph. All reports shall be signed by the responsible official.

1. The values for the site-specific operating parameters established pursuant to subparagraph (7)(d) or (i), as applicable.

2. The highest maximum operating parameter and the lowest minimum operating parameter, as applicable, for each operating parameter recorded for the calendar year being reported, pursuant to subparagraph (7)(d) or (i), as applicable.

3. The highest maximum operating parameter and the lowest minimum operating parameter, as applicable for each operating parameter recorded pursuant to subparagraph (7)(d) or (i) for the calendar year preceding the year being reported, in order to provide the Director with a summary of the performance of the affected facility over a 2-year period.

4. Any information recorded under subparagraphs (c)3. through (c)5. of this paragraph for the calendar year being reported.

5. Any information recorded under subparagraphs (c)3. through (c)5. of this paragraph for the calendar year preceding the year being reported, in order to provide the Director with a summary of the performance of the affected facility over a 2-year period.

6. If a performance test was conducted during the reporting period, the results of that test.

7. If no exceedances were reported under subparagraphs (c)3. through (c)5. of this paragraph for the calendar year being reported, a statement that no exceedances occurred during the reporting period.

8. Any use of the bypass stack, the duration, reason for its use, and corrective action taken.

(d) The owner or operator of an affected facility shall submit semiannual reports containing any information recorded under subparagraphs (a)3. through (a)5. of this paragraph no later than 60 days following the reporting period. The first semiannual reporting period ends 6 months following the submission of information in subparagraph (b) of this paragraph. Subsequent reports shall be submitted no later than 6 calendar months following the previous report. All reports shall be signed by the responsible official.

(e) All records specified under subparagraph (a) of this paragraph shall be maintained onsite in either paper copy or computer-readable format, unless an alternative format is approved by the Director.

(f) Any small HMIWI subject to the emission limits in Table 2 of paragraph (3) of this Rule shall meet the following reporting and recordkeeping requirements:

1. Maintain records of the annual equipment inspections, any required maintenance, and any repairs not completed within 10 days of an inspection or the timeframe established by the Department; and

2. Submit an annual report containing information recorded under subparagraph (f)1. above no later than 60 days following the year in which data were collected. Subsequent reports shall be sent no later than 12 calendar months following the previous report (once the unit is subject to permitting requirements under Chapter 335-3-16, the owner or operator must submit these reports

semiannually). The report shall be signed by the responsible official.

(10) Compliance Schedules.

(a) Except as provided in subparagraph (b), designated facilities to which this Rule applies [as defined in paragraph (2)] shall comply with all requirements of this Rule on or before the date one year after EPA approval of these Rules, regardless of whether the Department has identified a designated facility in its inventory required by §60.25(a) of 40 CFR, Subpart B.

[NOTE: EPA approved these Rules effective June 9, 2000 in the April 10, 2000 Federal Register.]

(b) For designated facilities planning to install the necessary air pollution control equipment, the Department may allow compliance on or before the date three years after EPA approval of these Rules, but as expeditiously as possible. Within 90 days of EPA's approval of these Rules, these facilities shall petition the Department in writing, as outlined in subparagraphs 1. through 2. below. Under no circumstances can compliance with these Rules extend beyond September 15, 2002.

1. Documentation of the analyses undertaken to support the need for an extension, including an explanation of why up to 3 years after EPA approval of these Rules is sufficient time to comply while 1 year after EPA approval of these Rules is not sufficient. The documentation shall also include an evaluation of the option to transport the waste offsite to a commercial medical waste treatment and disposal facility on a temporary or permanent basis; and

2. Documentation of measurable and enforceable incremental steps of progress to be taken towards compliance with this Rule, as defined in subparagraphs (i) through (x) below:

(i) Date for submitting a petition for site specific operating parameters under subparagraph (7)(i) of this Rule [§60.56c(i) of 40 CFR Subpart Ec].

(ii) Date for obtaining services of an architectural and engineering firm regarding the air pollution control device(s);

(iii) Date for obtaining design drawings of the air pollution control device(s);

(iv) Date for ordering the air pollution control device(s);

(v) Date for obtaining the major components of the air pollution control device(s);

(vi) Date for initiation of site preparation for installation of the air pollution control device(s);

(vii) Date for initiation of installation of the air pollution control device(s);

(viii) Date for initial startup of the air pollution control device(s); and

(ix) Date for initial compliance test(s) of the air pollution control device(s).

(x) Date for final compliance.

(c) Designated facilities planning to shut down permanently to demonstrate compliance with subparagraph (a) of these Rules shall notify the Department in writing, within 90 days after EPA approval of these Rules. The notification shall include documentation of measurable and enforceable incremental steps of progress to be taken towards compliance with this Rule, as defined in subparagraphs 1. through 6. below:

1. Date for designated facility plan for shut down;

2. Date for contract with the appropriate vendor (off-site hauler or alternative waste treatment equipment);

3. Date to begin construction of alternative waste treatment equipment (if applicable);

4. Date for complete installation of alternative waste treatment equipment (if applicable);

5. Date for shut down of incinerator;

6. Date for dismantling incinerator.

(d) Department Actions on Petitions. On receipt of a petition, the Department will authorize one of the following actions, as they shall determine:

1. The petition may be dismissed if the Department determines that it is not adequate under subparagraph (b) of this paragraph.

2. The Department may grant the request of the petition, as petitioned or by imposing such conditions as these Rules may require in the Major Source Operating Permit, including the establishment of schedules of compliance.

3. The Department may deny the petition. If such a denial is made, the Department shall notify the petitioner in writing, state the reasons for denial and outline procedures for appeal.

(e) Termination Procedures. Any petition granted by the Department may be terminated by the Department whenever the Department finds, after an opportunity for the petitioner to demonstrate compliance and after notice and an opportunity for hearing, that the petitioner is in violation of any requirement, condition, schedule, limitation or any other provision of the petition or that operation under the petition does not meet the minimum requirements established by state and federal laws and regulations or is unreasonably threatening the public health.

Author: Ronald W. Gore
Statutory Authority: Code of Ala. 1975, §§22-28-14, 22-22A-5, 22-22A-6, 22-22A-8.
History: Effective Date September 19, 1991. **Repealed and New Rule:** Filed April 15, 1999; effective May 20, 1999. **Amended:** Filed August 3, 2000; effective September 7, 2000. **Amended:** Filed February 7, 2002; effective March 14, 2002.

335-3-3-.05 Incineration Of Commercial And Industrial Solid Waste.

(1) Terms used but not defined in this rule are defined in 40 CFR 60, Subparts A and B, and are incorporated by reference in ADEM Admin. Code chapter 335-3-10. For the purposes of this rule only, the following definitions apply:

(a) "30-day rolling average" means the arithmetic mean of the previous 720 hours of valid operating data. Valid data excludes periods when this unit is not operating. The 720 hours should be consecutive, but not necessarily continuous if operations are intermittent.

(b) "Administrator" means the Administrator of the U.S. Environmental Protection Agency or his/her authorized representative.

(c) "Affirmative defense" means, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

(d) "Agricultural waste" means vegetative agricultural materials such as nut and grain hulls and chaff (e.g., almond, walnut, peanut, rice, and wheat), bagasse, orchard prunings,

corn stalks, coffee bean hulls and grounds, and other vegetative waste materials generated as a result of agricultural operations.

(e) "Air curtain incinerator" means an incinerator that operates by forcefully projecting a curtain of air across an open chamber or pit in which combustion occurs. Incinerators of this type can be constructed above or below ground and with or without refractory walls and floor. Air curtain incinerators are not to be confused with conventional combustion devices with enclosed fireboxes and controlled air technology such as mass burn, modular, and fluidized bed combustors.

(f) "Annual heat input" means the heat input for the 12 months preceding the compliance demonstration.

(g) "Auxiliary fuel" means natural gas, liquified petroleum gas, fuel oil, or diesel fuel.

(h) "Average annual heat input rate" means annual heat input divided by the hours of operation for the 12 months preceding the compliance demonstration.

(i) "Bag leak detection system" means an instrument that is capable of monitoring particulate matter loadings in the exhaust of a fabric filter (i.e., baghouse) in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, light scattering, light transmittance, or other principle to monitor relative particulate matter loadings.

(j) "Burn-off oven" means any rack reclamation unit, part reclamation unit, or drum reclamation unit. A burn-off oven is not an incinerator, waste-burning kiln, an energy recover unit or a small, remote incinerator under this rule.

(k) "Bypass stack" means a device used for discharging combustion gases to avoid severe damage to the air pollution control device or other equipment.

(l) "Calendar quarter" means three consecutive months (nonoverlapping) beginning on: January 1, April 1, July 1, or October 1.

(m) "Calendar year" means 365 consecutive days starting on January 1 and ending on December 31.

(n) "CEMS data during startup and shutdown" means the following:

1. For incinerators, small remote incinerators: CEMS data collected during the first hours of a CISWI unit startup

from a cold start until waste is fed into the unit and the hours of operation following the cessation of waste material being fed to the CISWI during a unit shutdown. For each startup event, the length of time that CEMS data may be claimed as being CEMS data during startup must be 48 operating hours or less. For each shutdown event, the length of time that CEMS data may be claimed as being CEMS data during shutdown must be 24 operating hours or less.

2. For energy recovery units: CEMS data collected during the startup or shutdown periods of operation. Startup begins with either the first-ever firing of fuel in a boiler or process heater for the purpose of supplying useful thermal energy (such as steam or heat) for heating, cooling or process purposes, or producing electricity, or the firing of fuel in a boiler or process heater for any purpose after a shutdown event. Startup ends four hours after when the boiler or process heater makes useful thermal energy (such as heat or steam) for heating, cooling, or process purposes, or generates electricity or when no fuel is being fed to the boiler or process heater, whichever is earlier. Shutdown begins when the boiler or process heater no longer makes useful thermal energy (such as heat or steam) for heating, cooling, or process purposes and/or generates electricity or when no fuel is being fed to the boiler or process heater, whichever is earlier. Shutdown ends when the boiler or process heater no longer makes useful thermal energy (such as steam or heat) for heating, cooling, or process purposes and/or generates electricity, and no fuel is being combusted in less;

3. For waste-burning kilns: CEMS data collected during the periods of kiln operation that do not include normal operations. Startup means the time from when a shutdown kiln first begins firing fuel until it begins producing clinker. Startup begins when a shutdown kiln turns on the induced draft fan and begins firing fuel in the main burner. Startup ends when feed is being continuously introduced into the kiln for a least 120 minutes or when the feed rate exceeds 60 percent of the kiln design limitation rate, whichever occurs first. Shutdown means the cessation of kiln operation. Shutdown begins when feed to the kiln is halted and ends when continuous kiln rotation ceases.

(o) "Chemical recovery unit" means combustion units burning materials to recover chemical constituents or to produce chemical compounds where there is an existing commercial market for such recovered chemical constituents or compounds. A chemical recovery unit is not an incinerator, a waste-burning kiln, an energy recovery unit or a small, remote

incinerator under this rule. The following seven types of units are considered chemical recovery units:

1. Units burning only pulping liquors (i.e., black liquor) that are reclaimed in a pulping liquor recovery process and reused in the pulping process.

2. Units burning only spent sulfuric acid used to produce virgin sulfuric acid.

3. Units burning only wood or coal feedstock for the production of charcoal.

4. Units burning only manufacturing byproduct streams/ residue containing catalyst metals that are reclaimed and reused as catalysts or used to produce commercial grade catalysts.

5. Units burning only coke to produce purified carbon monoxide that is used as an intermediate in the production of other chemical compounds.

6. Units burning only hydrocarbon liquids or solids to produce hydrogen, carbon monoxide, synthesis gas, or other gases for use in other manufacturing processes.

7. Units burning only photographic film to recover silver.

(p) "Chemotherapeutic waste" means waste material resulting from the production or use of antineoplastic agents used for the purpose of stopping or reversing the growth of malignant cells.

(q) "Clean lumber" means wood or wood products that have been cut or shaped and include wet, air-dried, and kiln-dried wood products. Clean lumber does not include wood products that have been painted, pigment-stained, or pressure-treated by compounds such as chromate copper arsenate, pentachlorophenol, and creosote.

(r) "Commercial and industrial solid waste incineration (CISWI)" means any distinct operating unit of any commercial or industrial facility that combusts, or has combusted in the preceding 6 months, any solid waste as that term is defined in 40 CFR part 241. If the operating unit burns material other than traditional fuels as defined in §241.2 that have been discarded, and the owner or operator does not keep and produce records as required by subparagraph (ll)(u) of this rule, the operating unit is a CISWI. While not all CISWIs will include all of the following components, a CISWI includes, but is not limited to, the solid waste feed system, grate system, flue gas system, waste heat recovery equipment, if any, and bottom

ash system. The CISWI does not include air pollution control equipment or the stack. The CISWI boundary starts at the solid waste hopper (if applicable) and extends through two areas:

1. The combustion unit flue gas system, which ends immediately after the last combustion chamber or after the waste heat recovery equipment, if any; and

2. The combustion unit bottom ash system, which ends at the truck loading station or similar equipment that transfers the ash to final disposal. The CISWI unit includes all ash handling systems connected to the bottom ash handling system.

3. A CISWI unit does not include any of the types of units described in subparagraph (2)(d) of this rule, nor does it include any combustion turbine or reciprocating internal combustion engine.

(s) "Contained gaseous material" means gases that are in a container when that container is combusted.

(t) "Continuous emission monitoring system (CEMS)" means the total equipment that may be required to meet the data acquisition and availability requirements of this rule, used to sample, condition (if applicable), analyze, and provide a record of emissions.

(u) "Continuous monitoring system (CMS)" means the total equipment, required under the emission monitoring sections in applicable rules, used to sample and condition (if applicable), to analyze, and to provide a permanent record of emissions or process parameters. A particulate matter continuous parameter monitoring system (PM CPMS) is a type of CMS.

(v) "Cyclonic burn barrel" means a combustion device for waste materials that is attached to a 55 gallon, open-head drum. The device consists of a lid, which fits onto and encloses the drum, and a blower that forces combustion air into the drum in a cyclonic manner to enhance the mixing of waste material and air. A cyclonic burn barrel is not an incinerator, a waste-burning kiln, an energy recovery unit or a small, remote incinerator under this rule.

(w) "Deviation" means any instance in which an affected source subject to this rule, or an owner or operator of such a source:

1. Fails to meet any requirement or obligation established by this rule, including but not limited to any emission limitation, operating limit, or operator qualification and accessibility requirements;

2. Fails to meet any term or condition that is adopted to implement an applicable requirement in this rule and that is included in the operating permit for any affected source required to obtain such a permit.

(x) "Dioxins/furans" means tetra-through octachlorinated dibenzo-p-dioxins and dibenzofurans.

(y) "Discard" means, for purposes of this rule and 40 CFR 60, Subpart CCCC [ADEM Admin. Code r. 335-3-10-.02(81)], only, burned in an incineration unit without energy recovery.

(z) "Drum reclamation unit" means a unit that burns residues out of drums (e.g., 55 gallon drums) so that the drums can be reused.

(aa) "Dry scrubber" means an add-on air pollution control system that injects dry alkaline sorbent (dry injection) or sprays an alkaline sorbent (spray dryer) to react with and neutralize acid gas in the exhaust stream forming a dry powder material. Sorbent injection systems in fluidized bed boilers and process heaters are included in this definition. A dry scrubber is a dry control system.

(bb) "Energy recovery" means the process of recovering thermal energy from combustion for useful purposes such as steam generation or process heating.

(cc) "Energy recovery unit" means a combustion unit combusting solid waste (as that term is defined by the Administrator in 40 CFR part 241) for energy recovery. Energy recovery units include units that would be considered boilers and process heaters if they did not combust solid waste.

(dd) "Energy recovery unit designed to burn biomass (Biomass)" means an energy recovery unit that burns solid waste, biomass, and non-coal solid materials but less than 10 percent coal, on a heat input basis on an annual average, either alone or in combination with liquid waste, liquid fuel or gaseous fuels.

(ee) "Energy recovery unit designed to burn coal (Coal)" means an energy recovery unit that burns solid waste and at least 10 percent coal on a heat input basis on an annual average, either alone or in combination with liquid waste, liquid fuel or gaseous fuels.

(ff) "Energy recovery unit designed to burn liquid waste materials and gas (Liquid/gas)" means an energy recovery unit that burns a liquid waste with liquid or gaseous fuels not combined with any solid fuel or waste materials.

(gg) "Energy recovery unit designed to burn solid materials (Solids)" includes energy recovery units designed to burn coal and energy recovery units designed to burn biomass.

(hh) "Fabric filter" means an add-on air pollution control device used to capture particulate matter by filtering gas streams through filter media, also known as a baghouse.

(ii) "Foundry sand thermal reclamation unit" means a type of part reclamation unit that removes coatings that are on foundry sand. A foundry sand thermal reclamation unit is not an incinerator, a waste-burning kiln, an energy recovery unit or a small, remote incinerator under this rule.

(jj) "Incinerator" means any furnace used in the process of combusting solid waste (as that term is defined by the Administrator under Resource Conservation and Recovery Act in 40 CFR part 241) for the purpose of reducing the volume of the waste by removing combustible matter. Incinerator designs include single chamber and two-chamber.

(kk) "In-1ine coal mill" means those coal mills using kiln exhaust gases in their process. Coal mills with a heat source other than the kiln or coal mills using exhaust gases from the clinker cooler alone are not an in-1ine coal mill.

(ll) "In-1ine kiln/raw mill" means a system in a Portland Cement production process where dry kiln system is integrated with the raw mill so that all or a portion of the kiln exhaust gases are used to perform the drying operation of the raw mill, with no auxiliary heat source used. In this system the kiln is capable of operating without the raw mill operating, but the raw mill cannot operate without the kiln gases, and consequently, the raw mill does not generate a separate exhaust gas stream.

(mm) "Kiln" means an oven or furnace, including any associated preheater or precalciner devices, in-1ine raw mills, in-1ine coal mills or alkali bypass used for processing a substance by burning, firing or drying. Kilns include cement kilns that produce clinker by heating limestone and other materials for subsequent production of Portland Cement. Because the alkali bypass, inline raw mill and inline coal mill are considered an integral part of the kiln, the kiln emissions limits also apply to the exhaust of the alkali bypass, in-1ine raw mill and in-1ine coal mill.

(nn) "Laboratory analysis unit" means units that burn samples of materials for the purpose of chemical or physical analysis. A laboratory analysis unit is not an incinerator, waste-burning kiln, an energy recovery unit or a small, remote incinerator under this rule.

(oo) "Load fraction" means the actual heat input of an energy recovery unit divided by heat input during the performance test that established the minimum sorbent injection rate or minimum activated carbon injection rate, expressed as a fraction (e.g., for 50 percent load the load fraction is 0.5).

(pp) "Low-1evel radioactive waste" means waste material which contains radioactive nuclides emitting primarily beta or gamma radiation, or both, in concentrations or quantities that exceed applicable Federal or State standards for unrestricted release. Low-1evel radioactive waste is not high-1evel radioactive waste, spent nuclear fuel, or by-product material as defined by the Atomic Energy Act of 1954 [42 U.S.C. 2014(e)(2)].

(qq) "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.

(rr) "Minimum voltage or amperage" means 90 percent of the lowest test-run average voltage or amperage to the electrostatic precipitator measured during the most recent particulate matter or mercury performance test demonstrating compliance with the applicable emission limits.

(ss) "Modification or modified CISWI" means a CISWI that has been changed later than August 7, 2013, and that meets one of two criteria:

1. The cumulative cost of the changes over the life of the unit exceeds 50 percent of the original cost of building and installing the CISWI (not including the cost of land) updated to current costs (current dollars). To determine what systems are within the boundary of the CISWI used to calculate these costs, see the definition of CISWI.

2. Any physical change in the CISWI unit or change in the method of operating it that increases the amount of any air pollutant emitted for which section 129 or section 111 of the Clean Air Act has established standards.

