| E.U. ID No. | Brief Description |
|---|---|
| 001, 002 & 003 | Municipal Waste Combustor Units 1, 2 & 3 |
| 005 | Residue Storage and Processing Building (RSPB) (applies to the ash conveying systems) |
| 008 | Ash Conditioning Building (ACB) (applies to the ash conveying systems) |

**Federal Regulations Adopted by Reference**

In accordance with Rule 62-204.800, F.A.C., the following federal regulation in Title 40 of the Code of Federal Regulations (CFR) was adopted by reference. The original federal rule numbering has been retained.

*Federal Revision Date: May 10, 2006*

*Rule Effective Date: May 31, 2007*

*Standardized Conditions Revision Date: April 21, 2008*

**40 CFR Part 60, Subpart Eb - Standards of Performance for Large Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994 or for Which Modification or Reconstruction is Commenced After June 19, 1996**

**Source:** 60 FR 65419, Dec. 19, 1995, unless otherwise noted.

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**§ 60.50b Applicability and delegation of authority.**

(a) The affected facility to which this subpart applies is each municipal waste combustor unit with a combustion capacity greater than 250 tons per day of municipal solid waste for which construction, modification, or reconstruction is commenced after September 20, 1994.

(b) Any waste combustion unit that is capable of combusting more than 250 tons per day of municipal solid waste and is subject to a federally enforceable permit limiting the maximum amount of municipal solid waste that may be combusted in the unit to less than or equal to 11 tons per day is not subject to this subpart if the owner or operator:

(1) Notifies EPA of an exemption claim;

(2) Provides a copy of the federally enforceable permit that limits the firing of municipal solid waste to less than 11 tons per day; and

(3) Keeps records of the amount of municipal solid waste fired on a daily basis.

(c) An affected facility to which this subpart applies is not subject to subpart E or Ea of this part.

(d) Physical or operational changes made to an existing municipal waste combustor unit primarily for the purpose of complying with emission guidelines under subpart Cb are not considered a modification or reconstruction and do not result in an existing municipal waste combustor unit becoming subject to this subpart.

(e) A qualifying small power production facility, as defined in section 3(17)(C) of the Federal Power Act (16 U.S.C. 796(17)(C)), that burns homogeneous waste (such as automotive tires or used oil, but not including refuse-derived fuel)

for the production of electric energy is not subject to this subpart if the owner or operator of the facility notifies EPA of this exemption and provides data documenting that the facility qualifies for this exemption.

(f) A qualifying cogeneration facility, as defined in section 3(18)(B) of the Federal Power Act (16 U.S.C. 796(18)(B)), that burns homogeneous waste (such as automotive tires or used oil, but not including refuse-derived fuel) for the production of electric energy and steam or forms of useful energy (such as heat) that are used for industrial, commercial, heating, or cooling purposes, is not subject to this subpart if the owner or operator of the facility notifies EPA of this exemption and provides data documenting that the facility qualifies for this exemption.

(g) Any unit combusting a single-item waste stream of tires is not subject to this subpart if the owner or operator of the unit:

(1) Notifies EPA of an exemption claim; and

(2) [Reserved]

(3) Provides data documenting that the unit qualifies for this exemption.

(h) Any unit required to have a permit under section 3005 of the Solid Waste Disposal Act is not subject to this subpart.

(i) Any materials recovery facility (including primary or secondary smelters) that combusts waste for the primary purpose of recovering metals is not subject to this subpart.

(j) Any cofired combustor, as defined under §60.51b, that meets the capacity specifications in paragraph (a) of this section is not subject to this subpart if the owner or operator of the cofired combustor:

(1) Notifies EPA of an exemption claim;

(2) Provides a copy of the federally enforceable permit (specified in the definition of cofired combustor in this section); and

(3) Keeps a record on a calendar quarter basis of the weight of municipal solid waste combusted at the cofired combustor and the weight of all other fuels combusted at the cofired combustor.

(k) Air curtain incinerators, as defined under §60.51b, located at a plant that meet the capacity specifications in paragraph (a) of this section and that combust a fuel stream composed of 100 percent yard waste are exempt from all provisions of this subpart except the opacity limit under §60.56b, the testing procedures under §60.58b(l), and the reporting and recordkeeping provisions under §60.59b (e) and (i).

(l) Air curtain incinerators located at plants that meet the capacity specifications in paragraph (a) of this section combusting municipal solid waste other than yard waste are subject to all provisions of this subpart.

(m) Pyrolysis/combustion units that are an integrated part of a plastics/rubber recycling unit (as defined in §60.51b) are not subject to this subpart if the owner or operator of the plastics/rubber recycling unit keeps records of the weight of plastics, rubber, and/or rubber tires processed on a calendar quarter basis; the weight of chemical plant feedstocks and petroleum refinery feedstocks produced and marketed on a calendar quarter basis; and the name and address of the purchaser of the feedstocks. The combustion of gasoline, diesel fuel, jet fuel, fuel oils, residual oil, refinery gas, petroleum coke, liquified petroleum gas, propane, or butane produced by chemical plants or petroleum refineries that use feedstocks produced by plastics/rubber recycling units are not subject to this subpart.