(tt) "Municipal solid waste or municipal-type solid waste" means household, commercial/retail, or institutional waste. Household waste includes material discarded by residential dwellings, hotels, motels, and other similar permanent or temporary housing. Commercial/retail waste includes material discarded by stores, offices, restaurants, warehouses, nonmanufacturing activities at industrial facilities, and other similar establishments or facilities. Institutional waste includes materials discarded by schools, by

hospitals (nonmedical), by nonmanufacturing activities at prisons and government facilities, and other similar establishments or facilities. Household, commercial/retail, and institutional waste does include yard waste and refuse-derived fuel. Household, commercial/retail, and institutional waste does not include used oil; sewage sludge; wood pallets; construction, renovation, and demolition wastes (which include railroad ties and telephone poles); clean wood; industrial process or manufacturing wastes; medical waste; or motor vehicles (including motor vehicle parts or vehicle fluff).

(uu) "Opacity" means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

(vv) "Operating day" means a 24-hour period between 12:00 midnight and the following midnight during which any amount of solid waste is combusted at any time in the CISWI.

(ww) "Oxygen analyzer system" means all equipment required to determine the oxygen content of a gas stream and used to monitor oxygen in the boiler or process heater flue gas, boiler/process heater, firebox, or other appropriate location. This definition includes oxygen trim systems and certified oxygen CEMS. The source owner or operator is responsible to install, calibrate, maintain, and operate the oxygen analyzer system in accordance with the manufacturer's recommendations.

(xx) "Oxygen trim system" means a system of monitors that is used to maintain excess air at the desired level in a combustion device over its operating range. A typical system consists of a flue gas oxygen and/or carbon monoxide monitor that automatically provides a feedback signal to the combustion air controller or draft controller.

(yy) "Part reclamation unit" means a unit that burns coatings off parts (e.g., tools, equipment) so that the parts can be reconditioned and reused.

(zz) "Particulate matter" means total particulate matter emitted from CISWIs as measured by Method 5 or Method 29 of 40 CFR 60, Appendix A.

(aaa) "Pathological waste" means waste material consisting of only human or animal remains, anatomical parts, and/or tissue, the bags/containers used to collect and transport the waste material, and animal bedding (if applicable).

(bbb) "Performance evaluation" means the conduct of relative accuracy testing, calibration error testing, and other measurements used in validating the continuous monitoring system data.

(ccc) "Performance test" means the collection of data resulting from the execution of a test method (usually three emission test runs) used to demonstrate compliance with a relevant emission standard as specified in the performance test section of the relevant standard.

(ddd) "Process change" means any of the following physical or operational changes:

1. A physical change (maintenance activities excluded) to the CISWI which may increase the emission rate of any air pollutant to which a standard applies;

2. An operational change to the CISWI where a new type of non-hazardous secondary material is being combusted;

3. A physical change (maintenance activities excluded) to the air pollution control devices used to comply with the emission limits for the CISWI (e.g., replacing an electrostatic precipitator with a fabric filter);

4. An operational change to the air pollution control devices used to comply with the emission limits for the affected CISWI (e.g., change in the sorbent injection rate used for activated carbon injection).

(eee) "Rack reclamation unit" means a unit that burns the coatings off racks used to hold small items for application of a coating. The unit burns the coating overspray off the rack so the rack can be reused.

(fff) Raw mill means a ball or tube mill, vertical roller mill or other size reduction equipment, that is not part of an in-1ine kiln/raw mill, used to grind feed to the appropriate size. Moisture may be added or removed from the feed during the grinding operation. If the raw mill is used to remove moisture from feed materials, it is also, by definition, a raw material dryer. The raw mill also includes the air separator associated with the raw mill.

(ggg) "Reconstruction" means rebuilding a CISWI and meeting two criteria:

1. The reconstruction begins on or after August 7, 2013.

2. The cumulative cost of the construction over the life of the incineration unit exceeds 50 percent of the original cost of building and installing the CISWI (not including land) updated to current costs (current dollars). To determine what systems are within the boundary of the CISWI used to calculate these costs, see the definition of CISWI.

(hhh) "Refuse-derived fuel" means a type of municipal solid waste produced by processing municipal solid waste through shredding and size classification. This includes all classes of refuse-derived fuel including two fuels:

1. Low-density fluff refuse-derived fuel through densified refuse-derived fuel.

2. Pelletized refuse-derived fuel.

(iii) "Responsible Official" means one of the following:

1. For a corporation: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

(i) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars); or

(ii) The delegation of authority to such representatives is approved in advance by the Department;

2. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;

3. For a municipality, State, Federal, or other public agency: Either a principal executive officer or ranking elected official. For the purposes of this rule, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of EPA); or

4. For affected facilities:

(i) The designated representative in so far as actions, standards, requirements, or prohibitions under Title IV of the Clean Air Act or the regulations promulgated there under are concerned; or

(ii) The designated representative for any other purposes under 40 CFR Part 60.

(jjj) "Shutdown" means the period of time after all waste has been combusted in the primary chamber.

(kkk) "Small, remote incinerator" means an incinerator that combusts solid waste (as that term is defined by the Administrator in 40 CFR part 241) and combusts 3 tons per day or less solid waste and is more than 25 miles driving distance to the nearest municipal solid waste landfill.

(lll) "Soil treatment unit" means a unit that thermally treats petroleum-contaminated soils for the sole purpose of site remediation. A soil treatment unit may be direct-fired or indirect fired. A soil treatment unit is not an incinerator, a waste-burning kiln, an energy recovery unit or a small, remote incinerator under this rule.

(mmm) "Solid waste" (as defined in 40 CFR 241.2) means any garbage, refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject to permit under 33 U.S.C. 1342, or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923).

(nnn) "Solid waste incineration unit" means a distinct operating unit of any facility which combusts any solid waste (as that term is defined by the Administrator in 40 CFR part 241) material from commercial or industrial establishments or the general public (including single and multiple residences, hotels and motels). Such term does not include incinerators or other units required to have a permit under section 3005 of the Solid Waste Disposal Act. The term "solid waste incineration unit" does not include:

1. Materials recovery facilities (including primary or secondary smelters) which combust waste for the primary purpose of recovering metals;

2. Qualifying small power production facilities, as defined in section 3(17)(C) of the Federal Power Act (16 U.S.C. 769(17)(C)), or qualifying cogeneration facilities, as defined in section 3(18)(B) of the Federal Power Act (16 U.S.C. 796(18)(B)), which burn homogeneous waste (such as units which burn tires or used oil, but not including refuse-derived fuel) for the production of electric energy or in the case of qualifying cogeneration facilities which burn homogeneous waste for the production of electric energy and steam or forms of useful energy (such as heat) which are used for industrial, commercial, heating or cooling purposes; or

3. Air curtain incinerators provided that such incinerators only burn wood wastes, yard wastes and clean lumber and that such air curtain incinerators comply with opacity limitations to be established by the Director by rule.

(ooo) "Space heater" means a unit that meets the requirements of 40 CFR 279.23. A space heater is not an incinerator, a waste-burning kiln, an energy recovery unit or a small, remote incinerator under this rule.

(ppp) "Standard conditions, when referring to units of measure", means a temperature of 68 deg. F (20 deg. C) and a pressure of 1 atmosphere (101.3 kilopascals).

(qqq) "Startup period" means the period of time between the activation of the system and the first charge to the unit.

(rrr) "Waste-burning kiln" means a kiln that is heated, in whole or in part, by combusting solid waste (as the term is defined by the Administrator in 40 CFR part 241). Secondary materials used in Portland cement kilns shall not be deemed to be combusted unless they are introduced into the flame zone in the hot end of the kiln or mixed with the precalciner fuel.

(sss) "Wet scrubber" means an add-on air pollution control device that uses an aqueous or alkaline scrubbing liquor to collect particulate matter (including nonvaporous metals and condensed organics) and/or to absorb and neutralize acid gases.

(ttt) "Wood waste" means untreated wood and untreated wood products, including tree stumps (whole or chipped), trees, tree limbs (whole or chipped), bark, sawdust, chips, scraps, slabs, millings, and shavings. Wood waste does not include:

1. Grass, grass clippings, bushes, shrubs, and clippings from bushes and shrubs from residential, commercial/ retail, institutional, or industrial sources as part of maintaining yards or other private or public lands.

2. Construction, renovation, or demolition wastes.

3. Clean lumber.

(2) Applicability.

(a) Except as provided in subparagraph (b) of this paragraph below, the designated facility to which this rule applies is each individual CISWI and ACI that commenced construction on or before June 4, 2010 or commenced modification or reconstruction after June 4, 2010 but no later than August 7, 2013.

(b) If the owner or operator of a CISWI or ACI makes changes that meet the definition of modification or reconstruction on or after August 7, 2013, the CISWI or ACI becomes subject to 40 CFR 60, Subpart CCCC [ADEM Admin. Code r. 335-3-10-.02(81)] and this rule no longer applies to that unit.

(c) If the owner or operator of a CISWI or ACI makes physical or operational changes to an existing CISWI or ACI primarily to comply this rule, 40 CFR 60, Subpart CCCC [ADEM Admin. Code r. 335-3-10-.02(81)] does not apply to that unit. Such changes do not qualify as modifications or reconstructions under Subpart CCCC.

(d) The following types of units are exempt from this rule, but some units are required to provide notification.

1. Pathological waste incineration units. Incineration units burning 90 percent or more by weight (on a calendar quarter basis and excluding the weight of auxiliary fuel and combustion air) of pathological waste, low-1evel radioactive waste, and/or chemotherapeutic waste as defined in paragraph (1) are not subject to this rule if the two requirements specified in subparagraphs (d)1.(i) and (ii) of this paragraph below are met.

(i) Notify the Director that the unit meets these criteria.

(ii) Keep records on a calendar quarter basis of the weight of pathological waste, low-1evel radioactive waste, and/or chemotherapeutic waste burned, and the weight of all other fuels and wastes burned in the unit.

2. Municipal waste combustion units. Incineration units that are subject to 40 CFR 60, Subpart Ea (Standards of Performance for Municipal Waste Combustors); 40 CFR 60, Subpart Eb (Standards of Performance for Large Municipal Waste Combustors); 40 CFR 60, Subpart Cb (Emission Guidelines and Compliance Time for Large Municipal Combustors); 40 CFR 60, Subpart AAAA (Standards of Performance for Small Municipal Waste Combustion Units); or 40 CFR 60, Subpart BBBB (Emission Guidelines for Small Municipal Waste Combustion Units)

3. Medical waste incineration units. Incineration units regulated under 40 CFR 60, Subpart Ec incorporated by reference in rule 335-3-10-.02(3)(c) (Standards of Performance for Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996) or rule 335-3-3-.04 [Incineration of Hospital/Medical/Infectious Waste].

4. Small power production facilities. Units that meet the four requirements specified in subparagraphs (d)4.(i) through (iv) of this paragraph below.

(i) The unit qualifies as a small power-production facility under Section 3(17)(C) of the Federal Power Act (16 U.S.C. 796(17)(C)).

(ii) The unit burns homogeneous waste (not including refuse-derived fuel) to produce electricity.

(iii) The owner or operator submit a request to the Director for a determination that the qualifying small power production facility is combusting homogenous waste.

(iv) The owner or operator maintains records specified in subparagraph (ll)(v) of this rule.

5. Cogeneration facilities. Units that meet the four requirements specified in subparagraphs (d)6.(i) through (iv) of this paragraph below.

(i) The unit qualifies as a cogeneration facility under Section 3(18)(B) of the Federal Power Act (16 U.S.C. 796(18)(B)).

(ii) The unit burns homogeneous waste (not including refuse-derived fuel) to produce electricity and steam or other forms of energy used for industrial, commercial, heating, or cooling purposes.

(iii) The owner or operator submits a request to the Director for a determination that the qualifying cogeneration facility is combusting homogenous waste.

(iv) The owner or operator maintain records specified in subparagraph (ll)(w) of this rule.

6. Hazardous waste combustion units. Units that are required to get a permit under section 3005 of the Solid Waste Disposal Act.

7. Materials recovery units. Units that combust waste for the primary purpose of recovering metals, such as primary and secondary smelters.

8. Sewage treatment plants. Incineration units regulated under 40 CFR 60, Subpart O as incorporated in rule 335-3-10-.02(15) (Standards of Performance for Sewage Treatment Plants).

9. Sewage sludge incineration units. Incineration units combusting sewage sludge for the purpose of reducing the volume of the sewage sludge by removing combustible matter that are subject to subpart LLLL of 40 CFR 60 as incorporated in rule 335-3-10-.02(90) (Standards of Performance for New Sewage Sludge Incineration Units) or subpart MMMM of 40 CFR 60 (Emission Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units).

10. Other solid waste incineration units. Incineration units that are subject to subpart EEEE of 40 CFR 60 (Standards of Performance for Other Solid Waste Incineration Units) or subpart FFFF of 40 CFR 60 (Emission Guidelines and Compliance Times for Other Solid Waste Incineration Units).

(3) Increments of Progress.

(a) For owners or operators planning to achieve compliance more than one year following the effective date of EPA's approval of these rules, the two increments of progress specified in subparagraphs (a)1. and 2. of this paragraph below shall be met.

1. Submit a final control plan to the Director no later than one year after the effective date of EPA's approval of these rules.

2. Achieve final compliance no later than December 1, 2005 for CISWI units that commenced construction on or before November 30, 1999, or February 7, 2018 for CISWI units that commenced construction on or before June 4, 2010.

(b) The owner or operator shall submit to the Director, notifications for achieving increments of progress. The notifications shall be postmarked no later than 10 business days after the compliance date for the increment. These notifications shall include the three items specified in subparagraphs (b)1. through 3. of this paragraph below:

1. Notification that the increment of progress has been achieved.

2. Any items required to be submitted with each increment of progress.

3. Signature of the owner or operator of the CISWI.

(c) If an owner or operator fails to meet an increment of progress, a notification to the Director shall be submitted and postmarked within 10 business days after the date for that

increment of progress in subparagraph (3)(a) above. The owner or operator shall inform the Director that the increment was not met, and reports shall be submitted each subsequent calendar month until the increment of progress is met.

(d) For the control plan increment of progress, the owner or operator shall satisfy the two requirements specified in subparagraphs (d)1. and 2. of this paragraph below.

1. Submit the final control plan that includes the five items described in subparagraphs (d)1.(i) through (v). of this paragraph below.

(i) A description of the devices for air pollution control and process changes that will be used to comply with the emission limitations and other requirements of this rule.

(ii) The type(s) of waste to be burned.

(iii) The maximum design waste burning capacity.

(iv) The anticipated maximum charge rate.

(v) If applicable, the petition for site-specific operating limits under paragraph (6)(c) of this rule.

2. Maintain an onsite copy of the final control plan.

(e) For the final compliance increment of progress, the owner or operator shall complete all process changes and retrofit construction of control devices, as specified in the final control plan, so that, if the affected CISWI is brought online, all necessary process changes and air pollution control devices would operate as designed.

(f) Closing and restarting a CISWI.

1. If the CISWI is closed but will be restarted prior to the final compliance date of December 1, 2005 for CISWI units that commenced construction on or before November 30, 1999, or February 7, 2018 for CISWI units that commenced construction on or before June 4, 2010, the owner or operator shall meet the increments of progress specified in subparagraph

(a) of this paragraph.

2. If the CISWI is closed but will be restarted after the final compliance date of December 1, 2005 for CISWI units that commenced construction on or before November 30, 1999, or February 7, 2018 for CISWI units that commenced construction on or before June 4, 2010, the owner or

operator shall complete emission control retrofits and meet the emission limitations and operating limits on the date the unit restarts operation.

(g) Permanent closure of a CISWI. If the owner or operator plans to close the CISWI unit rather than comply with this rule, submit a closure notification, including the date of closure, to the Director within 90 days after EPA approval of these rules.

(4) Waste Management Plan.

(a) A waste management plan is a written plan that identifies both the feasibility and the methods used to reduce or separate certain components of solid waste from the waste stream in order to reduce or eliminate toxic emissions from incinerated waste.

(b) A waste management plan shall be submitted no later than the date specified in subparagraph (3)(a)1. of this rule for submittal of the final control plan.

(c) A waste management plan shall include consideration of the reduction or separation of waste-stream elements such as paper, cardboard, plastics, glass, batteries, or metals; or the use of recyclable materials. The plan shall identify any additional waste management measures, and the source shall implement those measures considered practical and feasible, based on the effectiveness of waste management measures already in place, the costs of additional measures, the emissions reductions expected to be achieved, and any other environmental or energy impacts they might have.

(5) Operator Training and Qualification.

(a) No CISWI can be operated unless a fully trained and qualified CISWI operator is accessible, either at the facility or can be at the facility within 1 hour. The trained and qualified CISWI operator may operate the CISWI directly or be the direct supervisor of one or more other plant personnel who operate the unit. If all qualified CISWI unit operators are temporarily not accessible, the procedures in subparagraph (h) of this paragraph below shall be followed.

(b) Operator training and qualification shall be obtained through a State-approved program that meets the requirements included in subparagraph (c) of this paragraph below. Qualification is valid from the date on which the training course is completed and the operator successfully passes the examination required under subparagraph (c)2. of this paragraph below.

(c) Training shall be obtained by completing an incinerator operator training course that includes, at a minimum, the three elements described in subparagraphs (c)1. through 3. of this paragraph below.

1. Training on the eleven subjects listed in subparagraphs (c)1.(i) through (xi) of this paragraph below.

(i) Environmental concerns, including types of emissions.

(ii) Basic combustion principles, including products of combustion.

(iii) Operation of the specific type of incinerator to be used by the operator, including proper startup, waste charging, and shutdown procedures.

(iv) Combustion controls and monitoring.

(v) Operation of air pollution control equipment and factors affecting performance (if applicable).

(vi) Inspection and maintenance of the incinerator and air pollution control devices.

(vii) Actions to prevent and correct malfunctions or to prevent conditions that may lead to malfunction.

(viii) Bottom and fly ash characteristics and handling procedures.

(ix) Applicable Federal, State, and local regulations, including Occupational Safety and Health Administration workplace standards.

(x) Pollution prevention.

(xi) Waste management practices.

2. An examination designed and administered by the instructor.

3. Written material covering the training course topics that can serve as reference material following completion of the course.

(d) The operator training course shall be completed by the later of the three dates specified in subparagraphs (d)1. through 3. of this paragraph below.

1. The final compliance date of December 1, 2005 for CISWIs that commenced construction on or before November 30, 1999, or February 7, 2018 for CISWIs that commenced construction on or before June 4, 2010.

2. Six months after CISWI startup.

3. Six months after an employee assumes responsibility for operating the CISWI unit or assumes responsibility for supervising the operation of the CISWI.

(e) To maintain qualification, the operator shall complete an annual review or refresher course covering, at a minimum, the five topics described in subparagraphs (e)1. through 5. of this paragraph below.

1. Update of regulations.

2. Incinerator operation, including startup and shutdown procedures, waste charging, and ash handling.

3. Inspection and maintenance.

4. Prevention and correction of malfunctions or conditions that may lead to malfunction.

5. Discussion of operating problems encountered by attendees.

(f) A lapsed operator qualification shall be renewed by one of the two methods specified in subparagraphs (f)1. and 2. of this paragraph below.

1. For a lapse of less than 3 years, the operator shall complete a standard annual refresher course described in subparagraph (e) of this paragraph above.

2. For a lapse of 3 years or more, the operator shall repeat the initial qualification requirements in subparagraphs (b) and (c) of this paragraph above.

(g) Requirements for site specific documentation.

1. Site specific documentation shall be available at the facility and readily accessible for all CISWI operators that addresses the ten topics described in subparagraphs (g)1.(i) through (x) of this paragraph below. The owner or operator shall maintain this information and the training records required by subparagraph (g)3. of this paragraph below in a manner that they can be readily accessed and are suitable for inspection upon request.

(i) Summary of the applicable standards under this rule.

(ii) Procedures for receiving, handling, and charging waste.

(iii) Incinerator startup, shutdown, and malfunction procedures.

(iv) Procedures for maintaining proper combustion air supply levels.

(v) Procedures for operating the incinerator and associated air pollution control systems within the standards established under this rule.

(vi) Monitoring procedures for demonstrating compliance with the incinerator operating limits.

(vii) Reporting and recordkeeping procedures.

(viii) The waste management plan required under paragraph (4) of this rule.

(ix) Procedures for handling ash.

(x) A list of the wastes burned during the performance test.

2. The owner or operator shall establish a program for reviewing the information listed in subparagraph (g)1. of this paragraph above with each incinerator operator.

(i) The initial review of the information listed in subparagraph (g)1. of this paragraph shall be conducted by the later of the three dates specified in subparagraphs (g)2.(i)(I) through (III) of this paragraph below.

(I) The final compliance date of December 1, 2005 for CISWIs that commenced construction on or before November 30, 1999, or February 7, 2018 for CISWIs that commenced construction on or before June 4, 2010.

(II) Six months after CISWI startup.

(III) Six months after being assigned to operate the CISWI.

(ii) Subsequent annual reviews of the information listed in subparagraph (g)1. of this paragraph shall

be conducted no later than 12 months following the previous review.

3. The owner or operator shall also maintain the information specified in subparagraphs (g)3.(i) through (iii) below.

(i) Records showing the names of CISWI operators who have completed review of the information in subparagraph (g)1. of this paragraph above as required by subparagraph (g)2. of this paragraph, including the date of the initial review and all subsequent annual reviews.

(ii) Records showing the names of the CISWI operators who have completed the operator training requirements under this paragraph, met the criteria for qualification under subparagraphs (a), (b) and (c) of this paragraph, and maintained or renewed their qualification under subparagraphs (e) or (f) of this paragraph, respectively. Records shall include documentation of training, the dates of the initial refresher training, and the dates of their qualification and all subsequent renewals of such qualifications.

(iii) For each qualified operator, the phone and/or pager number at which they can be reached during operating hours.

(h) If all qualified operators are temporarily not accessible (i.e., not at the facility and not able to be at the facility within 1 hour), the owner or operator shall meet one of the two criteria specified in subparagraphs (h)1. and 2. of this paragraph below, depending on the length of time that a qualified operator is not accessible.

1. When all qualified operators are not accessible for more than 8 hours, but less than 2 weeks, the CISWI may be operated by other plant personnel familiar with the operation of the CISWI who have completed a review of the information specified in subparagraph (g)1. of this paragraph within the past 12 months. However, the period when all qualified operators were not accessible shall be recorded and this deviation included in the annual report as specified under paragraph (11) of this rule.

2. When all qualified operators are not accessible for 2 weeks or more, the two actions that are described in subparagraphs (h)2.(i) and (ii) of this paragraph below shall be taken.

(i) Notify the Director of this deviation in writing within 10 days. In the notice, state what caused this deviation, what actions are being taken to ensure that a qualified operator is accessible, and when it is expected that a qualified operator will be accessible.

(ii) Submit a status report to the Administrator every 4 weeks outlining what actions are being taken to ensure that a qualified operator is accessible, stating when it is expected that a qualified operator will be accessible and requesting approval from the Administrator to continue operation of the CISWI. The first status report shall be submitted 4 weeks after notification to the Director of the deviation under subparagraph(h)2.(i). If the Administrator notifies the owner or operator that the request to continue operation of the CISWI is disapproved, the CISWI may continue operation for 90 days, then shall cease operation. Operation of the unit may resume if the two requirements in subparagraphs (h)2.(ii)(I) and (II) of this paragraph below are met.

(I) A qualified operator is accessible as required under subparagraph (a) of this paragraph.

(II) The owner or operator notifies the Administrator that a qualified operator is accessible and operation is resuming.

(6) Emission Limitations and Operating Limits.

(a) The owner or operator shall meet the emission limitations for each CISWI, including bypass stack or vent, specified in Table 1 of this rule or tables 5 through 8 of this rule by the final compliance date of December 1, 2005 for CISWIs that commenced construction on or before November 30, 1999, or February 7, 2018 for CISWIs that commenced construction on or before June 4, 2010, as applicable. The emission limitations apply at all times the unit is operating including and not limited to startup, shutdown, or malfunction.

1. Units that do not use wet scrubbers shall maintain opacity to less than equal to the percent opacity (three 1-hour blocks consisting of ten 6-minute average opacity values) specified in table 1 of this rule, as applicable.

(b) Timelines for Operating Limits.

1. If a wet scrubber(s) is used to comply with the emission limitations, the owner or operator shall establish operating limits for up to four operating

parameters (as specified in Table 2 of this rule) as described in subparagraphs (b)1.(i) through (iv) of this paragraph during the initial performance test.

(i) Maximum charge rate, calculated using one of the two different procedures in subparagraph (b)1.(i)(I) or (II) of this paragraph, as appropriate.

(I) For continuous and intermittent units, maximum charge rate is 110 percent of the average charge rate measured during the most recent performance test demonstrating compliance with all applicable emission limitations.

(II) For batch units, maximum charge rate is 110 percent of the daily charge rate measured during the most recent performance test demonstrating compliance with all applicable emission limitations.

(ii) Minimum pressure drop across the wet particulate matter scrubber, which is calculated as lowest 1-hour average pressure drop across the wet scrubber measured during the most recent performance test demonstrating compliance with the particulate matter emission limitations; or minimum amperage to the wet scrubber, which is calculated as the lowest 1-hour average amperage to the wet scrubber measured during the most recent performance test demonstrating compliance with the particulate matter emission limitations.

(iii) Minimum scrubber liquid flow rate, which is calculated as the lowest 1-hour average liquid flow rate at the inlet to the wet acid gas or particulate matter scrubber measured during the most recent performance test demonstrating compliance with all applicable emission limitations.

(iv) Minimum scrubber liquor pH, which is calculated as the lowest 1-hour average liquor pH at the inlet to the wet acid gas scrubber measured during the most recent performance test demonstrating compliance with the HCl emission limitation.

2. The owner or operator shall meet the operating limits established on the date that the performance test report is submitted to the EPA’s Central Data Exchange or postmarked, per the requirements of (11)(hh).

3. If the owner or operator uses a fabric filter to comply with the emission limitations and does not use a particulate matter (PM) continuous parameter monitoring

system (CPMS) for monitoring PM compliance, each fabric filter system shall be operated such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month period. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm shall be counted as a minimum of 1 hour. If the owner or operator takes longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by the owner or operator to initiate corrective action.

4. If the owner or operator uses an electrostatic precipitator to comply with the emission limitations and does not use a PM CPMs for monitoring PM compliance, the owner or operator shall measure the (secondary) voltage and amperage of the electrostatic precipitator collection plates during the particulate matter performance test. Calculate the average electric power value (secondary voltage x secondary current = secondary electric power) for each test run. The operating limit for the electrostatic precipitator is calculated as the lowest 1-hour average secondary electric power measured during the most recent performance test demonstrating compliance with the particulate matter emission limitations.

5. If the owner or operator uses an activated carbon sorbent injection to comply with the emission limitations, the owner or operator shall measure the sorbent flow rate during the performance testing. The operating limit for the carbon sorbent injection is calculated as the lowest 1-hour average sorbent flow rate measured during the most recent performance test demonstrating compliance with the mercury emission limitations. For energy recovery units, when the unit operates at lower loads, multiply the sorbent injection rate by the load fraction, as defined in this rule, to determine the required injection rate (e.g., for 50 percent load, multiply the injection rate operating limit by 0.5).

6. If the owner or operator uses selective noncatalytic reduction to comply with the emission limitations, the owner or operator shall measure the charge rate, the secondary chamber temperature (if applicable to the CISWI), and the reagent flow rate during the nitrogen oxides performance testing. The operating limits for the selective noncatalytic reduction are calculated as the highest 1-hour average charge rate, lowest secondary chamber temperature, and lowest reagent flow rate measured during the most recent performance test

demonstrating compliance with the nitrogen oxides emission limitations.

7. If the owner or operator uses a dry scrubber to comply with the emission limitations, the owner or operator shall measure the injection rate of each sorbent during the performance testing. The operating limit for the injection rate of each sorbent is calculated as the lowest 1-hour average injection rate of each sorbent measured during the most recent performance test demonstrating compliance with the hydrogen chloride emission limitations. For energy recovery units, when the unit operates at lower loads, multiply the sorbent injection rate by the load fraction, as defined in this rule, to determine the required injection rate (e.g., for 50 percent load, multiply the injection rate operating limit by 0.5).

8. If the owner or operator does not use a wet scrubber, electrostatic precipitator, or fabric filter to comply with the emission limitation, and if the owner or operator does not determine compliance with the particulate matter emission limitation with either a particulate matter CEMS or a particulate matter CPMS, the owner or operator shall maintain opacity to less than or equal to ten percent opacity (1-hour block average).

9. If the owner or operator uses a PM CPMS to demonstrate compliance, the owner or operator shall establish a PM CPMS operating limit and determine compliance with it according to subparagraphs (b)9.((i) through (v) of this paragraph below.

(i). During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, record all hourly average output values (milliamps or the digital signal equivalent) from the PM CPMS for the periods corresponding to the test runs (e.g., three 1-hour average PM CPMS output values for three 1-hour test runs).

(I) The owner or operator’s PM CPMS shall provide a 4-20 milliamp output, or the digital signal equivalent, and the establishment of its relationship to manual reference method measurements shall be determined in units of milliamps or digital bits.

(II) The owner or operator’s PM CPMS operating range shall be capable of reading PM concentrations from zero to a level equivalent to at least two times the allowable emission limit.

If the owner or operator's PM CPMS is an auto ranging instrument capable of multiple scales, the primary range of the instrument shall be capable of reading PM concentrations from zero to a level equivalent to two times the allowable emission limit.

(III) During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, record and average all milliamp output values, or their digital equivalent, from the PM CPMS for the periods corresponding to the compliance test runs (e.g., average all the PM CPMS output values for three corresponding 2-hour Method 51 test runs).

(ii) If the average of the three PM performance test runs are below 75% of the PM emission limit, the owner or operator shall calculate an operating limit by establishing a relationship of PM CPMS signal to PM concentration using the PM CPMS instrument zero, the average PM CPMS output values corresponding to the three compliance test runs, and the average PM concentration from the Method 5 or performance test with the procedures in subparagraphs (b)9.(i) through (v) of this paragraph.

(I) Determine the instrument zero output with one of the following procedures:

I. Zero point data for in-situ instruments shall be obtained by removing the instrument from the stack and monitoring ambient air on a test bench.

II. Zero point data for extractive instruments shall be obtained by removing the extractive probe from the stack and drawing in clean ambient air.

III. The zero point can also be obtained by performing manual reference method measurements when the flue gas is free of PM emissions or contains very low PM concentrations (e.g., when the process is not operating, but the fans are operating or the source is combusting only natural gas) and plotting these with the compliance data to find the zero intercept.

IV. If none of the steps in subparagraphs (b)9.(ii)(I) through (III) of this paragraph are possible, the owner or operator shall use

a zero output value provided by the manufacturer.

(II) Determine the PM CPMS instrument average in milliamps, or the digital equivalent, and the average of the corresponding three PM compliance test runs, using Equation 1 of this rule:

(Eq. 1)

$$\overline{x} = \frac{1}{n}\sum_{i=1}^{n} X_1 \ , \ y = \frac{1}{n}\sum_{i=1}^{n} Y_1$$

Where:

X_1 = the PM CPMS data points for the three runs constituting the 1performance test;

Y_1 = the PM concentration value for the three runs constituting 1the performance test; and

n = the number of data points.

(III) With the instrument zero expressed in milliamps, or the digital equivalent, the three run average PM CPMS milliamp value, or its digital equivalent, and the three run average PM concentration from the three compliance tests, determine a relationship of mg/dscm per milliamp, or digital equivalent, with Equation 2 of this rule:

(Eq. 2) $$\boldsymbol{R = \frac{Y_1}{(X_1 - z)}}$$

Where:

R = the relative mg/dscm per milliamp, or the digital equivalent, for the PM CPMS;

Y_1 = the three run average mg/dscm PM concentration;

X_1 = the three run average milliamp output, or the digital 1equivalent, from the PM CPMS; and

z = the milliamp or digital signal equivalent of the instrument zero determined from subparagraph (b)9.(ii)(I) of this paragraph.

(IV) Determine the source specific 30-day rolling average operating limit using the mg/dscm per milliamp value, or per digital signal equivalent, from Equation 2 in Equation 3, below. This sets the operating limit at the PM CPMS output value corresponding to 75% of the emission limit. 0.75(L)

(Eq. 3) $$O_1 = z + \frac{0.75(L)}{R}$$

Where:

O_1 = the operating limit for the PM CPMS on a 30-day rolling 1average, in milliamps;

L = the source emission limit expressed in mg/dscm;

z = the instrument zero in milliamps or digital equivalent, determined from subparagraph (b)9.(ii)(I) of this paragraph; and

R = the relative mg/dscm per milliamp, or per digital signal output equivalent, for the PM CPMS, from Equation 2 of this rule..

(iii) If the average of the three PM compliance test runs is at or above 75% of the PM emission limit the owner or operator shall determine the operating limit by averaging the PM CPMS milliamp or digital signal output corresponding to the three PM performance test runs that demonstrate compliance with the emission limit using Equation 4 and shall submit all compliance test and PM CPMS data according to the reporting requirements in subparagraph (b)9.(v) of this paragraph. 1 n

(Eq. 4)

$$O_h = \frac{1}{n} \sum_{i=1}^{n} \chi_1$$

Where:

X_1 = the PM CPMS data points for all runs i;

n = the number of data points; and

O_h = the site specific operating limit, in milliamps or digital signal equivalent.

(iv) To determine continuous compliance, the owner or operator shall record the PM CPMS output data for all periods when the process is operating and the PM CPMS is not out-of-control. The owner or operator shall demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (e.g., milliamps or digital signal bits, PM concentration, raw data signal) on a 30-day rolling average basis.

(v) For PM performance test reports used to set a PM CPMS operating limit, the electronic submission of the test report shall also include the make and model of the PM CPMS instrument, serial number of the instrument, analytical principle of the instrument (e.g., beta attenuation), span of the instruments primary analytical range, milliamp or digital signal value equivalent to the instrument zero output, technique by which this zero value was determined, and the average milliamp or digital signals corresponding to each PM compliance test run.

(c) If the owner or operator uses an air pollution control device other than a wet scrubber, activated carbon injection, selective noncatalytic reduction, fabric filter, an electrostatic precipitator, or a dry scrubber or limit emissions in some other manner, including mass balances, to comply with the emission limitations under subparagraph (a) of this paragraph, the owner or operator shall petition the Administrator for specific operating limits to be established during the initial performance test and continuously monitored thereafter. The owner or operator shall submit the petition at least sixty days before the performance test is scheduled to begin. The petition shall include the five items listed in subparagraphs (c)1. through 5. of this paragraph below.

1. Identification of the specific parameters the owner or operator proposes to use as additional operating limits.

2. A discussion of the relationship between these parameters and emissions of regulated pollutants, identifying how emissions of regulated pollutants change with changes in these parameters, and how limits on these parameters will serve to limit emissions of regulated pollutants.

3. A discussion of how the owner or operator will establish the upper and/or lower values for these parameters which will establish the operating limits on these parameters.

4. A discussion identifying the methods the owner or operator will use to measure and the instruments that will be used to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments.

5. A discussion identifying the frequency and methods for recalibrating the instruments that will be used for monitoring these parameters.

(7) Performance Testing.

(a) All performance tests shall consist of a minimum of three test runs conducted under conditions representative of normal operations.

(b) The owner or operator shall document that the waste burned during the performance test is representative of the waste burned under normal operating conditions by maintaining a log of the quantity of waste burned (as required in paragraph (11) of this rule) and the types of waste burned during the performance test.

(c) All performance tests shall be conducted using the minimum run duration specified in Table 1 and Tables 5 through 8 of this rule.

(d) Method 1 of Appendix A, 40 CFR 60 shall be used to select the sampling location and number of traverse points.

(e) Method 3A or 3B of Appendix A, 40 CFR 60 shall be used for gas composition analysis, including measurement of oxygen concentration. Method 3A or 3B of Appendix A, 40 CFR 60 shall be used simultaneously with each method (except when using Method 9 and Method 22).

(f) All pollutant concentrations, except for opacity, shall be adjusted to 7 percent oxygen using Equation 5 of this rule:

$$\text{(Eq. 5)}\quad C_{adj} = C_{meas}(20.9-7)/(20.9-\%O_2)$$

Where:

C_{adj} = pollutant concentration adjusted to 7 percent oxygen;

C_{meas} = pollutant concentration measured on a dry basis;
(20.9 - 7) = 20.9 percent oxygen - 7 percent oxygen (defined oxygen correction basis);

20.9 = oxygen concentration in air, percent; and

$\%O_2$ = oxygen concentration measured on a dry basis, percent.

(g) The owner or operator shall determine dioxins/furans toxic equivalency by following the procedures in subparagraphs (g)1. through 4. of this paragraph below.

1. Measure the concentration of each dioxin/furan tetra- through octa-isomer emitted using EPA Method 23 at 40 CFR part 60, Appendix A.

2. Quantify isomers meeting identification criteria 2, 3, 4, and 5 in Section 5.3.2.5 of Method 23, regardless of whether the isomers meet identification criteria 1 and 7. The owner or operator shall quantify the isomers per Section 9.0 of Method 23. (Note: the owner or operator may reanalyze the sample aliquot or split to reduce the number of isomers not meeting identification criteria 1 or 7 of Section 5.3.2.5)

3. For each dioxin/furan (tetra- through octa-chlorinated) isomer measured in accordance with subparagraph (g)1. and 2. of this paragraph above, multiply the isomer concentration by its corresponding toxic equivalency factor specified in Table 3 of this rule.

4. Sum the products calculated in accordance with subparagraph (g)3. of this paragraph above to obtain the total concentration of dioxins/furans emitted in terms of toxic equivalency.

(h) Method 22 at 40 CFR part 60, appendix A-7 shall be used to determine compliance with the fugitive ash emission limit in table 1 of this rule or tables 5 through 8 of this rule.

(i) If the owner or operator has an applicable opacity operating limit, the owner or operator shall determine compliance with the opacity limit using Method 9 at 40 CFR part 60, appendix A-4, based on three 1-hour blocks consisting of ten 6-minute average opacity values, unless the owner or operator is required to install a continuous opacity monitoring system, consistent with paragraphs (9) and (10).

(j) The owner or operator shall determine dioxins/furans total mass basis by following the procedures in subparagraphs (j)1. through 3. of this paragraph below.

1. Measure the concentration of each dioxin/furan tetra- through octa-chlorinated isomer emitted using EPA Method 23 at 40 CFR part 60, appendix A-7.

2. Quantify isomers meeting identification criteria 2, 3, 4, and 5 in Section 5.3.2.5 of Method 23, regardless of whether the isomers meet identification criteria 1 and 7. The owner or operator shall quantify the isomers per Section 9.0 of Method 23. (Note: The owner or operator may reanalyze the sample aliquot or split to reduce the number of isomers not meeting identification criteria 1 or 7 of Section 5.3.2.5).

3. Sum the quantities measured in accordance with subparagraphs (j)1. and 2. of this paragraph to obtain the total concentration of dioxins/furans emitted in terms of total mass basis.

(k) The results of performance tests are used to demonstrate compliance with the emission limitations in Table 1 or Tables 5 through 8 of this rule.

(8) Initial Compliance Requirements.

(a) The owner or operator shall conduct a performance test, as required under paragraphs (6) and (7) of this rule, to determine compliance with the emission limitations in Table 1 and Tables 5 through 8 of this rule, to establish compliance with any opacity operating limits in subparagraph (6)(b) of this rule, to establish the kiln-specific emission limit in subparagraph (9)(v) of this rule, as applicable, and to establish operating limits using the procedures in subparagraphs (6)(b) or (6)(c) of this rule. The performance test shall be conducted using the test methods listed in Table 1 and table 5 through 8 of this rule and the procedures in paragraph (7) of this rule. The use of the bypass stack during a performance test shall invalidate the performance test. As an alternative to conducting a performance test, as required under subparagraphs (6) and (7), the owner or operator shall use a 30-day rolling average of the 1-hour arithmetic average CEMS data, including CEMS data during startup and shutdown as defined in this rule, to determine compliance with the emission limitations in Table 1 or tables 5 through 8 of this rule. The owner or operator shall conduct a performance evaluation of each continuous monitoring system within 180 days of installation of the monitoring system. The initial performance evaluation shall by conducted prior to collecting CEMS data that will be used for the limited compliance demonstration.