(n) The following authorities are retained by the Administrator of the U.S. EPA and are not transferred to a State:

(1) Approval of exemption claims in paragraphs (b), (e), (f), (g) and (j) of this section;

(2) Enforceability under Federal law of all Federally enforceable, as defined in §60.51b, limitations and conditions;

(3) Determination of compliance with the siting requirements as specified in §60.57b(a);

(4) Acceptance of relationship between carbon monoxide and oxygen as part of initial and annual performance tests as specified in §60.58b(b)(7);

(5) Approval of other monitoring systems used to obtain emissions data when data is not obtained by CEMS as specified in §60.58b(e)(14), (h)(12), (i)(11), and (n)(14), and (p)(11);

(6) Approval of a site-specific monitoring plan for the continuous emission monitoring system specified in "60.58b(n)(13) and (o) of this section or the continuous automated sampling system specified in §60.58b(p)(10) and (q) of this section;

(7) Approval of major alternatives to test methods;

(8) Approval of major alternatives to monitoring;

(9) Waiver of recordkeeping; and

(10) Performance test and data reduction waivers under "608(b).

(o) This subpart shall become effective June 19, 1996.

(p) Cement kilns firing municipal solid waste are not subject to this subpart.

[60 FR 65419, Dec. 19, 1995, as amended at 62 FR 45120, 45125, Aug. 25, 1997; 71 FR 27335, May 10, 2006]

**§ 60.51b Definitions.**

*Administrator means:*

(1) For approved and effective State Section 111(d)/129 plans, the Director of the State air pollution control agency, or employee of the State air pollution control agency that is delegated the authority to perform the specified task;

(2) For Federal Section 111(d)/129 plans, the Administrator of the EPA, an employee of the EPA, the Director of the State air pollution control agency, or employee of the State air pollution control agency to whom the authority has been delegated by the Administrator of the EPA to perform the specified task; and

(3) For NSPS, the Administrator of the EPA, an employee of the EPA, the Director of the State air pollution control agency, or employee of the State air pollution control agency to whom the authority has been delegated by the Administrator of the EPA to perform the specified task.

*Air curtain incinerator* means an incinerator that operates by forcefully projecting a curtain of air across an open chamber or pit in which burning occurs. Incinerators of this type can be constructed above or below ground and with or without refractory walls and floor.

*Batch municipal waste combustor* means a municipal waste combustor unit designed so that it cannot combust municipal solid waste continuously 24 hours per day because the design does not allow waste to be fed to the unit or ash to be removed while combustion is occurring.

*Bubbling fluidized bed combustor* means a fluidized bed combustor in which the majority of the bed material remains in a fluidized state in the primary combustion zone.

*Calendar quarter* means a consecutive 3-month period (nonoverlapping) beginning on January 1, April 1, July 1, and October 1.

*Calendar year* means the period including 365 days starting January 1 and ending on December 31.

*Chief facility operator* means the person in direct charge and control of the operation of a municipal waste combustor and who is responsible for daily onsite supervision, technical direction, management, and overall performance of the facility.

*Circulating fluidized bed combustor* means a fluidized bed combustor in which the majority of the fluidized bed material is carried out of the primary combustion zone and is transported back to the primary zone through a recirculation loop.

*Clean wood* means untreated wood or untreated wood products including clean untreated lumber, tree stumps (whole or chipped), and tree limbs (whole or chipped). Clean wood does not include yard waste, which is defined elsewhere in this section, or construction, renovation, and demolition wastes (including but not limited to railroad ties and telephone poles), which are exempt from the definition of municipal solid waste in this section.

*Cofired combustor* means a unit combusting municipal solid waste with nonmunicipal solid waste fuel (e.g., coal, industrial process waste) and subject to a federally enforceable permit limiting the unit to combusting a fuel feed stream, 30 percent or less of the weight of which is comprised, in aggregate, of municipal solid waste as measured on a calendar quarter basis.

*Continuous automated sampling system* means the total equipment and procedures for automated sample collection and sample recovery/analysis to determine a pollutant concentration or emission rate by collecting a single or multiple integrated sample(s) of the pollutant (or diluent gas) for subsequent on-or off-site analysis; integrated sample(s) collected are representative of the emissions for the sample time as specified by the applicable requirement.

*Continuous emission monitoring system* means a monitoring system for continuously measuring the emissions of a pollutant from an affected facility.

*Dioxin/furan* means tetra- through octa- chlorinated dibenzo-p-dioxins and dibenzofurans.

*EPA* means the Administrator of the U.S. EPA or employee of the U.S. EPA who is delegated to perform the specified task.

*Federally enforceable* means all limitations and conditions that are enforceable by EPA including the requirements of 40 CFR part 60, 40 CFR part 61, and 40 CFR part 63, requirements within any applicable State implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 40 CFR 51.24.

*First calendar half* means the period starting on January 1 and ending on June 30 in any year.

*Four-hour block average* or *4-hour block average* means the average of all hourly emission concentrations when the affected facility is operating and combusting municipal solid waste measured over 4-hour periods of time from 12:00 midnight to 4 a.m., 4 a.m. to 8 a.m., 8 a.m. to 12:00 noon, 12:00 noon to 4 p.m., 4 p.m. to 8 p.m., and 8 p.m. to 12:00 midnight.

*Mass burn refractory municipal waste combustor* means a field-erected combustor that combusts municipal solid waste in a refractory wall furnace. Unless otherwise specified, this includes combustors with a cylindrical rotary refractory wall furnace.