(b) The initial performance test shall be conducted no later than 180 days after the final compliance date. The final compliance date is specified in subparagraph (3)(a)2. of this rule.

(c) If the owner or operator commences or recommences combusting a solid waste at an existing combustion unit at any commercial or industrial facility and conducted a test consistent with the provisions of this rule while combusting the given solid waste within the 6 months preceding the reintroduction of that solid waste in the combustion chamber, retesting is not needed until 6 months from the date the solid waste is reintroduced.

(d) If the owner or operator commences combusting or recommences combusting a solid waste at an existing combustion unit at any commercial or industrial facility and has not conducted a performance test consistent with the provisions of this rule while combusting the given solid waste within the 6 months preceding the reintroduction of that solid waste in the combustion chamber, the owner or operator shall conduct a performance test within 60 days commencing or recommencing solid waste combustion.

(e) The initial air pollution control device inspection shall be conducted within 60 days after installation of the control device and the associated CISWI reaches the charge rate at which it will operate, but no later than 180 days after the final compliance date for meeting the amended emission limitations.

(f) Within 10 operating days following an air pollution control device inspection, all necessary repairs shall be completed unless the owner or operator obtains written approval from the Director establishing a date whereby all necessary repairs of the designated facility shall be completed.

(g) If the owner or operator of a waste-burning kiln chooses to comply with the equivalent production-based mercury emission limit in Table 7, initial compliance shall be demonstrated pursuant to 40 CFR §63.1348(a)(5). The initial compliance test must begin on the first operating day following completion of the field testing and data collection that demonstrates that the continuous emissions monitoring system has satisfied the relevant performance acceptance criteria of Performance Specifications 12A or 12B of Appendix B of 40 CFR Part 60. The notification required by subparagraph (11)(aa) of this rule shall also include the owner or operators intention to comply with the equivalent production-based mercury emission limit in Table 7. For waste-burning kilns choosing to comply with the equivalent production-based mercury emission limit in Table 7, the term operating day in

40 CFR §63.1348(a)(5), 40 CFR §63.1348(b)(7) and 40 CFR §63.1349(b)(5) means any 24-hour period beginning at 12:00 midnight during which the kiln produces any amount of clinker.

(9) Continuous Compliance Requirements.

(a) Compliance with standards.

1. The emission standards and operating requirements set forth in this rule apply at all times.

2. If the combusting of solid waste is ceased the owner or operator may opt to remain subject to the provisions of this rule. Consistent with the definition of CISWI, the owner or operator is subject to the requirements of this rule at least 6 months following the last date of solid waste combustion. Solid waste combustion is ceased when sold waste is not in the combustion chamber (i.e., the solid waste feed to the combustor has been cut off for a period of time not less than the solid waste residence time).

3. If the combusting of solid waste is ceased the owner or operator shall be in compliance with any newly applicable standards on the effective date of the waste-to-fuel switch. The effective date of the waste-to-fuel switch is a date selected by the owner or operator, that shall be at least 6 months from the date that combusting solid waste is ceased, consistent with subparagraph (9)(a)2. of this paragraph above. The source shall remain in compliance with this rule until the effective date of the waste-to-fuel switch.

4. Any owner or operator of an existing commercial or industrial combustion unit that combusted a fuel or no-waste material, and commences or recommences combustion of solid waste, the owner or operator is subject to the provisions of this rule as of the first day solid waste is introduced or reintroduced to the combustion chamber, and this date constitutes the effective date of the fuel-to-waste switch. The owner or operator shall complete all initial compliance demonstrations for any Section 112 standards that are applicable to the facility before commencing or recommencing combustion of solid waste. The owner or operator shall provide 30 days prior notice of the effective date of the waste-to-fuel switch. The notification shall identify:

(i) The name of the owner or operator of the CISWI, the location of the source, the emissions unit(s) that will cease burning solid waste, and the date of the notice;

(ii) The currently applicable subcategory under this rule, and any 40 CFR part 63 subpart and subcategory that will be applicable after the combusting of solid waste is ceased;

(iii) The fuel(s), non-waste material(s) and solid waste(s) the CISWI is currently combusting and has combusted over the past 6 months, and the fuel(s) or non-waste materials the unit will commence combusting;

(iv) The date on which the unit became subject to the currently applicable emission limits;

(v) The date upon which combusting solid waste is ceased, and the date (if different) that any new requirements to become applicable (i.e., the effective date of the waste-to-fuel switch), consistent with subparagraphs (9)(a)2. and 3. of this paragraph.

5. All air pollution control equipment necessary for compliance with any newly applicable emissions limits which apply as a result of the cessation or commencement or recommencement of combusting solid waste shall be installed and operational as of the effective date of the waste-to-fuel, or fuel-to-waste switch.

6. All monitoring systems necessary for compliance with any newly applicable monitoring requirements which apply as a result of the cessation or commencement or recommencement of combusting solid waste shall be installed and operational as of the effective date of the waste-to-fuel, or fuel-to-waste switch. All calibration and drift checks shall be performed as of the effective date of the waste-to-fuel, or fuel-to waste switch. Relative accuracy tests shall be performed as of the performance test deadline for PM CEMS (if PM CEMS are elected to demonstrate continuous compliance with the particulate matter emission limits). Relative accuracy testing for other CEMS need not be repeated if that testing was previously performed consistent with section 112 monitoring requirements or monitoring requirements under this rule.

(b) The owner or operator shall conduct an annual performance test for the pollutants listed in table 1 or tables 5 through 8 of this rule and opacity for each CISWI as required under paragraph (7) of this rule. The annual performance test shall be conducted using the test methods listed in Table 1 or table 5 through 8 of this rule and the procedures in paragraph (7) of this rule. Opacity shall be measured using EPA Reference Method 9 at 40 CFR part 60. Annual performance tests are not

required if the owner or operator uses CEMS or continuous opacity monitoring systems to determine compliance.

(c) The owner or operator shall continuously monitor the operating parameters specified in subparagraph (6)(b) or established under subparagraph (6)(c) of this rule and as specified in subparagraph (10)(d) of this rule. Operation above the established maximum or below the established minimum operating limits constitutes a deviation from the established operating limits. Three-hour block average values are used to determine compliance (except for baghouse leak detection system alarms) unless a different averaging period is established under subparagraph (6)(c) of this rule or, for energy recovery units, where the averaging time for each operating parameter is a 30-day rolling, calculated each hour as the average of the previous 720 operating hours. Operation above the established maximum, below the established minimum, or outside the allowable range of the operating limits specified in subparagraph (9)(a) of this paragraph constitutes a deviation from the operating limits established under this rule, except during performance tests conducted to determine compliance with the emission and operating limits or to establish new operating limits. Operating limits are confirmed or reestablished during performance tests.

(d) The owner or operator shall burn only the same types of waste and fuels used to establish subcategory applicability (for ERUs) and operating limits during the performance test.

(e) For energy recovery units, incinerators, and small remote units, the owner or operator shall perform annual visual emissions test for ash handling.

(f) For energy recovery units, the owner or operator shall conduct an annual performance test for opacity using EPA Reference Method 9 at 40 CFR part 60 (except where particulate matter continuous monitoring system or CPMS are used) and the pollutants listed in table 6 of this rule.

(g) For facilities using a CEMS to demonstrate compliance with the carbon monoxide emission limit, compliance with the carbon monoxide emission limit may be demonstrated by using the CEMS, as described in subparagraph (10)(o) of this rule.

(h) Coal and liquid/gas energy recovery units with annual average heat input rates greater than 250 MMBtu/hr may elect to demonstrate continuous compliance with the particulate matter emissions limit using a particulate matter CEMS according to the procedures in subparagraph (10)(n) of this rule, instead of the CPMS specified in subparagraph (9)(i) of this paragraph. Coal and liquid/gas energy recovery units with annual average heat input rates less than 250 MMBtu/hr, incinerators, and small remote incinerators may also elect to

demonstrate compliance using a particulate matter CEMS according to the procedures in subparagraph (10)(n) of this rule, instead of particulate matter testing with EPA Method 5 at 40 CFR part 60, appendix A-3 and, if applicable, the continuous opacity monitoring requirements in subparagraph (9)(i) of this paragraph.

(i) For energy recovery units with annual average heat input rates greater than or equal to 10 MMBtu/hour but less than 250 MMBtu/hr that do not use a wet scrubber, fabric filter with bag leak detection system, an electrostatic precipitator, particulate matter CEMS, or particulate matter CPMS, the owner or operator shall install, operate, certify and maintain a continuous opacity monitoring system (COMS) according to the procedures in subparagraph (10)(m) of this rule.

(j) For waste-burning kilns, the owner or operator shall conduct an annual performance test for the pollutants (except mercury and particulate matter, and hydrogen chloride if no acid gas wet scrubber or dry scrubber is used) listed in Table 7 of this rule, unless the owner or operator demonstrate initial and continuous compliance using CEMS as allowed in subparagraph (u) of this paragraph. If the waste-burning kiln is not equipped with an acid gas wet scrubber or dry scrubber, the owner or operator shall determine compliance with the hydrogen chloride emission limit using a HCI CEMS according to the requirements in subparagraph (j)1. of this rule. The owner or operator shall determine compliance with the mercury emissions limit using a mercury CEMS or an integrated sorbent trap monitoring system according to subparagraph (j)2. of this rule. The owner or operator shall determine compliance with particulate matter using CPMS:

1. If compliance is monitored with the HCl emissions limit by operating an HCl CEMS, the owner or operator shall do so in accordance with Performance Specification 15 (PS 15) of appendix B to 40 CFR part 60, or, PS 18 of appendix B to 40 CFR part 60. The owner or operator shall operate, maintain, and quality assure a HCl CEMS installed and certified under PS 15 according to the quality assurance requirements in Procedure 1 of appendix F to 40 CFR part 60 except that the Relative Accuracy Test Audit requirements of Procedure 1 must be replaced with the validation requirements and criteria of sections 11.1.1 and 12.0 of PS 15. The owner or operator shall operate, maintain and quality assure a HCl CEMS installed and certified under PS 18 according to the quality assurance requirements in Procedure 6 of appendix F to 40 CFR part 60. For any performance specification used, the owner or operator shall use Method 321 of appendix A to 40 CFR part 63 as the reference test method for conducting relative accuracy testing. The span value and calibration requirements in subparagraphs (j)1.(i) and

(ii) of this paragraph apply to all HCl CEMS used under this rule:

(i) The owner or operator shall use a measurement span value for any HCl CEMS of 0-10 ppmvw unless the monitor is installed on a kiln without an inline raw mill. Kilns without an inline raw mill may use a higher span value sufficient to quantify all expected emissions concentrations. The HCl CEMS data recorder output range must include the full range of expected HCl concentration values which would include those expected during "mill off" conditions. The corresponding data recorder range shall be documented in the site-specific monitoring plan and associated records; and

(ii) In order to quality assure data measured above the span value, the owner or operator shall use one of the three options in subparagraphs (j)1.(ii)(I) through (III) of this paragraph:

(I) Include a second span that encompasses the HCl emission concentrations expected to be encountered during "mill off" conditions. This second span may be rounded to a multiple of 5 ppm of total HCl. The requirements of the appropriate HCl monitor performance specification shall be followed for this second span with the exception that a RATA with the mill off is not required;

(II) Quality assure any data above the span value by proving instrument linearity beyond the span value established in subparagraph (j)1.(i) of this paragraph using the following procedure. Conduct a weekly "above span linearity" calibration challenge of the monitoring system using a reference gas with a certified value greater than the highest expected hourly concentration or greater than 75% of the highest measured hourly concentration. The "above span" reference gas must meet the requirements of the applicable performance specification and must be introduced to the measurement system at the probe. Record and report the results of this procedure as would be done for a daily calibration. The "above span linearity" challenge is successful if the value measured by the HCl CEMS falls within 10 percent of the certified value of the reference gas. If the value measured by the HCl CEMS during the above span linearity challenge exceeds 10 percent of the certified value of the reference gas, the monitoring system must be evaluated and repaired and a new "above

span linearity" challenge met before returning the HCl CEMS to service, or data above span from the HCl CEMS must be subject to the quality assurance procedures established in (j)1.(ii)(IV) of this paragraph. In this manner values measured by the HCl CEMS during the above span linearity challenge exceeding ±20 percent of the certified value of the reference gas must be normalized using equation 6;

(III) Quality assure any data above the span value established in subparagraph (j)1.(i) of this paragraph using the following procedure. Any time two consecutive one-hour average measured concentration of HCl exceeds the span value the owner or operator shall, within 24 hours before or after, introduce a higher, "above span" HCl reference gas standard to the HCl CEMS. The "above span" reference gas shall meet the requirements of the applicable performance specification and target a concentration level between 50 and 150 percent of the highest expected hourly concentration measured during the period of measurements above span, and shall be introduced at the probe. While this target represents a desired concentration range that is not always achievable in practice, it is expected that the intent to meet this range is demonstrated by the value of the reference gas. Expected values may include above span calibrations done before or after the above-span measurement period. Record and report the results of this procedure as would be done for a daily calibration. The "above span" calibration is successful if the value measured by the HCl CEMS is within 20 percent of the certified value of the reference gas. If the value measured by the HCl CEMS is not within 20 percent of the certified value of the reference gas, then the owner or operator shall normalize the stack gas values measured above span as described in paragraph (j)1.(ii)(IV) of this paragraph. If the "above span" calibration is conducted during the period when measured emissions are above span and there is a failure to collect the one data point in an hour due to the calibration duration, then the owner or operator shall determine the emissions average for that missed hour as the average of hourly averages for the hour preceding the missed hour and the hour following the missed hour. In an hour where an "above span" calibration is being conducted and one or more data points are collected, the emissions average

is represented by the average of all valid data points collected in that hour; and

(IV) In the event that the "above span" calibration is not successful (i.e., the HCl CEMS measured value is not within 20 percent of the certified value of the reference gas), then the owner or operator shall normalize the one-hour average stack gas values measured above the span during the 24-hour period preceding or following the "above span" calibration for reporting based on the HCl CEMS response to the reference gas as shown in equation 6:

(Eq. 6) $\frac{Certified\ reference\ gas\ valve}{Measured\ value\ of\ reference\ gas} \times Measured\ stack\ gas = Normalized\ stack\ gas\ result$

2. Compliance with the mercury emissions limit must be determined using a mercury CEMS or integrated sorbent trap monitoring system according to the following requirements:

(i) The owner or operator shall operate a mercury CEMS in accordance with performance specification 12A at 40 CFR part 60, appendix B or an integrated sorbent trap monitoring system in accordance with performance specification 12B at 40 CFR part 60, appendix B; these monitoring systems shall be quality assured according to procedure 5 of 40 CFR 60, appendix F. For the purposes of emissions calculations when using an integrated sorbent trap monitoring system, the mercury concentration determined for each sampling period shall be assigned to each hour during the sampling period. If the owner or operator choose to comply with the production-rate based mercury limit for the waste-burning kiln, the owner or operator shall monitor hourly clinker production and determine the hourly mercury emissions rate in pounds per million tons of clinker produced. The owner or operator shall demonstrate compliance with the mercury emissions limit using a 30-day rolling average of these 1-hour mercury concentrations, or mass emissions rates, including CEMS data during startup and shutdown as defined in this rule, calculated using equation 19-19 in section 12.4.1 of EPA Reference Method 19 at 40 CFR part 60, appendix A-7. CEMS data during startup and shutdown, as defined in this rule, are not corrected to 7 percent oxygen, and are measured at stack oxygen content;

(ii) Owners or operators using a mercury CEMS or integrated sorbent trap monitoring system to determine mass emission rate shall install, operate,

calibrate and maintain an instrument for continuously measuring and recording the mercury mass emissions rate to the atmosphere according to the requirements of performance specifications 6 at 40 CFR part 60, appendix B and conducting an annual relative accuracy test of the continuous emission rate monitoring system according to section 8.2 of performance specification 6; and

(iii) The owner or operator of a waste-burning kiln shall demonstrate initial compliance by operating a mercury CEMS or integrated sorbent trap monitoring system while the raw mill of the in-1ine kiln/raw mill is operating under normal conditions and including at least one period when the raw mill is off.

(k) If the owner or operators uses an air pollution control device to meet the emission limitations in this rule, an initial and annual inspection of the air pollution control device shall be conducted. The inspection shall include, at a minimum, the following:

1. Inspect air pollution control device(s) for proper operation.

2. Develop a site-specific monitoring plan according to the requirements in subparagraph (9)(l) of this paragraph. This requirement also applies if the owner or operator petition the Administrator for alternative monitoring parameters under §60.13(i) of 40 CFR part 60.

(l) For each CMS required in this paragraph, the owner or operator shall develop and submit to the Administrator for approval a site-specific monitoring plan according to the requirements of this subparagraph (l) that addresses subparagraphs (9)(l)1.(i) through (vi) of this paragraph.

1. The owner or operator shall submit this site-specific monitoring plan at least 60 days before the initial performance evaluation of the continuous monitoring system.

(i) Installation of the continuous monitoring system sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device).

(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or

parametric signal analyzer and the data collection and reduction systems.

(iii) Performance evaluation procedures and acceptance criteria (e.g., calibrations).

(iv) Ongoing operation and maintenance procedures in accordance with the general requirements of §60.11(d).

(v) Ongoing data quality assurance procedures in accordance with the general requirements of §60.13.

(vi) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of §60.7(b), (c),(c)(1), (c)(4), (d), (e), (f) and (g).

2. The owner or operator shall conduct a performance evaluation of each continuous monitoring system in accordance with the site-specific monitoring plan.

3. The owner or operator shall operate and maintain the continuous monitoring system in continuous operation according to the site-specific monitoring plan.

(m) If the owner or operator has an operating limit that requires the use of a flow monitoring system, the owner or operator shall meet the requirements in subparagraphs (9)(l) and (9)(m)1. through 4. of this paragraph.

1. Install the flow sensor and other necessary equipment in a position that provides a representative flow.

2. Use a flow sensor with a measurement sensitivity at full scale of no greater than 2 percent.

3. Minimize the effects of swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.

4. Conduct a flow monitoring system performance evaluation in accordance with the monitoring plan at the time of each performance test but no less frequently than annually.

(n) If the owner or operator has an operating limit that requires the use of a pressure monitoring system, the owner or operator shall meet the requirements in subparagraphs (9)(l) and (9)(n)1. through 6. Of this paragraph.

1. Install the pressure sensor(s) in a position that provides a representative measurement of the pressure (e.g., PM scrubber pressure drop).

2. Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion.

3. Use a pressure sensor with a minimum tolerance of 1.27 centimeters of water or a minimum tolerance of 1 percent of the pressure monitoring system operating range, whichever is less.

4. Perform checks at the frequency outlined in the site-specific monitoring plan to ensure pressure measurements are not obstructed (e.g., check for pressure tap pluggage daily).

5. Conduct a performance evaluation of the pressure monitoring system in accordance with the monitoring plan at the time of each performance test but no less frequently than annually.

6. If at any time the measured pressure exceeds the manufacturer's specified maximum operating pressure range, conduct a performance evaluation of the pressure monitoring system in accordance with the monitoring plan and confirm that the pressure monitoring system continues to meet the performance requirements in the monitoring plan. Alternatively, install and verify the operation of a new pressure sensor.

(o) If the owner or operator has an operating limit that requires a pH monitoring system, the owner or operator shall meet the requirements in subparagraphs (9)(l) and (9)(o)1. through 4. of this paragraph.

1. Install the pH sensor in a position that provides a representative measurement of scrubber effluent pH.

2. Ensure the sample is properly mixed and representative of the fluid to be measured.

3. Conduct a performance evaluation of the pH monitoring system in accordance with the monitoring plan at least once each process operating day.

4. Conduct a performance evaluation (including a two-point calibration with one of the two buffer solutions having a pH within 1 of the pH of the operating limit) of the pH monitoring system in accordance with the monitoring plan at the time of each performance test but no less frequently than quarterly.

(p) If the owner or operator has an operating limit that requires a secondary electric power monitoring system for an electrostatic precipitator, the owner or operator shall meet

the requirements in subparagraphs (9)(l) and (9)(p)1. through 2. of this paragraph.

1. Install sensors to measure (secondary) voltage and current to the precipitator collection plates.

2. Conduct a performance evaluation of the electric power monitoring system in accordance with the monitoring plan at the time of each performance test but no less frequently than annually.

(q) If the owner or operator has an operating limit that requires the use of a monitoring system to measure sorbent injection rate (e.g., weigh belt, weigh hopper, or hopper flow measurement device), the owner or operator shall meet the requirements in subparagraphs (9)(l) and (9)(q) 1. though 2. of this paragraph.

1. Install the system in a position(s) that provides a representative measurement of the total sorbent injection rate.

2. Conduct a performance evaluation of the sorbent injection rate monitoring system in accordance with the monitoring plan at the time of each performance test but no less frequent than annually.

(r) If the owner or operator elect to use a fabric filter bag leak detection system to comply with the requirements of this rule, the owner or operator shall install, calibrate, maintain, and continuously operate a bag leak detection system as specified in subparagraphs (9)(l) and (9)(r)1. though 5. of this paragraph.

1. Install a bag leak detection sensor(s) in a position(s) that will be representative of the relative or absolute particulate matter loadings for each exhaust stack, roof vent, or compartment (e.g., for a positive pressure fabric filter) of the fabric filter.

2. Use a bag leak detection system certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligrams per actual cubic meter or less.

3. Conduct a performance evaluation of the bag leak detection system in accordance with the monitoring plan and consistent with the guidance provided in EPA-454/ R-98-015 (incorporated by reference, see §60.17).

4. Use a bag leak detection system equipped with a device to continuously record the output signal from the sensor.

5. Use a bag leak detection system equipped with a system that will sound an alarm when an increase in relative particulate matter emissions over a preset level is detected. The alarm shall be located where it is observed readily by plant operating personnel.

(s) For facilities using a CEMS to demonstrate initial and continuous compliance with the sulfur dioxide emission limit, compliance with the sulfur dioxide emission limit may be demonstrated by using the CEMS specified in paragraph (10)(l) of this rule to measure sulfur dioxide. The sulfur dioxide CEMS shall follow the procedures and methods specified in this subparagraph. For sources that have actual inlet emissions less than 100 parts per million dry volume, the relative accuracy criterion for inlet sulfur dioxide CEMS should be no greater than 20 percent of the mean value of the reference method test data in terms of the units of the emission standard, or 5 parts per million dry volume absolute value of the mean difference between the reference method and the CEMS, whichever is greater.

1. During each relative accuracy test run of the CEMS required by performance specification 2 in appendix B of 40 CFR part 60, collect sulfur dioxide and oxygen (or carbon dioxide) data concurrently (or within a 30- to 60-minute period) with both the CEMS and the test methods specified in subparagraphs (9)(s)1.(i) and (ii) of this paragraph.

(i) For sulfur dioxide, EPA Reference Method 6 or 6C, or as an alternative ANSI/ASME PTC 19.10-1981 (incorporated by reference, see §60.17) shall be used.

(ii) For oxygen (or carbon dioxide), EPA Reference Method 3A or 3B, or as an alternative ANSI/ASME PTC 19.10-1981 (incorporated by reference, see §60.17), as applicable, shall be used.

2. The span value of the CEMS at the inlet to the sulfur dioxide control device shall be 125 percent of the maximum estimated hourly potential sulfur dioxide emissions of the unit subject to this rule. The span value of the CEMS at the outlet of the sulfur dioxide control device shall be 50 percent of the maximum estimated hourly potential sulfur dioxide emissions of the unit subject to this rule.

3. Conduct accuracy determinations quarterly and calibration drift tests daily in accordance with procedure 1 in appendix F of 40 CFR part 60.

(t) For facilities using a CEMS to demonstrate initial and continuous compliance with the nitrogen oxides emission limit, compliance with the nitrogen oxides emission limit may be demonstrated by using the CEMS specified in paragraph (10)(k) to measure nitrogen oxides. The nitrogen oxides CEMS shall follow the procedures and methods specified in subparagraphs (9)(t)1. though 5. of this paragraph.

1. During each relative accuracy test run of the CEMS required by performance specification 2 of appendix B of 40 CFR part 60, collect nitrogen oxides and oxygen (or carbon dioxide) data concurrently (or with in a 30- to 60- minute period) with both the CEMS and the test methods specified in subparagraphs (9)(t)1.(i) and (ii) of this paragraph.

(i) For nitrogen oxides, EPA Reference Method 7 or 7E at 40 CFR part 60, appendix A-4 shall be used.

(ii) For oxygen (or carbon dioxide), EPA Reference Method 3A or 3B, or as an alternative ANSI/ASME PTC 19.10-1981 (incorporated by reference, see §60.17), as applicable, shall be used.

2. The span value of the CEMS shall be 125 percent of the maximum estimated hourly potential nitrogen oxide emissions of unit.

3. Conduct accuracy determinations quarterly and calibration drift tests daily in accordance with procedure 1 in appendix F of 40 CFR part 60.

4. The owner or operator of an affected facility may request that compliance with the nitrogen oxides emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. If carbon dioxide is selected for use in diluents corrections, the relationship between oxygen and carbon dioxide levels shall be established during the initial performance test according to the procedures and methods specified in subparagraphs (9)(t)4.(i) though (iv) of this paragraph below. This relationship may be reestablished during performance compliance tests.

(i) The fuel factor equation in Method 3B shall be used to determine the relationship between oxygen and carbon dioxide at a sampling location. Method 3A, 3B, or as an alternative ANSI/ASME PTC 19.10-1981 (incorporated by reference, see §60.17), as applicable, shall be used to determine the oxygen concentration at the same location as the carbon dioxide monitor.

(ii) Samples shall be taken for at least 30 minutes in each hour.

(iii) Each sample shall represent a 1-hour average.

(iv) A minimum of 3 runs shall be performed.

(u) For facilities using a CEMS or an integrated sorbent trap monitoring system for mercury to demonstrate initial and continuous compliance with any of the emission limits of this rule, the owner or operator shall complete the following:

1. Demonstrate compliance with the appropriate emission limit(s) using a 30-day rolling average of 1-hour arithmetic average emission concentrations, including CEMS or an integrated sorbent trap monitoring system data during startup and shutdown, as defined in this rule, calculated using Equation 19-19 in section 12.4.1 of EPA Reference Method 19 at appendix A-7 of 40 CFR 60. The 1-hour arithmetic averages for CEMS shall be calculated using the data points required under §60.13(e)(2). Except for CEMS or an integrated sorbent trap monitoring system data during startup and shutdown, the 1-hour arithmetic averages used to calculate the 30-day rolling average emission concentrations shall be corrected to 7 percent oxygen (dry basis). Integrated sorbent trap monitoring system or CEMS data during startup and shutdown, as defined in this rule, are not corrected to 7 percent oxygen, and are measured at stack oxygen content.

2. Operate all CEMS and integrated sorbent trap monitoring systems in accordance with the applicable procedures under appendices B and F of 40 CFR part 60.

(v) Use of the bypass stack at any time is an emissions standards deviation for PM, HCl, lead, cadmium, mercury, nitrogen oxide, sulfur dioxide, and dioxin/furans.

(w) For energy recovery units with a design heat input capacity of 100MMBtu/hr or greater that do not use a carbon monoxide CEMS, the owner or operator shall install, operate, and maintain an oxygen analyzer system as defined in paragraph (1) of this rule according to the procedures in subparagraph (9)(w)1. through 4. below.

1. The oxygen analyzer system shall be installed by the initial performance test date specified in subparagraph (6)(b) of this rule.

2. The owner or operator shall operate the oxygen trim system within compliance with subparagraph (9)(w)3. of this paragraph below at all times.

3. The owner or operator shall maintain the oxygen level such that the 30-day rolling average that is established as the operating limit for oxygen is not below the lowest hourly average oxygen concentration measured during the most recent CO performance test.

4. The owner or operator shall calculate and record a 30-day rolling average oxygen concentration using Equation 19-19 in section 12.4.1 of EPA Reference Method 19 of Appendix A-7 of 40 CFR part 60.

(x) For energy recovery units with annual average heat input rates greater than or equal to 250 MMBtu/hr and waste-burning kilns, the owner or operator shall install, calibrate, maintain, and operate a PM CPMS and record the output of the system as specified in subparagraphs (9)(x)1. through 8. of this paragraph below. For other energy recovery units, the owner or operator may elect to use PM CPMS operated in accordance with this paragraph. PM CPMS are suitable in lieu of using other CMS for monitoring PM compliance (e.g., bag leak detectors, ESP secondary power, PM scrubber pressure).

1. Install, calibrate, operate, and maintain the PM CPMS according to the procedures in the approved site-specific monitoring plan developed in accordance with subparagraphs (9)(l) and (9)(x)1.(i) through (iii) of this paragraph.

(i) The operating principle of the PM CPMS shall be based on in-stack or extractive light scatter, light scintillation, beta attenuation, or mass accumulation of the exhaust gas or representative sample. The reportable measurement output from the PM CPMS shall be expressed as milliamps.

(ii) The PM CPMS shall have a cycle time (i.e., period required to complete sampling, measurement, and reporting for each measurement) no longer than 60 minutes.

(iii) The PM CPMS shall be capable of detecting and responding to particulate matter concentrations of no greater than 0.5 mg/actual cubic meter.

2. During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, the owner or operator shall adjust the site-specific operating limit in accordance with the results of the performance test according to the procedures specified in subparagraph (6)(b) of this rule.

3. Collect PM CPMS hourly average output data for all energy recovery unit or waste-burning kiln operating hours. Express the PM CPMS output as milliamps.

4. Calculate the arithmetic 30-day rolling average of all of the hourly average PM CPMS output collected during all energy recovery unit or waste-burning kiln operating hours data (milliamps).

5. The owner or operator shall collect data using the PM CPMS at all times the energy recovery unit or waste-burning kiln is operating and at the intervals specified in subparagraph (9)(x)1.(ii) of this paragraph, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments), and any scheduled maintenance as defined in the site-specific monitoring plan.

6. The owner or operator shall use all the data collected during all energy recovery unit or waste-burning kiln operating hours in assessing the compliance with the operating limit except:

(i) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or quality control activities conducted during monitoring system malfunctions are not used in calculations (report any such periods in the annual deviation report);

(ii) Any data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or quality control activities conducted during out-of-control periods are not used in calculations (report emissions or operating levels and report any such periods in the annual deviation report);

(iii) Any PM CPMS data recorded during periods of CEMS data during startup and shutdown, as defined in this rule.

7. The owner or operator shall record and make available upon request results of PM CPMS system performance audits, as well as the dates and duration of periods from when the PM CPMS is out of control until completion of

the corrective actions necessary to return the PM CPMS to operation consistent with the site-specific monitoring plan.

8. For any deviation of the 30-day rolling average PM CPMS average value from the established operating parameter limit, the owner or operator shall:

(i) Within 48 hours of the deviation, visually inspect the air pollution control device;

(ii) If inspection of the air pollution control device identifies the cause of the deviation, take corrective action as soon as possible and return the PM CPMS measurement to within the established value; and

(iii) Within 30 days of the deviation or at the time of the annual compliance test, whichever comes first, conduct a PM emissions compliance test to determine compliance with the PM emissions limit and to verify. Within 45 days of the deviation, the owner or operator shall re-establish the CPMS operating limit. Conducting of additional testing for any deviations that occur between the time of the original deviation and the PM emissions compliance test required under this subparagraph is not required.

(iv) PM CPMS deviations leading to more than four required performance tests in a 12-month process operating period (rolling monthly) constitute a violation of this rule.

(y) When there is an alkali bypass and/or an in-1ine coal mill that exhaust emissions through a separate stack(s), the combined emissions are subject to the emission limits applicable to waste-burning kilns. To determine the kiln-specific emission limit for demonstrating compliance, the owner or operator shall:

1. Calculate a kiln-specific emission limit using equation 7:

(Eq. 7)

$$C_{ks} = ((Emission\ Limit\ X\ (Q_{ab} + Q_{cm} + Q_{ks})) - (Q_{ab} X\ C_{ab}) - (Q_{cm} X\ C_{cm})) / Q_{ks}$$

Where:

C_{ks} = Kiln stack concentration (ppmvd, mg/dscm, ng/dscm, depending on pollutant. Each corrected to 7% O_2.)

Q_{ab} = Alkali bypass flow rate (volume/hr)

C_{ab} = Alkali bypass concentration (ppmvd, mg/dscm, ng/dscm, depending on pollutant. Each corrected to 7% O2.)

Q_{cm} = In-1ine coal mill flow rate (volume/hr)

C_{cm} = In-1ine coal mill concentration (ppmvd, mg/dscm, ng/dscm, depending on pollutant. Each corrected to 7% O_2.)

Q_{ks} = Kiln stack flow rate (volume/hr)

2. Particulate matter concentration shall be measured downstream of the in-1ine coal mill. All other pollutant concentrations shall be measured either upstream or downstream of the in-1ine coal mill.

3. For purposes of determining the combined emissions from kilns equipped with an alkali bypass or that exhaust kiln gases to a coal mill that exhausts through a separate stack, instead of installing a CEMS or PM CPMS on the alkali bypass stack or in-1ine coal mill stack, the results of the initial and subsequent performance test can be used to demonstrate compliance with the relevant emissions limit. A performance test shall be conducted on an annual basis (between 11 and 13 calendar months following the previous performance test).

(z) The owner or operator shall conduct annual performance tests between 11 and 13 months of the previous performance test.

(aa) On an annual basis (no more than 12 months following the previous annual air pollution control device inspection), the owner or operator shall complete the air pollution control device inspection as described in subparagraphs (8)(e) and (f) of this rule.

(bb) The owner or operator shall conduct annual performance tests according to the schedule specified in subparagraph (9)(y) in this paragraph, with the following exceptions:

1. The owner or operator may conduct a repeat performance test at any time to establish new values for the operating limits, as specified in subparagraphs (9)(cc) and (dd) of this paragraph. New operating limits become effective on the date that the performance test report is submitted to the EPA’s Central Data Exchange or postmarked, per the requirements of (11)(hh). The

Director may request a repeat performance test at any time.

2. The owner or operator shall repeat the performance test within 60 days of a process change, as defined in paragraph (1) of this rule.

3. Performance tests may be conducted less often if the owner or operator meet the following conditions: the performance tests for the pollutant for at least 2 consecutive performance tests demonstrates that the emission level for the pollutant is no greater than the emission level specified in subparagraph (9)(bb)3.(i) or (bb)3.(ii) of this paragraph, as applicable; there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions; and the owner or operator is not required to conduct a performance test for the pollutant in response to a request by the Director in subparagraph (9)(bb)1. of this paragraph or a process change in subparagraph (9)(bb)2. of this paragraph. In this case, the owner or operator do not have to conduct a performance test for that pollutant for the next 2 years. The owner or operator shall conduct a performance test for the pollutant no more than 37 months following the previous performance test for the pollutant. If the emission level for the CISWI continues to meet the emission level specified in (9)(bb)3.(i) or (9)(bb)3.(ii) of this paragraph, as applicable, the owner or operator may choose to conduct performance tests for the pollutant every third year as long as there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions. Each such performance test shall be conducted no more than 37 months after the previous performance test.

(i) For particulate matter, hydrogen chloride, mercury, carbon monoxide, nitrogen oxides, sulfur dioxide, cadmium, lead, and dioxins/furans, the emission level equal to 75 percent of the applicable emission limit in table 1 or tables 5 through 8 of this rule, as applicable.

(ii) For fugitive emissions, visible emissions (of combustion ash from the ash conveying system) for 2 percent of the time during each of the three 1-hour observation periods.

4. If the owner or operator is conducting less frequent testing for a pollutant as provided in subparagraph (9)(bb)3. of this paragraph and a subsequent performance test for the pollutant indicates that the CISWI does not meet the emission level specified in subparagraph (9)

(bb)3.(i) or (9)(bb)3.(ii) of this paragraph, as applicable, the owner or operator shall conduct annual performance tests for the pollutant according to the schedule specified in subparagraph (9)(bb) of this paragraph until qualification for less frequent testing for the pollutant as specified in subparagraph (9)(bb)3. of this paragraph.

(cc) The owner or operator may conduct a repeat performance test at any time to establish new values for the operating limits. The Director may request a repeat performance test at any time.

(dd) The owner or operator shall repeat the performance test if the feed stream is different than the feed streams used during any performance test used to demonstrate compliance.

(ee) If the owner or operator of a waste-burning kiln chooses to comply with the equivalent production-based mercury emission limit in Table 7, continuous compliance shall be demonstrated pursuant to the procedures of 40 CFR §63.1348(b)(7.) and 40 CFR §63.1349(b)(5).

(10) Monitoring.

(a) If a wet scrubber is used to comply with the emission limitation under subparagraph (6)(a) of this rule, the owner or operator shall install, calibrate (to manufacturers' specifications), maintain, and operate devices (or establish methods) for monitoring the value of the operating parameters used to determine compliance with the operating limits listed in Table 2 of this rule. These devices (or methods) must measure and record the values for these operating parameters at the frequencies indicated in Table 2 of this rule at all times except as specified in subparagraph (t)1.(i) of this paragraph.

(b) If a fabric filter is used to comply with the requirements of this rule, the owner or operator shall install, calibrate, maintain, and continuously operate a bag leak detection system as specified in subparagraphs (b)1. through 8. of this rule.

1. The owner or operator shall install and operate a bag leak detection system for each exhaust stack of the fabric filter.

2. Each bag leak detection system shall be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations.

3. The bag leak detection system shall be certified by the manufacturer to be capable of detecting particulate

matter emissions at concentrations of 10 milligrams per actual cubic meter or less.

4. The bag leak detection system sensor shall provide output of relative or absolute particulate matter loadings.

5. The bag leak detection system shall be equipped with a device to continuously record the output signal from the sensor.

6. The bag leak detection system shall be equipped with an alarm system that will alert automatically an operator when an increase in relative particulate matter emissions over a preset level is detected. The alarm shall be located where it is observed easily by plant operating personnel.

7. For positive pressure fabric filter systems, a bag leak detection system shall be installed in each baghouse compartment or cell. For negative pressure or induced air fabric filters, the bag leak detector shall be installed downstream of the fabric filter.

8. Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(c) If a device other than a wet scrubber, activated carbon, selective non-catalytic reduction, an electrostatic precipitator, or a dry scrubber is used to comply with the emission limitations under subparagraph (6)(a) of this rule, the owner or operator shall install, calibrate (to the manufacturers' specifications), maintain, and operate the equipment necessary to monitor compliance with the site-specific operating limits established using the procedures in subparagraph (6)(c) of this rule.

(d) If activated carbon injection is used to comply with the emission limitations in this rule, the owner or operator shall measure the minimum sorbent flow rate once per hour.

(e) If selective noncatalytic reduction is used to comply with the emission limitations, the owner or operator shall complete the following:

1. Following the date on which the initial performance test is completed or is required to be completed under paragraph (7) of this rule, whichever date comes first, ensure that the affected facility does not operate above the maximum charge rate, or below the minimum secondary chamber temperature (if applicable to your CISWI) or the minimum reagent flow rate measured as 3-hour block averages at all times.

2. Operation of the affected facility above the maximum charge rate, below the minimum secondary chamber temperature and below the minimum reagent flow rate simultaneously constitute a violation of the nitrogen oxides emissions limit.

(f) If an electrostatic precipitator is used to comply with the emission limits of this rule, the owner or operator shall monitor the secondary power to the electrostatic precipitator collection plates and maintain the 3-hour block averages at or above the operating limits established during the mercury or particulate matter performance test.

(g) For waste-burning kilns not equipped with a wet scrubber or dry scrubber, an owner or operator shall install, calibrate, maintain, and operate a CEMS for monitoring hydrogen chloride emissions, discharged to the atmosphere, as specified in subparagraph (9)(j) of this rule, and record the output of the system. The owner or operator my substitute use of a HCl CEMS for conducting the HCl initial and annual testing with EPA Method 321 at 40 CFR part 63, appendix A. For units other than waste- burning kilns not equipped with a wet scrubber or dry scrubber, a facility may substitute use of a hydrogen chloride CEMS for conducting the hydrogen chloride initial and annual performance test. For units equipped with a hydrogen chloride CEMS, the owner or operator is not required to monitor the minimum hydrogen chloride sorbent flow rate, monitoring the minimum scrubber liquor pH, and monitoring minimum injection rate.