*Mass burn rotary waterwall municipal waste combustor* means a field-erected combustor that combusts municipal solid waste in a cylindrical rotary waterwall furnace or on a tumbling-tile grate.

*Mass burn waterwall municipal waste combustor* means a field-erected combustor that combusts municipal solid waste in a waterwall furnace.

*Materials separation plan* means a plan that identifies both a goal and an approach to separate certain components of municipal solid waste for a given service area in order to make the separated materials available for recycling. A materials separation plan may include elements such as dropoff facilities, buy-back or deposit-return incentives, curbside pickup programs, or centralized mechanical separation systems. A materials separation plan may include different goals or approaches for different subareas in the service area, and may include no materials separation activities for certain subareas or, if warranted, an entire service area.

*Maximum demonstrated municipal waste combustor unit load* means the highest 4-hour arithmetic average municipal waste combustor unit load achieved during four consecutive hours during the most recent dioxin/furan performance test demonstrating compliance with the applicable limit for municipal waste combustor organics specified under §60.52b(c).

*Maximum demonstrated particulate matter control device temperature* means the highest 4-hour arithmetic average flue gas temperature measured at the particulate matter control device inlet during four consecutive hours during the most recent dioxin/furan performance test demonstrating compliance with the applicable limit for municipal waste combustor organics specified under §60.52b(c).

*Modification* or *modified municipal waste combustor unit* means a municipal waste combustor unit to which changes have been made after June 19, 1996 if the cumulative cost of the changes, over the life of the unit, exceed 50 percent of the original cost of 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 any physical change in the municipal waste combustor unit or change in the method of operation of the municipal waste combustor unit increases the amount of any air pollutant emitted by the unit for which standards have been established under section 129 or section 111. Increases in the amount of any air pollutant emitted by the municipal waste combustor unit are determined at 100-percent physical load capability and downstream of all air pollution control devices, with no consideration given for load restrictions based on permits or other nonphysical operational restrictions.

*Modular excess-air municipal waste combustor* means a combustor that combusts municipal solid waste and that is not field-erected and has multiple combustion chambers, all of which are designed to operate at conditions with combustion air amounts in excess of theoretical air requirements.

*Modular starved-air municipal waste combustor* means a combustor that combusts municipal solid waste and that is not field-erected and has multiple combustion chambers in which the primary combustion chamber is designed to operate at substoichiometric conditions.

*Municipal solid waste* or *municipal-type solid waste* or *MSW* means household, commercial/retail, and/or institutional waste. Household waste includes material discarded by single and multiple residential dwellings, hotels, motels, and other similar permanent or temporary housing establishments or facilities. 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 material discarded by schools, nonmedical waste discarded by hospitals, material discarded by nonmanufacturing activities at prisons and government facilities, and material discarded by other similar establishments or facilities. Household, commercial/retail, and institutional waste does not include used oil; sewage sludge; wood pallets; construction, renovation, and demolition wastes (which includes but is not limited to railroad ties and telephone poles); clean wood; industrial process or manufacturing wastes; medical waste; or motor vehicles (including motor vehicle parts or vehicle fluff). Household, commercial/retail, and institutional wastes include:

(1) Yard waste;

(2) Refuse-derived fuel; and

(3) Motor vehicle maintenance materials limited to vehicle batteries and tires except as specified in §60.50b(g).

*Municipal waste combustor, MWC,* or *municipal waste combustor unit:*

(1) Means any setting or equipment that combusts solid, liquid, or gasified municipal solid waste including, but not limited to, field-erected incinerators (with or without heat recovery), modular incinerators (starved-air or excess-air), boilers (i.e., steam generating units), furnaces (whether suspension-fired, grate-fired, mass-fired, air curtain incinerators, or fluidized bed-fired), and pyrolysis/combustion units. Municipal waste combustors do not include pyrolysis/combustion units located at a plastics/rubber recycling unit (as specified in §60.50b(m)). Municipal waste combustors do not include cement kilns firing municipal solid waste (as specified in §60.50b(p)). Municipal waste combustors do not include internal combustion engines, gas turbines, or other combustion devices that combust landfill gases collected by landfill gas collection systems.

(2) The boundaries of a municipal solid waste combustor are defined as follows. The municipal waste combustor unit includes, but is not limited to, the municipal solid waste fuel feed system, grate system, flue gas system, bottom ash system, and the combustor water system. The municipal waste combustor boundary starts at the municipal solid waste pit or hopper and extends through:

   (i) The combustor flue gas system, which ends immediately following the heat recovery equipment or, if there is no heat recovery equipment, immediately following the combustion chamber,

   (ii) The combustor bottom ash system, which ends at the truck loading station or similar ash handling equipment that transfer the ash to final disposal, including all ash handling systems that are connected to the bottom ash handling system; and

   (iii) The combustor water system, which starts at the feed water pump and ends at the piping exiting the steam drum or superheater.

(3) The municipal waste combustor unit does not include air pollution control equipment, the stack, water treatment equipment, or the turbine-generator set.

*Municipal waste combustor acid gases* means all acid gases emitted in the exhaust gases from municipal waste combustor units including, but not limited to, sulfur dioxide and hydrogen chloride gases.