(h) To demonstrate continuous compliance with the particulate matter emissions limit, a facility may substitute use of either a particulate matter CEMS or a particulate matter CPMS for conducting the particulate matter annual performance test. For units equipped with a particulate matter CEMS other CMS monitoring for PM compliance (e.g., bag leak detectors, ESP secondary power, PM scrubber pressure) is not required. A facility may also substitute use of a particulate matter CEMS for conducting the PM initial performance test.

(i) To demonstrate initial and continuous compliance with the dioxin/furan emissions limit, a facility may substitute use of a continuous automated sampling system for the dioxin/furan initial and annual performance test. The owner or operator shall record the output of the system and analyze the sample according to EPA Method 23 at 40 CFR part 60, appendix A-7. This option to use a continuous automated sampling system takes effect on the date a final performance specification applicable to dioxin/furan from continuous monitors is published in the Federal Register. The owner or operator who elects to continuously sample dioxin/furan emissions instead of sampling and testing using EPA Method 23 at 40 CFR part 60, appendix A-7 shall install, calibrate, maintain and operate a

continuous automated sampling system and shall comply with the requirements specified in §60.58b(p) and (q). A facility may substitute continuous dioxin/furan monitoring for the minimum sorbent flow rate, if activated carbon sorbent injection is used solely for compliance with the dioxin/furan emission limit.

(j) To demonstrate initial and continuous compliance with the mercury emissions limit, a facility may substitute use of a mercury CEMS or an integrated sorbent trap monitoring system for the mercury initial and annual performance test. The owner or operator who elects to continuously measure mercury emissions instead of sampling and testing using EPA Method 29 or 30B at 40 CFR part 60, appendix A-8, ASTM D6784-02 (Reapproved 2008) (incorporated by reference, see § 60.17), or an approved alternative method for measuring mercury emissions, shall install, calibrate, maintain and operate the mercury CEMS or integrated sorbent trap monitoring system and shall comply with performance specification 12A or performance specification 12B, respectively, and quality assurance procedure 5. For the purposes of emissions calculations when using an integrated sorbent trap monitoring system, the mercury concentration determined for each sampling period shall be assigned to each hour during the sampling period. For units equipped with a mercury CEMS or an integrated sorbent trap monitoring system, the owner or operator is not required to monitor the minimum sorbent flow rate, if activated carbon sorbent injection is used solely for compliance with the mercury emission limit. The owner or operators of waste-burning kilns shall install, calibrate, maintain, and operate a mercury CEMS or an integrated sorbent trap monitoring system as specified in subparagraph(9)(j) of this rule.

(k) To demonstrate initial and continuous compliance with the nitrogen oxides emissions limit, a facility may substitute use of a CEMS for the nitrogen oxides initial and annual performance test to demonstrate compliance with the nitrogen oxides emissions limits. For units equipped with a nitrogen oxides CEMS, monitoring of the charge rate, secondary chamber temperature and reagent flow for selective non catalytic reduction is not required.

1. Install, calibrate, maintain and operate a CEMS for measuring nitrogen oxides emissions discharged to the atmosphere and record the output of the system. The requirements under performance specification 2 of appendix B of 40 CFR part 60, the quality assurance procedure 1 of appendix F of 40 CFR part 60 and the procedures under §60.13 shall be followed for installation, evaluation and operation of the CEMS.

2. Compliance with the emission limit for nitrogen oxides shall be determined based on the 30-day rolling average

of the hourly emission concentrations using CEMS outlet data, as outlined in subparagraph (9)(u) of this rule.

(l) To demonstrate initial and continuous compliance with the sulfur dioxide emissions limit, a facility may substitute use of a CEMS for the sulfur dioxide initial and annual performance test to demonstrate compliance with the sulfur dioxide emissions limits.

1. Install, calibrate, maintain and operate a CEMS for measuring sulfur dioxide emissions discharged to the atmosphere and record the output of the system. The requirements under performance specification 2 of appendix B of 40 CFR part 60, the quality assurance requirements of procedure 1 of appendix F of 40 CFR part 60 and the procedures under §60.13 must be followed for installation, evaluation and operation of the CEMS.

2. Compliance with the sulfur dioxide emission limit shall be determined based on the 30-day rolling average of the hourly arithmetic average emission concentrations using CEMS outlet data, as outlined in subparagraph (9)(u) of this rule.

(m) For energy recovery units 10 MMBtu/hr but less than 250 MMBtu/hr annual average heat input rates that do not use a wet scrubber, fabric filter with bag leak detection system, an electrostatic precipitator, particulate matter CEMS, or particulate matter CPMS, the owner or operator shall install, operate, certify and maintain a continuous opacity monitoring system according to the procedures in subparagraphs (10)(m)1. through 5. of this paragraph by the compliance date specified in paragraph (6) of this rule. Energy recovery units that use a particulate matter CEMS to demonstrate initial and continuing compliance according to the procedures in subparagraph (10)(n) are not required to install a continuous opacity monitoring system and shall perform the annual performance tests for opacity consistent with subparagraph (9)(f) of this rule.

1. Install, operate and maintain each continuous opacity monitoring system according to performance specification 1 at 40 CFR part 60, appendix B.

2. Conduct a performance evaluation of each continuous opacity monitoring system according to the requirements in §60.13 and according to performance specification 1 at 40 CFR part 60, appendix B.

3. As specified in §60.13(e)(1), each continuous opacity monitoring system shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second

period and one cycle of data recording for each successive 6-minute period.

4. Reduce the continuous opacity monitoring system data as specified in §60.13(h)(1).

5. Determine and record all the 6-minute averages (and 1-hour block averages as applicable) collected.

(n) For coal and liquid/gas energy recovery units, incinerators, and small remote incinerators, an owner or operator may elect to install, calibrate, maintain and operate a CEMS for monitoring particulate matter emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who continuously monitors particulate matter emissions instead of conducting performance testing using EPA Method 5 at 40 CFR part 60, appendix A-3 or, monitoring with a particulate matter CPMS according to subparagraph (10)(r) of this paragraph, shall install, calibrate, maintain and operate a PM CEMS and shall comply with the requirements specified in subparagraphs (10)(n)1. through 10. of this paragraph below.

1. PM CEMS shall be installed, evaluated and operated in accordance with the requirements of performance specification 11 of appendix B of 40 CFR part 60 and quality assurance requirements of procedure 2 of appendix F of 40 CFR part 60 and §60.13.

2. The initial performance evaluation shall be completed no later than 180 days after the final compliance date for meeting the amended emission limitations, as specified under paragraph (7) of this rule or within 180 days of notification to the Director of use of the continuous monitoring system if the owner or operator was previously determining compliance by Method 5 at 40 CFR part 60, appendix A-3 performance tests, whichever is later.

3. The owner or operator of an affected facility may request that compliance with the particulate matter emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established according to the procedures and methods specified in subparagraphs (9)(s)5.(i) through (iv).

4. The owner or operator of an affected facility shall conduct an initial performance test for particulate matter emissions. If PM CEMS are elected for demonstrating compliance, and the initial performance test has not yet been conducted, then initial compliance

shall be determined by using the CEMS specified in subparagraph (10)(n) of this paragraph to measure particulate matter. The owner or operator shall calculate a 30-day rolling average of 1-hour arithmetic average emission concentrations, including CEMS data during startup and shutdown, as defined in this rule, using Equation 19-19 in section 12.4.1 of EPA Reference Method 19 at 40 CFR part 60, appendix A-7.

5. Continuous compliance with the particulate matter emission limit shall be determined based on the 30-day rolling average calculated using Equation 19-19 in section 12.4.1 of EPA Reference Method 19 at 40 CFR part 60, Appendix A-7 from the 1-hour arithmetic average of the CEMS outlet data.

6. At a minimum, valid continuous monitoring system hourly averages shall be obtained as specified in subparagraph (10)(t) of this paragraph.

7. The 1-hour arithmetic averages required under subparagraph (10)(n)5. of this paragraph shall be expressed in milligrams per dry standard cubic meter corrected to 7 percent oxygen (or carbon dioxide)(dry basis) and shall be used to calculate the 30-day rolling average emission concentrations. CEMS data during startup and shutdown, as defined in this rule, are not corrected to 7 percent oxygen, and are measured at stack oxygen content. The 1-hour arithmetic averages shall be calculated using the data points required under § 60.13(e)(2).

8. All valid CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of subparagraph (10)(n)6. of this paragraph are not met.

9. The CEMS shall be operated according to performance specification 11 in appendix B of 40 CFR part 60; and

10. Quarterly and yearly accuracy audits and daily drift, system optics, and sample volume checks shall be performed in accordance with procedure 2 in appendix F of 40 CFR part 60.

(o) To demonstrate initial and continuous compliance with the carbon monoxide emissions limit, a facility may substitute use of a CEMS for the carbon monoxide initial and annual performance test to demonstrate compliance with the carbon monoxide emissions limits.

1. Install, calibrate, maintain, and operate a CEMS for measuring carbon monoxide emissions discharged to the

atmosphere and record the output of the system. The requirements under performance specification 4A or 4B of appendix B of 40 CFR part 60, the quality assurance procedure 1 of appendix F of 40 CFR part 60 and the procedures under §60.13 shall be followed for installation, evaluation, and operation of the CEMS.

2. Compliance with the carbon monoxide emission limit shall be determined based on the 30-day rolling average of the hourly arithmetic average emission concentrations, including CEMS data during startup and shutdown as defined in this rule, using CEMS outlet data, as outlined in subparagraph (9)(u) of this rule.

(p) The owner/operator of an affected source with a bypass stack shall install, calibrate (to manufacturers' specifications), maintain and operate a device or method for measuring the use of the bypass stack including date, time and duration.

(q) For energy recovery units with a design heat input capacity of 100 MMBtu/hr or greater that do not use a carbon monoxide CEMS, the owner or operator shall install, operate and maintain an oxygen analyzer system as defined in paragraph (1) of this rule according to the procedures in subparagraphs (10)(q)1. through 4. of this paragraph below.

1. The oxygen analyzer system shall be operated by the initial performance test date specified in subparagraph (6)(b) of this rule.

2. The owner or operator shall operate the oxygen trim system within compliance with subparagraph (q)3. below at all times.

3. The owner or operator shall maintain the oxygen level such that the 30-day rolling average that is established as the operating limit for oxygen according to subparagraph (q)4. below is not below the lowest hourly average oxygen concentration measured during the most recent CO performance test.

4. The owner or operator shall calculate and record a 30-day rolling average oxygen concentration using Equation 19-19 in section 12.4.1 of EPA Reference Method 19 of Appendix A-7 of 40 CFR part 60.

(r) For energy recovery units with annual average heat input rates greater than or equal to 250 MMBtu/hr and waste-burning kilns, the owner or operator shall install, calibrate, maintain, and operate a PM CPMS and record the output of the system as specified in subparagraphs (10)(r)1. through 8. of this paragraph below. For other energy recovery units, the

owner or operator may elect to use PM CPMS operated in accordance with this paragraph. PM CPMS are suitable in lieu of using other CMS for monitoring PM compliance (e.g., bag leak detectors, ESP secondary power, PM scrubber pressure).

1. Install, calibrate, operate, and maintain the PM CPMS according to the procedures in the approved site-specific monitoring plan developed in accordance with paragraph (9)(l) and subparagraphs (10)(r)1.(i) through (iii) of this rule.

(i) The operating principle of the PM CPMS shall be based on in-stack or extractive light scatter, light scintillation, beta attenuation, or mass accumulation of the exhaust gas or representative sample. The reportable measurement output from the PM CPMS shall be expressed as milliamps.

(ii) The PM CPMS shall have a cycle time (i.e., period required to complete sampling, measurement, and reporting for each measurement) no longer than 60 minutes.

(iii) The PM CPMS shall be capable of detecting and responding to particulate matter concentrations of no greater than 0.5 mg/actual cubic meter.

2. During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, the owner or operator shall adjust the site-specific operating limit in accordance with the results of the performance test according to the procedures specified in subparagraph (6)(b) of this rule.

3. Collect PM CPMS hourly average output data for all energy recovery unit or waste-burning kiln operating hours. Express the PM CPMS output as milliamps.

4. Calculate the arithmetic 30-day rolling average of all of the hourly average PM CPMS output collected during all energy recovery unit or waste-burning kiln operating hours data (milliamps or digital bits).

5. The owner or operator shall collect data using the PM CPMS at all times the energy recovery unit or waste-burning kiln is operating and at the intervals specified in subparagraph (10)(r)1.(ii) of this paragraph, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments), and any

scheduled maintenance as defined in the site-specific monitoring plan.

6. The owner or operator shall use all the data collected during all energy recovery unit or waste-burning kiln operating hours in assessing the compliance with the operating limit except:

(i) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or quality control activities conducted during monitoring system malfunctions are not used in calculations (report any such periods in the annual deviation report);

(ii) Any data collected during periods when the monitoring system is out of control as specified in the site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or quality control activities conducted during out-of-control periods are not used in calculations (report emissions or operating levels and report any such periods in the annual deviation report); and

(iii) Any PM CPMS data recorded during periods of CEMS data during startup and shutdown, as defined in this rule.

7. The owner or operator shall record and make available upon request results of PM CPMS system performance audits, as well as the dates and duration of periods from when the PM CPMS is out of control until completion of the corrective actions necessary to return the PM CPMS to operation consistent with the site-specific monitoring plan.

8. For any deviation of the 30-day rolling average PM CPMS average value from the established operating parameter limit, the owner or operator shall:

(i) Within 48 hours of the deviation, visually inspect the air pollution control device;

(ii) If inspection of the air pollution control device identifies the cause of the deviation, take corrective action as soon as possible and return the PM CPMS measurement to within the established value; and

(iii) Within 30 days of the deviation or at the time of the annual compliance test, whichever comes first, conduct a PM emissions compliance test to determine compliance with the PM emissions limit and to verify. Within 45 days of the deviation, the owner or operator shall re-establish the CPMS operating limit. It is not required to conduct additional testing for any deviations that occur between the time of the original deviation and the PM emissions compliance test required under this subparagraph; and

(iv) PM CPMS deviations leading to more than four required performance tests in a 12-month process operating period (rolling monthly) constitute a violation of this rule.

(s) If a dry scrubber is used to comply with the emission limits of this rule, the owner or operator shall monitor the injection rate of each sorbent and maintain the 3-hour block averages at or above the operating limits established during the hydrogen chloride performance test.

(t) If required to monitor clinker production to comply with the production-rate based mercury limit for the waste-burning kiln, the owner or operator shall:

1. Determine hourly clinker production by one of two methods:

(i) Install, calibrate, maintain, and operate a permanent weigh scale system to measure and record weight rates in tons-mass per hour of the amount of clinker produced. The system of measuring hourly clinker production shall be maintained within ±5 percent accuracy, or

(ii) Install, calibrate, maintain, and operate a permanent weigh scale system to measure and record weight rates in tons-mass per hour of the amount of feed to the kiln. The system of measuring feed shall be maintained within ±5 percent accuracy. Calculate the hourly clinker production rate using a kiln-specific feed to clinker ratio based on reconciled clinker production determined for accounting purposes and recorded feed rates. Update this ratio monthly. Note that if this ratio changes at clinker reconciliation, the owner or operator shall use the new ratio going forward, but do not have to retroactively change clinker production rates previously estimated.

2. Determine the accuracy of the system of measuring hourly clinker production (or feed mass flow, if

applicable) before the final compliance date of this rule and during each quarter of source operation.

3. Conduct accuracy checks in accordance with the procedures outlined in the site-specific monitoring plan under subparagraph (9)(l) of this rule.

(u) The minimum amount of monitoring data obtained is determined as follows:

1. For each continuous monitoring system required or optionally allowed under paragraph (10) of this rule, the owner or operator shall monitor and collect data according to subparagraphs (10)(t)1.(i) through (iii) below:

(i) The owner or operator shall operate the monitoring system and collect data at all required intervals at all times compliance is required except for periods of monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods (as specified in subparagraph (11)(cc)15. of this rule), and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks and required zero and span adjustments. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. The owner or operator is required to effect monitoring system repairs in response to monitoring system malfunctions or out-of-control periods and to return the monitoring system to operation as expeditiously as practicable.

(ii) The owner or operator may not use data recorded during the monitoring system malfunctions, repairs associated with monitoring system malfunctions or out-of control periods, or required monitoring system quality assurance or control activities in calculations used to report emissions or operating levels. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system.

(iii) Except for periods of monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, and required monitoring system quality assurance or quality control

activities including, as applicable, calibration checks and required zero and span adjustments, failure to collect required data is a deviation of the monitoring requirements.

(v) If the owner or operator of a waste-burning kiln chooses to comply with the equivalent production-based mercury emission limit in Table 7, it must also monitor mercury pursuant to 40 CFR §63.1350(k), the clinker production rate pursuant to 40 CFR §63.1350(d), and the flow rate pursuant to 40 CFR §63.1350(n). An owner or operator of a waste burning kiln is not required to develop an emissions monitoring plan pursuant 40 CFR §63.1350(p)(1) through (p)(4) if the owner or operator prepares the emissions monitoring plan required pursuant to subparagraphs (9)(k) and (9)(l) of this rule.

(11) Recordkeeping and Reporting. The following items shall be maintained (as applicable) as specified in subparagraphs (a), (b), and (e) through (w) of this paragraph for a period of at least 5 years:

(a) Calendar date of each record.

(b) Records of the data described in subparagraphs (b)1. through 7. of this paragraph:

1. The CISWI charge dates, times, weights, and hourly charge rates.

2. Liquor flow rate to the wet scrubber inlet every 15 minutes of operation, as applicable.

3. Pressure drop across the wet scrubber system every 15 minutes of operation or amperage to the wet scrubber every 15 minutes of operation, as applicable.

4. Liquor pH as introduced to the wet scrubber every 15 minutes of operation, as applicable.

5. For affected CISWIs that establish operating limits for controls other than wet scrubbers under subparagraph (6)(b)4. though 7. or (6)(c) of this rule, the owner or operator shall maintain data collected for all operating parameters used to determine compliance with the operating limits. For energy recovery units using activated carbon injection or a dry scrubber, the owner or operator shall also maintain records of the load fraction and corresponding sorbent injection rate records.

6. If a fabric filter is used to comply with the emission limitations, the owner or operator shall record the date, time, and duration of each alarm and the time corrective

action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken. The owner or operator shall also record the percent of operating time during each 6-month period that the alarm sounds, calculated as specified in subparagraph (6)(b)3. of this rule.

7. If monitoring of clinker production is in accordance with subparagraph (10)(t) of this rule:

(i) Hourly clinker rate produced if clinker production is measured directly;

(ii) Hourly measured kiln feed rates and calculated clinker production rates if clinker production is not measured directly;

(iii) 30-day rolling averages for mercury in pounds per million tons of clinker produced;

(iv) The initial and quarterly accuracy of the system of measuring hourly clinker production (or feed mass flow).

(c) Reserved.

(d) Reserved.

(e) Identification of calendar dates and times for which data show a deviation from the operating limits in Table 2 of this rule or a deviation from other operating limits established under subparagraph (6)(b)4. through 7. or (6)(c) of this rule with a description of the deviations, reasons for such deviations, and a description of corrective actions taken.

(f) The results of the initial, annual, and any subsequent performance tests conducted to determine compliance with the emission limits and/or to establish operating limits, as applicable. Retain a copy of the complete test report including calculations.

(g) Records showing the names of CISWI unit operators who have completed review of the information in subparagraph (5)(g)1. as required by subparagraph (5)(g)2. of this rule, including the date of the initial review and all subsequent annual reviews.

(h) Records showing the names of the CISWI operators who have completed the operator training requirements, met the criteria for qualification, and maintained or renewed their qualification under paragraph (5) of this rule. Records shall include documentation of training, the dates of the initial

and refresher training, and the dates of their qualification and all subsequent renewals of such qualifications.

(i) For each qualified operator, the phone and/or pager number at which they can be reached during operating hours.