*Municipal waste combustor metals* means metals and metal compounds emitted in the exhaust gases from municipal waste combustor units.

*Municipal waste combustor organics* means organic compounds emitted in the exhaust gases from municipal waste combustor units and includes tetra-through octa- chlorinated dibenzo-p-dioxins and dibenzofurans.

*Municipal waste combustor plant* means one or more affected facilities (as defined in §60.50b) at the same location.

*Municipal waste combustor unit capacity* means the maximum charging rate of a municipal waste combustor unit expressed in tons per day of municipal solid waste combusted, calculated according to the procedures under §60.58b(j). Section 60.58b(j) includes procedures for determining municipal waste combustor unit capacity for continuous and batch feed municipal waste combustors.

*Municipal waste combustor unit load* means the steam load of the municipal waste combustor unit measured as specified in §60.58b(i)(6).

*Particulate matter* means total particulate matter emitted from municipal waste combustor units as measured by EPA Reference Method 5 (see §60.58b(c)).

*Plastics/rubber recycling unit* means an integrated processing unit where plastics, rubber, and/or rubber tires are the only feed materials (incidental contaminants may be included in the feed materials) and they are processed into a chemical plant feedstock or petroleum refinery feedstock, where the feedstock is marketed to and used by a chemical plant or petroleum refinery as input feedstock. The combined weight of the chemical plant feedstock and petroleum refinery feedstock produced by the plastics/rubber recycling unit on a calendar quarter basis shall be more than 70 percent of the combined weight of the plastics, rubber, and rubber tires processed by the plastics/rubber recycling unit on a calendar quarter basis. The plastics, rubber, and/or rubber tire feed materials to the plastics/rubber recycling unit may originate from the separation or diversion of plastics, rubber, or rubber tires from MSW or industrial solid waste, and may include manufacturing scraps, trimmings, and off-specification plastics, rubber, and rubber tire discards. The plastics, rubber, and rubber tire feed materials to the plastics/rubber recycling unit may contain incidental contaminants (e.g., paper labels on plastic bottles, metal rings on plastic bottle caps, etc.).

*Potential hydrogen chloride emission concentration* means the hydrogen chloride emission concentration that would occur from combustion of municipal solid waste in the absence of any emission controls for municipal waste combustor acid gases.

*Potential mercury emission concentration* means the mercury emission concentration that would occur from combustion of municipal solid waste in the absence of any mercury emissions control.

*Potential sulfur dioxide emissions* means the sulfur dioxide emission concentration that would occur from combustion of municipal solid waste in the absence of any emission controls for municipal waste combustor acid gases.

*Pulverized coal/refuse-derived fuel mixed fuel-fired combustor* means a combustor that fires coal and refuse-derived fuel simultaneously, in which pulverized coal is introduced into an air stream that carries the coal to the combustion chamber of the unit where it is fired in suspension. This includes both conventional pulverized coal and micropulverized coal.

*Pyrolysis/combustion unit* means a unit that produces gases, liquids, or solids through the heating of municipal solid waste, and the gases, liquids, or solids produced are combusted and emissions vented to the atmosphere.

*Reconstruction* means rebuilding a municipal waste combustor unit for which the reconstruction commenced after June 19, 1996, and the cumulative costs of the construction over the life of the unit exceed 50 percent of the original cost of construction and installation of the unit (not including any cost of land purchased in connection with such construction or installation) updated to current costs (current dollars).

*Refractory unit* or *refractory wall furnace* means a combustion unit having no energy recovery (e.g., via a waterwall) in the furnace (i.e., radiant heat transfer section) of the combustor.

*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 low-density fluff refuse-derived fuel through densified refuse-derived fuel and pelletized refuse-derived fuel.

*Refuse-derived fuel stoker* means a steam generating unit that combusts refuse-derived fuel in a semisuspension firing mode using air-fed distributors.

*Same location* means the same or contiguous property that is under common ownership or control including properties that are separated only by a street, road, highway, or other public right-of-way. Common ownership or control includes properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, subdivision, or any combination thereof including any municipality or other governmental unit, or any quasi-governmental authority (e.g., a public utility district or regional waste disposal authority).

*Second calendar half* means the period starting July 1 and ending on December 31 in any year.

*Shift supervisor* means the person who is in direct charge and control of the operation of a municipal waste combustor and who is responsible for onsite supervision, technical direction, management, and overall performance of the facility during an assigned shift.

*Spreader stoker coal/refuse-derived fuel mixed fuel-fired combustor* means a combustor that fires coal and refuse-derived fuel simultaneously, in which coal is introduced to the combustion zone by a mechanism that throws the fuel onto a grate from above. Combustion takes place both in suspension and on the grate.

*Standard conditions* means a temperature of 20 °C and a pressure of 101.3 kilopascals.

*Total mass dioxin/furan* or *total mass* means the total mass of tetra- through octa- chlorinated dibenzo-p-dioxins and dibenzofurans, as determined using EPA Reference Method 23 and the procedures specified under §60.58b(g).

*Tumbling-tile* means a grate tile hinged at one end and attached to a ram at the other end. When the ram extends, the grate tile rotates around the hinged end.

*Twenty-four hour daily average* or *24-hour daily average* means either the arithmetic mean or geometric mean (as specified) of all hourly emission concentrations when the affected facility is operating and combusting municipal solid waste measured over a 24-hour period between 12:00 midnight and the following midnight.