(j) Records of calibration of any monitoring devices as required under paragraph (10) of this rule.

(k) Equipment vendor specifications and related operation and maintenance requirements for the incinerator, emission controls, and monitoring equipment.

(l) The information listed in subparagraph (5)(g) of this rule.

(m) On a daily basis, keep a log of the quantity of waste burned and the types of waste burned (always required).

(n) Maintain records of the annual air pollution control device inspections that are required for each CISWI subject to the emissions limits in table 1 of this rule or tables 5 through 8 of this rule, any required maintenance and any repairs not completed within 10 days of an inspection or the timeframe established by the Director.

(o) For continuously monitored pollutants or parameters, the owner or operator shall document and keep a record of the following parameters measured using continuous monitoring systems. If monitoring emissions with a CEMS, data that are CEMS data during startup and shutdown shall be indicated.

1. All 6-minute average levels of opacity.

2. All 1-hour average concentrations of sulfur dioxide emissions.

3. All 1-hour average concentrations of nitrogen oxides emissions.

4. All 1-hour average concentrations of carbon monoxide emissions.

5. All 1-hour average concentrations of particulate matter emissions.

6. All 1-hour average concentrations of mercury emissions.

7. All 1-hour average concentrations of HCI CEMS outputs.

8. All 1-hour average percent oxygen concentrations.

9. All 1-hour average PM CPMS readings or particulate matter CEMS outputs.

(p) Records indicating use of the bypass stack, including dates, times and durations.

(q) If choosing to stack test less frequently than annually, consistent with subparagraph (9)(bb) of this rule, the owner or operator shall keep annual records that document that the emissions in the previous stack test(s) were less than 75 percent of the applicable emission limit and document that there was no change in source operations including fuel composition and operation of air pollution control equipment that would cause emissions of the relevant pollutant to increase within the past year.

(r) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment.

(s) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(t) Records of actions taken during periods of malfunction to minimize emissions in accordance with §60.11(d) of 40 CFR part 60, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(u) For operating units that combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to §241.3(b)(1), the owner or operator shall keep a record which documents how the secondary material meets each of the legitimacy criteria under §241.3(d)(1). If the owner or operator combusts a fuel that has been processed from a discarded non-hazardous secondary material pursuant to §241.3(b)(4), the owner or operator shall keep records as to how the operations that produced the fuel satisfies the definition of processing in §241.2 and each of the legitimacy criteria in §241.3(d)(1). If the fuel received a non-waste determination pursuant to the petition process submitted under §241.3(c), the owner or operator shall keep a record that documents how the fuel satisfies the requirements of the petition process. For operating units that combust non-hazardous secondary materials as fuel per §241.4, the owner or operator shall keep records documenting that the material is a listed non-waste under §241.4(a).

(v) Records of the criteria used to establish that the unit qualifies as a small power production facility under section 3(17)(C) of the Federal Power Act (16 U.S.C. 796(17)(C)) and that the waste material the unit is proposed to burn is homogeneous.

(w) Records of the criteria used to establish that the unit qualifies as a cogeneration facility under section 3(18)(B) of the Federal Power Act (16 U.S.C. 796(18)(B)) and that the waste material the unit is proposed to burn is homogeneous.

(x) All records shall be available onsite in either paper copy or computer-readable format that can be printed upon request, unless an alternative format is approved by the Director.

(y) A summary of the reporting requirements can be found in Table 4 of this rule.

(z) The waste management plan shall be submitted no later than the date specified in subparagraph (3)(a)1. of this rule for submittal of the final control plan.

(aa) The information specified in subparagraphs (aa)1. through 3. of this paragraph below shall be submitted no later than 60 days following the initial performance test. All reports shall be signed by the responsible official.

1. The complete test report for the initial performance test results obtained under paragraph (8) of this rule, as applicable.

2. The values for the site-specific operating limits established in subparagraphs (6)(b) or (c) of this rule.

3. If a fabric filter is being used to comply with the emission limitations, documentation that a bag leak detection system has been installed and is being operated, calibrated, and maintained as required by subparagraph (10)(b) of this rule.

(bb) An annual report shall be submitted no later than 12 months following the submission of the information in subparagraph (aa) of this paragraph above. Subsequent reports shall be submitted no more than 12 months following the previous report. (If the unit is subject to permitting requirements under title V of the Clean Air Act, the owner or operator may be required by the permit to submit these reports more frequently.)

(cc) The annual report required under subparagraph (bb) of this paragraph above shall include the ten items listed in subparagraphs (cc)1. through 10. of this paragraph below. If there is a deviation from the operating limits or the emission limitations, deviation reports shall also be submitted as specified in subparagraph (dd) of this paragraph below.

1. Company name and address.

2. Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

3. Date of report and beginning and ending dates of the reporting period.

4. The values for the operating limits established pursuant to subparagraphs (6)(b) or (6)(c) of this rule.

5. If no deviation from any emission limitation or operating limit that applies has been reported, a statement that there was no deviation from the emission limitations or operating limits during the reporting period.

6. The highest recorded 3-hour average and the lowest recorded 3-hour average (30-day average for energy recovery units), as applicable, for each operating parameter recorded for the calendar year being reported.

7. Information recorded under subparagraphs (b)6. and (e) of this paragraph for the calendar year being reported.

8. If a performance test was conducted during the reporting period, the results of that test.

9. If the requirements of subparagraphs (9)(bb) were met, and did not conduct a performance test during the reporting period, the owner or operator shall state that the requirements of subparagraphs (9)(bb) were met, and, therefore, were not required to conduct a performance test during the reporting period.

10. Documentation of periods when all qualified CISWI unit operators were unavailable for more than 8 hours, but less than 2 weeks.

11. If there was a malfunction during the reporting period, the compliance report shall include the number, duration, and a brief description for each type of malfunction that occurred during the reporting period and that caused or may have caused any applicable emission limitation to be exceeded. The report shall also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §60.11(d), including actions taken to correct a malfunction.

12. For each deviation from an emission or operating limitation that occurs for a CISWI for which a CMS is not being used to comply with the emission or operating

limitations in this rule, the annual report shall contain the following information.

(i) The total operating time of the CISWI at which the deviation occurred during the reporting period.

(ii) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

13. If there were periods during which the continuous monitoring system, including the CEMS, was out of control as specified in subparagraph (11)(cc)15. of this paragraph, the annual report shall contain the following information for each deviation from an emission or operating limitation occurring for a CISWI for which a continuous monitoring system is being used to comply with the emission and operating limitations in this rule.

(i) The date and time that each malfunction started and stopped.

(ii) The date, time, and duration that each CMS was inoperative, except for zero (low-1evel) and high-1evel checks.

(iii) The date, time, and duration that each continuous monitoring system was out-of-control, including start and end dates and hours and descriptions of corrective actions taken.

(iv) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(v) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(vi) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(vii) A summary of the total duration of continuous monitoring system downtime during the reporting period, and the total duration of continuous monitoring system downtime as a percent of the total operating time of the CISWI at which the continuous

monitoring system downtime occurred during that reporting period.

(viii) An identification of each parameter and pollutant that was monitored at the CISWI.

(ix) A brief description of the CISWI.

(x) A brief description of the continuous monitoring system.

(xi) The date of the latest continuous monitoring system certification or audit; and

(xii) A description of any changes in continuous monitoring system, processes, or controls since the last reporting period.

14. If there were periods during which the continuous monitoring system, including the CEMS, was not out of control as specified in subparagraph (ll)(cc) 15. of this paragraph, a statement that there were not periods during which the continuous monitoring system was out of control during the reporting period.

15. A continuous monitoring system is out of control if any of the following occur.

(i) The zero (low-1evel), mid-1evel (if applicable), or high-1evel calibration drift exceeds two times the applicable calibration drift specification in the applicable performance specification or in the relevant standard.

(ii) The continuous monitoring system fails a performance test audit (e.g., cylinder gas audit), relative accuracy audit, relative accuracy test audit, or linearity test audit.

(iii) The continuous opacity monitoring system calibration drift exceeds two times the limit in the applicable performance specification in the relevant standard.

16. For energy recovery units, include the annual heat input and average annual heat input rate of all fuels being burned in the unit to verify which subcategory of energy recovery unit applies.

(dd) Reporting of deviations from the operating limits or the emission limitations.

1. A deviation report shall be submitted if any recorded 3-hour average (30-day average for energy recovery units or for PM CPMS) parameter level is above the maximum operating limit or below the minimum operating limit established under this rule, if the bag leak detection system alarm sounds for more than 5 percent of the operating time for the 6-month reporting period, if a performance test was conducted that deviated from any emission limitation, if a 30-day average measured using a CEMS deviated from any emission limitation.

2. The deviation report shall be submitted by August 1 of that year for data collected during the first half of the calendar year (January 1 to June 30), and by February 1 of the following year for data collected during the second half of the calendar year (July 1 to December 31).

3. In each report required under this subparagraph, for any pollutant or parameter that deviated from the emission limitations or operating limits specified in this rule, include the items described in subparagraphs (dd)3.(i) through (iv) of this paragraph below.

(i) The calendar dates and times the CISWI deviated from the emission limitations or operating limit requirements.

(ii) The averaged and recorded data for those dates.

(iii) Duration and causes of the following:

(I) Each deviation from emission limitations or operating limits and corrective actions taken; and

(II) Bypass events and corrective actions taken.

(iv) A copy of the operating limit monitoring data during each deviation and for any test report that documents the emission levels.

4. If all qualified operators are not accessible for 2 weeks or more, the two actions in subparagraphs (dd)4.(i) and (ii) of this paragraph below shall be taken.

(i) Submit a notification of the deviation within 10 days that includes the three items in subparagraphs (dd)4.(i)(I) through (III) of this paragraph below.

(I) A statement of what caused the deviation.

(II) A description of what actions are being taken to ensure that a qualified operator is accessible.

(III) The date when it is anticipated that a qualified operator will be available.

(ii) Submit a status report to the Director every 4 weeks that includes the three items in subparagraphs (dd)4.(ii)(I) through (III) of this paragraph below.

(I) A description of what actions are being taken to ensure that a qualified operator is accessible.

(II) The date when it is anticipated that a qualified operator will be accessible.

(III) Request approval from the Director to continue operation of the CISWI.

(iii) If the CISWI unit was shut down by the Administrator, under the provisions of subparagraph (5)(h)2.(ii) of this rule, due to a failure to provide an accessible qualified operator, the owner or operator shall notify the Administrator that operations will resume once a qualified operator is accessible.

(ee) Notifications provided by 40 CFR, §60.7 [as incorporated by reference under ADEM Admin. Code r. 335-3-10-.02(1)] shall be submitted.

(ff) If the owner or operator cease combusting solid waste but continue to operate, the owner or operator shall provide 30 days prior notice of the effective date of the waste-to-fuel switch, consistent with paragraph (9)(a) of this rule. The notification must identify:

1. The name of the owner or operator of the CISWI, the location of the source, the emissions unit(s) that will cease burning solid waste, and the date of the notice;

2. The currently applicable subcategory under this rule, and any 40 CFR part 63 subpart and subcategory that will be applicable after combusting solid waste is ceased;

3. The fuel(s), non-waste material(s) and solid waste(s) the CISWI is currently combusting and has combusted over the past 6 months, and the fuel(s) or non-waste materials the unit will commence combusting;

4. The date on which the unit became subject to the currently applicable emission limits;

5. The date upon which the unit will cease combusting solid waste, and the date (if different) that the owner or operator intend for any new requirements to become applicable (i.e., the effective date of the waste-to-fuel switch), consistent with subparagraphs (ff)2. and 3. of this paragraph.

(gg) Initial, annual, and deviation reports shall be submitted electronically or in paper format, postmarked on or before the submittal due dates. Beginning on April 16, 2021, or once the reporting form has been available in CEDRI for 1 year, whichever is later, subsequent reports shall be submitted on or before the submittal dates to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI) which CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/*). Use the appropriate electronic report in CEDRI for this rule or an alternate electronic file format consistent with the extensible markup language (XML) schema listed on the CEDRI Web site (*https://www3.epa.gov/ttn/chief/cedri/index.html*). The date when the forms become available in CEDRI will be listed on the CEDRI Web site. The reports shall be submitted by the deadlines specified in this rule, regardless of the method in which the report is submitted.

(hh) Submit results of performance tests and CEMS performance evaluation tests as follows.

1. Within 60 days after the date of completing each performance test as required by this rule, the owner or operator shall submit the results of the performance tests following the procedure specified in either subparagraph (hh)1.(i) or (hh)1.(ii) of this paragraph:

(i) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (https://www3.epa.gov/ttn/chief/ert/ert_info.html) at the time of the test, the owner or operator shall submit the results of the performance test to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX (https://cdx.epa.gov/).) Performance test data shall be submitted in a file format generated through the use of the EPA's ERT or an alternate electronic file format consistent with the XML schema listed on the EPA's ERT Web site. If the owner or operator claim that some of the performance test information being submitted is confidential business information (CBI), the owner or operator shall submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML

schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media shall be clearly marked as CBI and mailed to U.S. EPA/ OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted shall be submitted to the EPA via the EPA's CDX as described earlier in this subparagraph; and (ii)For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, the owner or operator shall submit the results of the performance test to the Administrator at the appropriate address listed in 40 CFR, §60.4.

2. Within 60 days after the date of completing each CEMS performance evaluation the owner or operator shall submit the results of the performance evaluation following the procedure specified in either subparagraph (hh)1. or (hh)2. of this paragraph:

(i) For performance evaluations of continuous monitoring systems measuring relative accuracy test audit (RATA) pollutants that are supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the evaluation, the owner or operator shall submit the results of the performance evaluation to the EPA via the CEDRI. CEDRI can be accessed through the EPA's CDX. Performance evaluation data shall be submitted in a file format generated through the use of the EPA's ERT or an alternate file format consistent with the XML schema listed on the EPA's ERT Web site. If the owner or operator claim that some of the performance evaluation information being submitted is CBI, the owner or operator shall submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic storage media shall be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted shall be submitted to the EPA via the EPA's CDX as described earlier in this subparagraph; and (ii) For any performance evaluations of continuous monitoring systems measuring RATA pollutants that are not supported by the EPA's ERT as listed on the EPA's ERT

Web site at the time of the evaluation, the owner or operator shall submit the results of the performance evaluation to the Administrator at the appropriate address listed in 40 CFR, §60.4.

(ii) If required to electronically submit a report through the Compliance and Emissions Data Reporting Interface (CEDRI) in the EPA's Central Data Exchange (CDX), and due to a planned or actual outage of either the EPA's CEDRI or CDX systems within the period of time beginning 5 business days prior to the date that the submission is due, the owner or operator shall be or are precluded from accessing CEDRI or CDX and submitting a required report within the time prescribed, the owner or operator may assert a claim of EPA system outage for failure to timely comply with the reporting requirement. Notification shall be submitted to the Administrator in writing as soon as possible following the date known, or through due diligence should have known, that the event may cause or caused a delay in reporting. A written description shall be provided to the Administrator identifying the date, time and length for the outage; a rational for attributing the delay in reporting beyond the regulatory deadline to the EPA system outage; describe the measures taken or not to be taken to minimize the delay in reporting; and identify a date by which the owner or operator will propose to report, or if already met the reporting requirement at the time of the notification, the date reported. In any circumstance, the report shall be submitted electronically as soon as possible after the outage is resolved. The decision to accept the claim of EPA system outage and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

(jj) If required to electronically submit a report through CEDRI in the EPA's CDX and a force majeure event is about to occur, occurs, or has occurred or there are lingering effects from such an event within the period of time beginning 5 business days prior to the date the submission is due, the owner or operator may assert a claim of force majeure for failure to timely comply with the reporting requirement. For the purposes of this subparagraph, a force majeure event is defined as an event that will be or has been caused by circumstances beyond the control of the affected facility, its contractors, or any entity controlled by the affected facility that prevents compliance with the requirement to submit a report electronically within the time period prescribed. Examples of such events are acts of nature (e.g., hurricanes, earthquakes, or floods), acts of war or terrorism, or equipment failure or safety hazard beyond the control of the

affected facility (e.g., large scale power outage). If intended to assert a claim of force majeure, a notification shall be submitted to the Administrator in writing as soon as possible following the date first known, or through due diligence should have known, that the event may cause or caused a delay in reporting. The owner or operator shall provide to the Administrator a written description of the force majeure event and a rationale for attributing the delay in reporting beyond the regulatory deadline to the force majeure event; describe the measures taken or to be taken to minimize the delay in reporting; and identify a date by which the owner or operator is proposed to report, or if already met the reporting requirement at the time of the notification, the date reported. In any circumstance, the reporting shall occur as soon as possible after the force majeure event occurs. The decision to accept the claim of force majeure and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

(kk) The Director may change the semiannual or annual reporting dates. Procedures for seeking approval to change reporting dates are found in 40 CFR, §60.19(c) [as incorporated by reference under ADEM Admin. Code r. 335-3-10-.02(1)].

(ll) If the owner or operator of a waste-burning kiln chooses to comply with the equivalent production-based mercury emission limit in Table 7, it shall also keep records of all data collected from the continuous flow rate monitoring system required by 40 CFR §63.1350(n), all data collected from the clinker production monitoring system required by 40 CFR §63.1350(d), and all calculated 30-operating day rolling average values derived from the mercury monitoring system. Units in the waste-burning kiln subcategory complying with the equivalent production-based mercury emission limit in Table 7 must also report all deviations from the equivalent production-based mercury emission limit in accordance with subparagraphs (11)(a) through (11)(dd) of this rule.

(12) Major Source Operating Permits. Each CISWI and ACI subject to standards under this rule (excluding rules in paragraph (13) below) shall operate pursuant to the requirements of chapter 335-3-16 by December 1, 2003.

(13) Air Curtain Incinerators (ACIs).

(a) An ACI operates by forcefully projecting a curtain of air across an open chamber or open pit in which combustion occurs. Incinerators of this type can be constructed above or below ground and with or without refractory walls and floor. Air curtain incinerators are not to be confused with conventional combustion devices with enclosed fireboxes and controlled air

technology such as mass burn, modular, and fluidized bed combustors.

(b) Air curtain incinerators that burn only the materials listed in subparagraphs (b)1. through 3. of this paragraph below are only required to meet the requirements under this paragraph.

1. 100 percent wood waste.

2. 100 percent clean lumber.

3. 100 percent mixture of only wood waste, clean lumber, and/or yard waste.

(c) For owners or operators planning to achieve compliance more than one year following the effective date of EPA's approval of these rules, the two increments of progress specified in subparagraphs (c)1. and 2. of this paragraph below shall be met.

1. Submit a final control plan no later than one year following the effective date of EPA's approval of these rules.

2. Achieve final compliance no later than December 1, 2005.

(d) The owner or operator shall submit to the Director, notifications for achieving increments of progress. The notifications shall be postmarked no later than 10 business days after the compliance date for the increment. These notifications shall include the three items specified in subparagraphs (d)1. through 3. of this paragraph below:

1. Notification that the increment of progress has been achieved.

2. Any items required to be submitted with each increment of progress.

3. Signature of the owner or operator of the incinerator unit.

(e) If an owner or operator fails to meet an increment of progress, a notification to the Director shall be submitted and postmarked within 10 business days after the date for that increment of progress in subparagraph (c) of this paragraph above. The owner or operator shall inform the Director that the increment was not met, and reports shall be submitted each subsequent calendar month until the increment of progress is met.

(f) For the control plan increment of progress, the owner or operator shall satisfy the two requirements specified in subparagraphs (f)1. and 2. of this paragraph below.

1. Submit the final control plan, including a description of any devices for air pollution control and any process changes that will be used to comply with the emission limitations and other requirements of this paragraph.

2. Maintain an onsite copy of the final control plan.

(g) For the final compliance increment of progress, the owner or operator shall complete all process changes and retrofit construction of control devices, as specified in the final control plan, so that, if the affected incinerator is brought online, all necessary process changes and air pollution control devices would operate as designed.

(h) Closing and restarting an air curtain incinerator.

1. If the incinerator is closed but will be restarted prior to the final compliance date of December 1, 2005, the increments of progress specified in subparagraph (c) of this paragraph shall be met.