*Untreated lumber* means wood or wood products that have been cut or shaped and include wet, air-dried, and kiln-dried wood products. Untreated lumber does not include wood products that have been painted, pigment-stained, or "pressure-treated." Pressure-treating compounds include, but are not limited to, chromate copper arsenate, pentachlorophenol, and creosote.

*Waterwall furnace* means a combustion unit having energy (heat) recovery in the furnace (i.e., radiant heat transfer section) of the combustor.

*Yard waste* means grass, grass clippings, bushes, shrubs, and clippings from bushes and shrubs that are generated by residential, commercial/retail, institutional, and/or industrial sources as part of maintenance activities associated with yards or other private or public lands. Yard waste does not include construction, renovation, and demolition wastes, which are exempt from the definition of municipal solid waste in this section. Yard waste does not include clean wood, which is exempt from the definition of municipal solid waste in this section.

[60 FR 65419, Dec. 19, 1995, as amended at 62 FR 45121, 45126, Aug. 25, 1997; 66 FR 36476, July 12, 2001; 71 FR 27335, May 10, 2006]

**§ 60.52b Standards for municipal waste combustor metals, acid gases, organics, and nitrogen oxides.**

(a) The limits for municipal waste combustor metals are specified in paragraphs (a)(1) through (a)(5) of this section.

(1) On and after the date on which the initial performance test is completed or is required to be completed under §60.8 of subpart A of this part, no owner or operator of an affected facility shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter in excess of the limits specified in paragraph (a)(1)(i) or (a)(1)(ii) of this section.

(i) For affected facilities that commenced construction, modification, or reconstruction after September 20, 1994, and on or before December 19, 2005, the emission limit is 24 milligrams per dry standard cubic meter, corrected to 7 percent oxygen.

(ii) For affected facilities that commenced construction, modification, or reconstruction after December 19, 2005, the emission limit is 20 milligrams per dry standard cubic meter, corrected to 7 percent oxygen.

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

(3) On and after the date on which the initial performance test is completed or is required to be completed under §60.8 of subpart A of this part, no owner or operator of an affected facility shall cause to be discharged into the atmosphere from that affected facility any gases that contain cadmium in excess of the limits specified in paragraph (a)(3)(i) or (a)(3)(ii) of this section.

(i) For affected facilities that commenced construction, modification, or reconstruction after September 20, 1994, and on or before December 19, 2005, the emission limit is 20 micrograms per dry standard cubic meter, corrected to 7 percent oxygen.

(ii) For affected facilities that commenced construction, modification, or reconstruction after December 19, 2005, the emission limit is 10 micrograms per dry standard cubic meter, corrected to 7 percent oxygen.

(4) On and after the date on which the initial performance test is completed or is required to be completed under §60.8 of subpart A of this part, no owner or operator of an affected facility shall cause to be discharged into the atmosphere from the affected facility any gases that contain lead in excess of the limits specified in paragraph (a)(4)(i) or (a)(4)(ii) of this section.

(i) For affected facilities that commenced construction, modification, or reconstruction after September 20, 1994, and on or before December 19, 2005, the emission limit is 200 micrograms per dry standard cubic meter, corrected to 7 percent oxygen.

(ii) For affected facilities that commenced construction, modification, or reconstruction after December 19, 2005, the emission limit is 140 micrograms per dry standard cubic meter, corrected to 7 percent oxygen.

(5) On and after the date on which the initial performance test is completed or is required to be completed under §60.8 of subpart A of this part, no owner or operator of an affected facility shall cause to be discharged into the atmosphere from the affected facility any gases that contain mercury in excess of the limits specified in paragraph (a)(5)(i) or (a)(5)(ii) of this section.

(i) For affected facilities that commenced construction, modification, or reconstruction after September 20, 1994 and on or before December 19, 2005, the emission limit is 80 micrograms per dry standard cubic meter or 15 percent of the potential mercury emission concentration (85-percent reduction by weight), corrected to 7 percent oxygen, whichever is less stringent.

(ii) For affected facilities that commenced construction, modification, or reconstruction after December 19, 2005, the emission limit is 50 micrograms per dry standard cubic meter, or 15 percent of the potential mercury emission concentration (85-percent reduction by weight), corrected to 7 percent oxygen, whichever is less stringent.

(b) The limits for municipal waste combustor acid gases are specified in paragraphs (b)(1) and (b)(2) of this section.

(1) On and after the date on which the initial performance test is completed or is required to be completed under §60.8 of subpart A of this part, no owner or operator of an affected facility shall cause to be discharged into the atmosphere from that affected facility any gases that contain sulfur dioxide in excess of 30 parts per million by volume or 20 percent of the potential sulfur dioxide emission concentration (80-percent reduction by weight or volume), corrected to 7 percent oxygen (dry basis), whichever is less stringent. The averaging time is specified under §60.58b(e).

(2) On and after the date on which the initial performance test is completed or is required to be completed under §60.8 of subpart A of this part, no owner or operator of an affected facility shall cause to be discharged into the atmosphere from that affected facility any gases that contain hydrogen chloride in excess of 25 parts per million by volume or 5 percent of the potential hydrogen chloride emission concentration (95-percent reduction by weight or volume), corrected to 7 percent oxygen (dry basis), whichever is less stringent.

(c) The limits for municipal waste combustor organics are specified in paragraphs (c)(1) and (c)(2) of this section.

(1) On and after the date on which the initial performance test is completed or is required to be completed under §60.8 of subpart A of this part, no owner or operator of an affected facility for which construction, modification or reconstruction commences on or before November 20, 1997 shall cause to be discharged into the atmosphere from that affected facility any gases that contain dioxin/furan emissions that exceed 30 nanograms per dry standard cubic meter (total mass), corrected to 7 percent oxygen, for the first 3 years following the date of initial startup. After the first 3 years following the date of initial startup, no owner or operator shall cause to be discharged into the atmosphere from that affected facility any gases that contain dioxin/furan total mass emissions that exceed 13 nanograms per dry standard cubic meter (total mass), corrected to 7 percent oxygen.

(2) On and after the date on which the initial performance test is completed or is required to be completed under §60.8 of subpart A of this part, no owner or operator of an affected facility for which construction, modification, or reconstruction commences after November 20, 1997 shall cause to be discharged into the atmosphere from that affected facility any gases that contain dioxin/furan total mass emissions that exceed 13 nanograms per dry standard cubic meter (total mass), corrected to 7 percent oxygen.

(d) The limits for nitrogen oxides are specified in paragraphs (d)(1) and (d)(2) of this section.

(1) During the first year of operation after the date on which the initial performance test is completed or is required to be completed under §60.8 of subpart A of this part, no owner or operator of an affected facility shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides in excess of 180 parts per million by volume, corrected to 7 percent oxygen (dry basis). The averaging time is specified under §60.58b(h).

(2) After the first year of operation following the date on which the initial performance test is completed or is required to be completed under §60.8 of subpart A of this part, no owner or operator of an affected facility shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides in excess of 150 parts per million by volume, corrected to 7 percent oxygen (dry basis). The averaging time is specified under §60.58b(h).

[60 FR 65419, Dec. 19, 1995, as amended at 62 FR 45121, 45126, Aug. 25, 1997; 71 FR 27336, May 10, 2006]

**§ 60.53b Standards for municipal waste combustor operating practices.**

(a) On and after the date on which the initial performance test is completed or is required to be completed under §60.8 of subpart A of this part, no owner or operator of an affected facility shall cause to be discharged into the atmosphere from that affected facility any gases that contain carbon monoxide in excess of the emission limits specified in table 1 of this subpart.

**Table 1—Municipal Waste Combustor Operating Standards**

| Municipal waste combustor technology | Carbon monoxide emission limit (parts per million by volume)[a] | Averaging time (hours)[b] |
|---|---|---|
| Mass burn waterwall | 100 | 4 |
| Mass burn refractory | 100 | 4 |
| Mass burn rotary waterwall | 100 | 24 |
| Modular starved air | 50 | 4 |
| Modular excess air | 50 | 4 |
| Refuse-derived fuel stoker | 150 | 24 |
| Bubbling fluidized bed combustor | 100 | 4 |
| Circulating fluidized bed combustor | 100 | 4 |
| Pulverized coal/refuse-derived fuel mixed fuel-fired combustor | 150 | 4 |
| Spreader stoker coal/refuse-derived fuel mixed fuel-fired combustor | 150 | 24 |

[a]Measured at the combustor outlet in conjunction with a measurement of oxygen concentration, corrected to 7 percent oxygen (dry basis). The averaging times are specified in greater detail in §60.58b(i).

[b]Averaging times are 4-hour or 24-hour block averages.

(b) No owner or operator of an affected facility shall cause such facility to operate at a load level greater than 110 percent of the maximum demonstrated municipal waste combustor unit load as defined in §60.51b, except as specified in paragraphs (b)(1) and (b)(2) of this section. The averaging time is specified under §60.58b(i).

(1) During the annual dioxin/furan or mercury performance test and the 2 weeks preceding the annual dioxin/furan or mercury performance test, no municipal waste combustor unit load limit is applicable if the provisions of paragraph (b)(2) of this section are met.

(2) The municipal waste combustor unit load limit may be waived in writing by the Administrator for the purpose of evaluating system performance, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving facility performance or advancing the state-of-the-art for controlling facility emissions. The municipal waste combustor unit load limit continues to apply, and remains enforceable, until and unless the Administrator grants the waiver.

(c) No owner or operator of an affected facility shall cause such facility to operate at a temperature, measured at the particulate matter control device inlet, exceeding 17 °C above the maximum demonstrated particulate matter control device temperature as defined in §60.51b, except as specified in paragraphs (c)(1) and (c)(2) of this section. The averaging time is specified under §60.58b(i). The requirements specified in this paragraph apply to each particulate matter control device utilized at the affected facility.

(1) During the annual dioxin/furan or mercury performance test and the 2 weeks preceding the annual dioxin/furan or mercury performance test, no particulate matter control device temperature limitations are applicable if the provisions of paragraph (b)(2) of this section are met.

(2) The particulate matter control device temperature limits may be waived in writing by the Administrator for the purpose of evaluating system performance, testing new technology or control technologies, diagnostic testing, or

related activities for the purpose of improving facility performance or advancing the state-of-the-art for controlling facility emissions. The temperature limits continue to apply, and remain enforceable, until and unless the Administrator grants the waiver.