2. If the incinerator is to restart after the final compliance date, the owner or operator shall complete emission control retrofits and meet the emission limitations on the date the incinerator restarts operation.

(i) Permanent closure of an air curtain incinerator. If the owner or operator plans to close the incinerator rather than comply with this rule, submit a closure notification, including the date of closure, to the Director within 90 days after EPA approval of these rules.

(j) Emission limitations for air curtain incinerators.

1. After the date the initial stack test is required or completed (whichever is earlier), the owner or operator shall meet the limitations in subparagraphs (j)1.(i) and (ii) of this paragraph below.

(i) Maintain opacity to less than or equal to 10 percent opacity (as determined by the average of three 1-hour blocks consisting of ten 6-minute average opacity values), except as described in subparagraph (j)1.(ii) of this paragraph below.

(ii) Maintain opacity to less than or equal to 35 percent opacity (as determined by the average of three 1-hour blocks consisting of ten 6-minute

average opacity values) during the startup period that is within the first 30 minutes of operation.

(k) Monitoring opacity for air curtain incinerators.

1. Use Method 9 of 40 CFR 60, Appendix A to determine compliance with the opacity limitation.

2. Conduct an initial test for opacity as specified in 40 CFR, §60.8 no later than 180 days after the final compliance date.

3. After the initial test for opacity, conduct annual tests no more than 12 calendar months following the date of the previous test.

(l) Recordkeeping and reporting requirements for air curtain incinerators.

1. Keep records of results of all initial and annual opacity tests onsite in either paper copy or electronic format, unless the Director approves another format, for at least 5 years.

2. Make all records available for submittal to the Director or for an inspector's onsite review.

3. Submit an initial report no later than 60 days following the initial opacity test that includes the information specified in subparagraphs (l)3.(i) and (ii) of this paragraph below.

(i) The types of materials planned to be combusted in the air curtain incinerator.

(ii) The results (as determined by the average of three 1-hour blocks consisting of ten 6-minute average opacity values) of the initial opacity tests.

4. Submit annual opacity test results within 12 months following the previous report.

5. Submit initial and annual opacity test reports as electronic or paper copy on or before the applicable submittal date and keep a copy onsite for a period of 5 years.

TABLE 1. EMISSION LIMITS FOR INCINERATORS THAT COMMENCED CONSTRUCTION ON OR BEFORE NOVEMBER 30,1999, AND WERE NOT MODIFIED OR RECONSTRUCTED AFTER JUNE 1, 2001

Pollutant	Units (7 percent oxygen, dry basis, except opacity)	Averaging Time	Compliance Method 40 CFR 60 Appendix A
Cadmium	0.004 Milligrams per dry standard cubic meter	3-run average (1 hour minimum sample time per run)	Method 29
Carbon Monoxide	157 Parts per million by dry volume	3-run average (1 hour minimum sample time per run)	Methods 10, 10A, or 10B
Dioxins/furans (toxic equivalency basis)	0.41 Nanograms per dry standard cubic meter	3-run average (1 hour minimum sample time per run)	Method 23
Hydrogen Chloride	62 Parts per million by dry volume	3-run average (For Method 26, collect a minimum volume of 120 liters per run. For Method 26A, collect a minimum volume of 1 dry standard cubic meter per run)	Method 26 or 26A
Lead	0.04 Milligrams per dry standard cubic meter	3-run average (1 hour minimum sample time per run)	Method 29
Mercury	0.47 Milligrams per dry standard cubic meter	3-run average (1 hour minimum sample time per run)	Method 29 or 30B or ASTM D6784-02 (Reapproved 2008)
Nitrogen Oxides	388 Parts per million by dry volume	3-run average (1 hour minimum sample time per run)	Methods 7 or 7E
Particulate Matter	70 Milligrams per dry standard cubic meter	3-run average (1 hour minimum sample time per run)	Method 5 or 29
Sulfur Dioxide	20 Parts per million by dry volume	3-run average (1 hour minimum sample time per run)	Method 6 or 6c

Pollutant	Units (7 percent oxygen, dry basis, except opacity)	Averaging Time	Compliance Method 40 CFR 60 Appendix A
Opacity	10 Percent	Three 1-hour blocks consisting of ten 6-minute average opacity values	Method 9

TABLE 2. OPERATING LIMITS FOR WET SCRUBBERS

For these operating parameters	Establish these operating limits	Data Measurement	Data Recording	Averaging Time (Calculated each hour as the average of the previous 3 operating hours)
Charge rate.	Maximum charge rate	Continuous	Every hour	Daily (batch units). 3-hour rolling (continuous and intermittent units).
Pressure drop across the wet scrubber or amperage to wet scrubber.	Minimum pressure drop or amperage.	Continuous	Every 15 minutes	3-hour rolling.
Scrubber liquor flow rate.	Minimum flow rate.	Continuous	Every 15 minutes	3-hour rolling.
Scrubber liquor pH	Minimum pH	Continuous	Every 15 minutes	3-hour rolling.

TABLE 3. TOXIC EQUIVALENCY FACTORS

Dioxin/Furan Isomer	Toxic Equivalency Factor
2,3,7,8-tetrachlorinated dibenzo-p-dioxin	1
1,2,3,7,8- pentachlorinated dibenzo-p-dioxin	0.5
1,2,3,4,7,8-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,7,8,9-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,6,7,8-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,4,6,7,8-heptachlorinated dibenzo-p-dioxin	0.01
octachlorinated dibenzo-p-dioxin	0.001
2,3,7,8-tetrachlorinated dibenzofuran	0.1
2,3,4,7,8-pentachlorinated dibenzofuran	0.5
1,2,3,7,8-pentachlorinated dibenzofuran	0.05
1,2,3,4,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,6,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,7,8,9-hexachlorinated dibenzofuran	0.1

Dioxin/Furan Isomer	Toxic Equivalency Factor
2,3,4,6,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,4,6,7,8-heptachlorinated dibenzofuran	0.01
1,2,3,4,7,8,9-heptachlorinated dibenzofuran	0.01
octachlorinated dibenzofuran	0.001

TABLE 4. REPORTING REQUIREMENTS

Report	Due Date	Contents	Reference 335-3-.05
Waste Management Plan	No later than the date specified for submittal of the final control plan.	•Waste Management Plan	(11)(z)
Initial Test Report	No later than 60 days following the initial performance test.	•Complete test report for the initial performance test. •The values for the site-specific operating limits. •Installation of bag leak detection systems for fabric filters.	(11)(aa)

Annual Report	No later than 12 months following the submission of the initial test report. Subsequent reports are to be submitted no more than 12 months following the previous report	•Name and address •Statement and signature by responsible official. •Date of report. •Values for the operating limits. •Highest recorded 3-hour average and the lowest recorded 3-hour average, as applicable, (or 30-day average, if applicable) for each operating parameter recorded for the calendar year being reported. •If a performance test was conducted during the reporting period, the results of the test. •If a performance test was not conducted during the reporting period, a statement that the requirements of (9)(e) were met. •Documentation of periods when all qualified CISWI operators were unavailable for more than 8 hours but less than 2 weeks. •If performance tests are being conducted once every 3 years consistent with (9)(aa), the date of the last 2 performance tests, a comparison of the emission level achieved in the last 2 performance tests to the 75 percent emission limit threshold required in (9)(aa) and a statement as to whether there have been any operational changes since the last performance test that could increase emissions	(11)(bb) & (cc)

Report	Due Date	Contents	Reference 335-3-.05
Emission Limitation or Operating Limit Deviation Report	By August 1 of that year for data collected during the first half of the calendar year. By February 1 of the following year for data collected during the second half of the calendar year.	•Dates and times of deviations •Averaged and recorded data for these dates. •Duration and causes for each deviation and the corrective actions taken. •Copy of operating limit monitoring data and any test reports. •Dates, times, and causes for monitor downtime incidents.	(11)(t)1. - 3.
Qualified Operator Deviation Notification.	Within 10 days of deviation.	•Statement of cause of deviation. •Description of efforts to have an accessible qualified operator. •The date a qualified operator will be accessible	(11)(dd)4.(i)
Qualified Operator Deviation Status Report.	Every 4 weeks following deviation.	•Description of efforts to have an accessible qualified operator. •The date a qualified operator will be accessible. •Request for approval to continue operation.	(11)(dd)4.(ii)
Qualified Operator Deviation Notification of Resumed Operation	Prior to resuming operation.	•Notification that operation will resume	(11)(dd)4.(iii)

TABLE 5. EMISSION LIMITS FOR INCINERATORS THAT COMMENCED CONSTRUCTION AFTER NOVEMBER 30, 1999, BUT NO LATER THAN JUNE 4, 2010, OR COMMENCED MODIFICATION OR RECONSTRUCTION AFTER JUNE 1, 2001 BUT NO LATER THAN AUGUST 7, 2013

Pollutant	Emission Limitation	Averaging Time	Compliance Method 40 CFR 60 Appendix A
Cadmium	0.0026 Milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 2 dry standard cubic meters)	Method 29 (Use ICPMS for the analytical finish.

Pollutant	Emission Limitation	Averaging Time	Compliance Method 40 CFR 60 Appendix A
Carbon Monoxide	17 Parts per million dry volume	3-run average (1 hour minimum sample time per run	Methods 10
Dioxins/furans (toxic mass basis)	4.6 Nanograms per dry standard cubic meter	3-run average (collect a minimum volume of 2 dry standard cubic meters)	Method 23
Dioxins/furans (toxic equivalency basis)	0.13 Nanograms per dry standard cubic meter	3-run average (collect a minimum volume of 2 dry standard cubic meters)	Method 23
Hydrogen Chloride	29 Parts per million dry volume	3-run average (For Method 26, collect a minimum volume of 60 liters per run. For Method 26A, collect a minimum volume of 1 dry standard cubic meter per run)	Method 26 or 26A
Lead	0.015 Milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 2 dry standard cubic meters)	Method 29 (Use ICPMS for the analytical finish.
Mercury	0.0048 Milligrams per dry standard cubic meter	3-run average (For Method 29 an ASTM D6784-02 (Reapproved 2008), collect a minimum volume of 2 dry standard cubic meters. For Method 30B, collect a minimum sample as specified in Method 30B)	Method 29 or 30B or ASTM D6784-02 (Reapproved 2008)
Nitrogen Oxides	53 Parts per million dry volume	3-run average (for Method 7E, 1 hour minimum sample time per run)	Methods 7 or 7E
Particulate Matter	34 Milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 1 dry standard cubic meter)	Method 5 or 29
Sulfur Dioxide	11 Parts per million by dry volume	3-run average (1 hour minimum sample time per run)	Method 6 or 6c

Pollutant	Emission Limitation	Averaging Time	Compliance Method 40 CFR 60 Appendix A
Fugitive ash	Visible emissions for no more than 5% of the hourly observation period	Three 1-hour observation periods	Method 22 (Visible emission test)

TABLE 6. EMISSION LIMMITS FOR ENERGY RECOVERY UNITS THAT COMMENCED CONSTRUCTION ON OR BEFORE JUNE 4, 2010, OR THAT COMMENCED RECONSTRUCTION OR MODIFICATION AFTER JUNE 4, 2010 BUT NO LATER THAN AUGUST 7, 2013

Pollutant	Emission Limit (Liquid/Gas)	Emission Limit (Solids)	Averaging Time	Compliance Method 40 CFR 60 Appendix A
Cadmium	0.023 Milligrams per dry standard cubic meter	Biomass—0.0014 milligrams per dry standard cubic meter. Coal—0.0017 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 2 dry standard cubic meters)	Method 29 (Use ICPMS for the analytical finish.)
Carbon Monoxide	35 Parts per million dry volume	Biomass—260 parts per million dry volume Coal—95 parts per million dry volume	3-run average (1 hour minimum sample time per run)	Methods 10
Dioxins/furans (total mass basis)	2.9 nanograms per dry standard cubic meter	Biomass—0.52 nanograms per dry standard cubic meter. Coal—5.1 nanograms per dry standard cubic meter. c	3-run average (collect a minimum volume of 4 dry standard cubic meter)	Method 23
Dioxins/furans (toxic equivalency basis)	0.32 Nanograms per dry standard cubic meter	Biomass—0.12 nanograms per dry standard cubic meter Coal—0.075 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 4 dry standard cubic meters	Method 23
Hydrogen Chloride		Biomass—0.20 parts per million dry	3-run average (for Method 26,	Method 26 or 26A

Pollutant	Emission Limit (Liquid/Gas)	Emission Limit (Solids)	Averaging Time	Compliance Method 40 CFR 60 Appendix A
	14 Parts per million by dry volume	volume Coal—58 parts per million dry volume	collect a minimum of 120 liters; for Method 26A, collect a minimum volume of 1 dry standard cubic meter)	
Lead	0.096 Milligrams per dry standard cubic meter	Biomass—0.014 milligrams per dry standard cubic meter. Coal—0.057 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 2 dry standard cubic meters)	Method 29 (Use ICPMS for the analytical finish.
Mercury	0.0024 Milligrams per dry standard cubic meter	Biomass—0.0022 milligrams per dry standard cubic meter Coal—0.013 milligrams per dry standard cubic meter	3-run average (For Method 29 and ASTM D6784-02 (Reapproved 2008) d, collect a minimum volume of 2 dry standard cubic meters per run. For Method 30B, collect a minimum sample as specified in Method 30B.	Method 29 or 30B or ASTM D6784-02 (Reapproved 2008)
Nitrogen Oxides	76 Parts per million dry volume	Biomass—290 parts per million dry volume Coal—460 parts per million dry volume	3-run average (for Method 7E, 1 hour minimum sample time per run)	Methods 7 or 7E
Particulate Matter Filterable	110 milligrams per dry standard cubic meter	Biomass—11 milligrams per dry standard cubic meter Coal—130 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 1 dry standard cubic meter)	Method 5 or 29 if the unit has an annual average heat input rate less than or equal to 250 MMBtu/hr; or PM CPMS (as specified in §60.2710(x)) if the unit has an annual average heat input rate

Pollutant	Emission Limit (Liquid/Gas)	Emission Limit (Solids)	Averaging Time	Compliance Method 40 CFR 60 Appendix A
				greater than 250 MMBtu/hr.
Sulfur Dioxide	720 Parts per million dry volume	Biomass—7.3 parts per million dry volume Coal—850 parts per million dry volume	3-run average (1 hour minimum sample time per run)	Method 6 or 6c
Fugitive ash	Visible emissions for no more than 5 percent of the hourly observation period	Visible emissions for no more than 5 percent of the hourly observation period	Three 1-hour observation periods	Method 22 (Visible emission test)

TABLE 7. EMISSION LIMITS FOR WASTE-BURNING KILNS THAT COMMENCED CONSTURCTION ON OR BEFORE JUNE 4, 2010, OR THAT COMMENCED RECONSTRUCTION OR MODIFICATION AFTER JUNE 4, 2010 BUT NO LATER THAN AUGUST 7, 2013

Pollutant	Emission Limitation	Averaging Time	Compliance Method 40 CFR 60 Appendix A
Cadmium	0.0014 Milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 2 dry standard cubic meters)	Method 29
Carbon Monoxide	110 (long kilns)/790 (preheater/precalciner) parts per million dry volume	3-run average (1 hour minimum sample time per run)	Methods 10
Dioxins/furans (total mass basis)	1.3 Nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 4 dry standard cubic meters)	Method 23
Dioxins/furans (toxic equivalency basis)	0.075 Nanograms per dry standard cubic meter	3-run average (collect a minimum volume of 4 dry standard cubic meters)	Method 23
Hydrogen Chloride	3.0 Parts per million by dry volume	3-run average (collect a minimum volume of 1 dry standard cubic meter) or 30-day rolling average if HCl CEMS is being used	If a wet scrubber or dry scrubber is used performance test (Method 321

Pollutant	Emission Limitation	Averaging Time	Compliance Method 40 CFR 60 Appendix A
			at 40 CFR part 63, appendix A of this part). If a wet scrubber or dry scrubber is not used, HCl CEMS as specified in (9)(j).
Lead	0.014 Milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 2 dry standard cubic meters)	Method 29
Mercury	0.011 Milligrams per dry standard cubic meter OR *58 Pounds per Million Tons of Clinker	30-day rolling average	Mercury CEMS or integrated sorbent trap monitoring system (performance specification 12A or 12B, respectively, of appendix B and procedure 5 of appendix F of 40 CFR 60.)
Nitrogen Oxides	630 Parts per million by dry volume	3-run average (for Method 7E, 1 hour minimum sample time per run)	Methods 7 or 7E
Particulate Matter Filterable	13.5 Milligrams per dry standard cubic meter	30-day rolling average	PM CPMS (as specified in 60.2710(x))
Sulfur Dioxide	600 Parts per million by dry volume	3-run average (for Method 6, collect a minimum of 20 liters; for Method 6C, 1 hour minimum sample time per run)	Method 6 or 6c

*Equivalent Production-Based Limit – See rules 335-3-3-.05(8)(g), 335-3-3-.05(9)(ee), 335-3-3-.05(10)(v), and 335-3-3-.05(11)(ll) for additional requirements.

TABLE 8. EMISSION LIMITS FOR SMALL, REMOTE INCINERATORS THAT COMMENCED CONSTURCITON ON OR BEFORE JUNE 4, 2010, OR THAT COMMENCED RECONSTRUCTION OR MODIFICATION AFTER JUNE 4, 2010 BUT NO LATER THAN AUGUST 7, 2013

Pollutant	**Units (7 percent oxygen, dry basis, except opacity)**	**Averaging Time**	**Compliance Method 40 CFR 60 Appendix A**
Cadmium	0.95 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 1 dry standard cubic meters per run)	Method 29
Carbon Monoxide	64 parts per million dry volume	3-run average (1 hour minimum sample time per run)	Methods 10
Dioxins/furans (total mass basis)	4,400 nanograms per dry standard cubic meter b	3-run average (collect a minimum volume of 1 dry standard cubic meters per run)	Method 23
Dioxins/furans (toxic equivalency basis)	180 nanograms per dry standard cubic meter b	3-run average (collect a minimum volume of 1 dry standard cubic meters)	Method 23
Hydrogen Chloride	300 parts per million dry volume	3-run average (For Method 26, collect a minimum volume of 120 liters per run. For Method 26A, collect a minimum volume of 1 dry standard cubic meter per run)	Method 26 or 26A
Lead	2.1 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 1 dry standard cubic meters)	Method 29 (Use ICPMS for the analytical finish
Mercury	0.0053 milligrams per dry standard cubic meter	3-run average (For Method 29 and ASTM D6784-02 (Reapproved 2008), collect a minimum volume of 2 dry standard cubic meters per run. For Method 30B, collect a minimum sample as specified in Method	Method 29 or 30B or ASTM D6784-02 (Reapproved 2008)

Pollutant	**Units (7 percent oxygen, dry basis, except opacity)**	**Averaging Time**	**Compliance Method 40 CFR 60 Appendix A**
		30B at 40 CFR part 60, appendix A)	
Nitrogen Oxides	190 parts per million dry volume	3-run average (for Method 7E, 1 hour minimum sample time per run)	Methods 7 or 7E
Particulate Matter (Filterable)	270 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 1 dry standard cubic meters)	Method 5 or 29
Sulfur Dioxide	150 parts per million dry volume	3-run average (for Method 6, collect a minimum of 20 liters per run; for Method 6C, 1 hour minimum sample time per run)	Method 6 or 6c
Fugitive Ash	Visible emissions for no more than 5 percent of the hourly observation period	Three 1-hour observation periods	Method 22 (Visible emissions test)

Author: Ronald W. Gore
Statutory Authority: Code of Ala. 1975, §§22-28-14, 22-22A-5, 22-22A-6, 22-22A-8.
History: **New Rule:** Filed February 7, 2002; effective March 14, 2002. **Amended:** Filed August 28, 2003; effective October 2, 2003. **Amended:** Filed June 6, 2006; effective July 11, 2006. **Amended:** Filed February 25 2014; effective April 1, 2014. **Amended:** Filed April 25, 2017; effective June 9, 2017. **Amended:** Filed October 24, 2017; effective December 8, 2017. **Amended:** Published February 28, 2020; effective April 13, 2020. **Amended:** Published December 29, 2023; effective February 12, 2024.