(d) Paragraph (m)(2) of §60.58b addresses treatment of activated carbon injection rate during dioxin/furan or mercury testing.

[60 FR 65419, Dec. 19, 1995, as amended at 62 FR 45126, Aug. 25, 1997; 71 FR 27336, May 10, 2006]

**§ 60.54b Standards for municipal waste combustor operator training and certification.**

(a) No later than the date 6 months after the date of startup of an affected facility or on December 19, 1996, whichever is later, each chief facility operator and shift supervisor shall obtain and maintain a current provisional operator certification from either the American Society of Mechanical Engineers [QRO–1–1994 (incorporated by reference—see §60.17 of subpart A of this part)] or a State certification program.

(b) Not later than the date 6 months after the date of startup of an affected facility or on December 19, 1996, whichever is later, each chief facility operator and shift supervisor shall have completed full certification or shall have scheduled a full certification exam with either the American Society of Mechanical Engineers [QRO–1–1994 (incorporated by reference—see §60.17 of subpart A of this part)] or a State certification program.

(c) No owner or operator of an affected facility shall allow the facility to be operated at any time unless one of the following persons is on duty and at the affected facility: A fully certified chief facility operator, a provisionally certified chief facility operator who is scheduled to take the full certification exam according to the schedule specified in paragraph (b) of this section, a fully certified shift supervisor, or a provisionally certified shift supervisor who is scheduled to take the full certification exam according to the schedule specified in paragraph (b) of this section.

(1) The requirement specified in paragraph (c) of this section shall take effect 6 months after the date of startup of the affected facility or on December 19, 1996, whichever is later.

(2) If both the certified chief facility operator and certified shift supervisor are unavailable, a provisionally certified control room operator on site at the municipal waste combustion unit may fulfill the certified operator requirement. Depending on the length of time that a certified chief facility operator and certified shift supervisor are away, the owner or operator of the affected facility must meet one of three criteria:

(i) When the certified chief facility operator and certified shift supervisor are both off site for 12 hours or less, and no other certified operator is on site, the provisionally certified control room operator may perform the duties of the certified chief facility operator or certified shift supervisor.

(ii) When the certified chief facility operator and certified shift supervisor are off site for more than 12 hours, but for two weeks or less, and no other certified operator is on site, the provisionally certified control room operator may perform the duties of the certified chief facility operator or certified shift supervisor without notice to, or approval by, the Administrator. However, the owner or operator of the affected facility must record the period when the certified chief facility operator and certified shift supervisor are off site and include that information in the annual report as specified under §60.59b(g)(5).

(iii) When the certified chief facility operator and certified shift supervisor are off site for more than two weeks, and no other certified operator is on site, the provisionally certified control room operator may perform the duties of the certified chief facility operator or certified shift supervisor without approval by the Administrator. However, the owner or operator of the affected facility must take two actions:

(A) Notify the Administrator in writing. In the notice, state what caused the absence and what actions are being taken by the owner or operator of the facility to ensure that a certified chief facility operator or certified shift supervisor is on site as expeditiously as practicable.

(B) Submit a status report and corrective action summary to the Administrator every four weeks following the initial notification. If the Administrator provides notice that the status report or corrective action summary is disapproved, the municipal waste combustion unit may continue operation for 90 days, but then must cease operation. If corrective actions are taken in the 90-day period such that the Administrator withdraws the disapproval, municipal waste combustion unit operation may continue.

(3) A provisionally certified operator who is newly promoted or recently transferred to a shift supervisor position or a chief facility operator position at the municipal waste combustion unit may perform the duties of the certified chief facility operator or certified shift supervisor without notice to, or approval by, the Administrator for up to six months before taking the ASME QRO certification exam.

(d) All chief facility operators, shift supervisors, and control room operators at affected facilities must complete the EPA or State municipal waste combustor operator training course no later than the date 6 months after the date of startup of the affected facility or by December 19, 1996, whichever is later.

(e) The owner or operator of an affected facility shall develop and update on a yearly basis a site-specific operating manual that shall, at a minimum, address the elements of municipal waste combustor unit operation specified in paragraphs (e)(1) through (e)(11) of this section.

(1) A summary of the applicable standards under this subpart;

(2) A description of basic combustion theory applicable to a municipal waste combustor unit;

(3) Procedures for receiving, handling, and feeding municipal solid waste;

(4) Municipal waste combustor unit startup, shutdown, and malfunction procedures;

(5) Procedures for maintaining proper combustion air supply levels;

(6) Procedures for operating the municipal waste combustor unit within the standards established under this subpart;

(7) Procedures for responding to periodic upset or off-specification conditions;

(8) Procedures for minimizing particulate matter carryover;

(9) Procedures for handling ash;

(10) Procedures for monitoring municipal waste combustor unit emissions; and

(11) Reporting and recordkeeping procedures.

(f) The owner or operator of an affected facility shall establish a training program to review the operating manual according to the schedule specified in paragraphs (f)(1) and (f)(2) of this section with each person who has responsibilities affecting the operation of an affected facility including, but not limited to, chief facility operators, shift supervisors, control room operators, ash handlers, maintenance personnel, and crane/load handlers.

(1) Each person specified in paragraph (f) of this section shall undergo initial training no later than the date specified in paragraph (f)(1)(i), (f)(1)(ii), or (f)(1)(iii) of this section whichever is later.

(i) The date 6 months after the date of startup of the affected facility;

(ii) The date prior to the day the person assumes responsibilities affecting municipal waste combustor unit operation; or

(iii) December 19, 1996.

(2) Annually, following the initial review required by paragraph (f)(1) of this section.

(g) The operating manual required by paragraph (e) of this section shall be kept in a readily accessible location for all persons required to undergo training under paragraph (f) of this section. The operating manual and records of training shall be available for inspection by the EPA or its delegated enforcement agency upon request.

[60 FR 65419, Dec. 19, 1995, as amended at 62 FR 45126, Aug. 25, 1997; 71 FR 27337, May 10, 2006]

**§ 60.55b Standards for municipal waste combustor fugitive ash emissions.**

(a) On and after the date on which the initial performance test is completed or is required to be completed under §60.8 of subpart A of this part, no owner or operator of an affected facility shall cause to be discharged to the atmosphere visible emissions of combustion ash from an ash conveying system (including conveyor transfer points) in excess of 5 percent of the observation period (i.e., 9 minutes per 3-hour period), as determined by EPA Reference Method 22 observations as specified in §60.58b(k), except as provided in paragraphs (b) and (c) of this section.

(b) The emission limit specified in paragraph (a) of this section does not cover visible emissions discharged inside buildings or enclosures of ash conveying systems; however, the emission limit specified in paragraph (a) of this section does cover visible emissions discharged to the atmosphere from buildings or enclosures of ash conveying systems.

(c) The provisions specified in paragraph (a) of this section do not apply during maintenance and repair of ash conveying systems.

[60 FR 65419, Dec. 19, 1995, as amended at 62 FR 45126, Aug. 25, 1997]

**§ 60.56b Standards for air curtain incinerators.**

On and after the date on which the initial performance test is completed or is required to be completed under §60.8 of subpart A of this part, the owner or operator of an air curtain incinerator with the capacity to combust greater than 250 tons per day of municipal solid waste and that combusts a fuel feed stream composed of 100 percent yard waste and no other municipal solid waste materials shall at no time cause to be discharged into the atmosphere from that incinerator any gases that exhibit greater than 10-percent opacity (6-minute average), except that an opacity level of up to 35 percent (6-minute average) is permitted during startup periods during the first 30 minutes of operation of the unit.

[60 FR 65419, Dec. 19, 1995, as amended at 62 FR 45126, Aug. 25, 1997]

**§ 60.57b Siting requirements.**

(a) The owner or operator of an affected facility shall prepare a materials separation plan, as defined in §60.51b, for the affected facility and its service area, and shall comply with the requirements specified in paragraphs (a)(1) through (a)(10) of this section. The initial application is defined as representing a good faith submittal as determined by EPA.

(1) The owner or operator shall prepare a preliminary draft materials separation plan and shall make the plan available to the public as specified in paragraphs (a)(1)(i) and (a)(1)(ii) of this section.

(i) The owner or operator shall distribute the preliminary draft materials separation plan to the principal public libraries in the area where the affected facility is to be constructed.

(ii) The owner or operator shall publish a notification of a public meeting in the principal newspaper(s) serving the area where the affected facility is to be constructed and where the waste treated by the affected facility will primarily be collected. As a minimum, the notification shall include the information specified in paragraphs (a)(1)(ii)(A) through (a)(1)(ii)(D) of this section.

(A) The date, time, and location of the public meeting.

(B) The location of the public libraries where the preliminary draft materials separation plan may be found, including normal business hours of the libraries.

(C) An agenda of the issues to be discussed at the public meeting.

(D) The dates that the public comment period on the preliminary draft materials separation plan begins and ends.

(2) The owner or operator shall conduct a public meeting, accept comments on the preliminary draft materials separation plan, and comply with the requirements specified in paragraphs (a)(2)(i) through (a)(2)(iv) of this section.

(i) The public meeting shall be conducted in the county where the affected facility is to be located.

(ii) The public meeting shall be scheduled to occur 30 days or more after making the preliminary draft materials separation plan available to the public as specified under paragraph (a)(1) of this section.

(iii) Suggested issues to be addressed at the public meeting are listed in paragraphs (a)(2)(iii)(A) through (a)(2)(iii)(H) of this section.

(A) The expected size of the service area for the affected facility.

(B) The amount of waste generation anticipated for the service area.

(C) The types and estimated amounts of materials proposed for separation.

(D) The methods proposed for materials separation.

(E) The amount of residual waste to be disposed.

(F) Alternate disposal methods for handling the residual waste.

(G) Identification of the location(s) where responses to public comment on the preliminary draft materials separation plan will be available for inspection, as specified in paragraphs (a)(3) and (a)(4) of this section.

(H) Identification of the locations where the final draft materials separation plan will be available for inspection, as specified in paragraph (a)(7).

(iv) Nothing in this section shall preclude an owner or operator from combining this public meeting with any other public meeting required as part of any other Federal, State, or local permit review process except the public meeting required under paragraph (b)(4) of this section.

(3) Following the public meeting required by paragraph (a)(2) of this section, the owner or operator shall prepare responses to the comments received at the public meeting.

(4) The owner or operator shall make the document summarizing responses to public comments available to the public (including distribution to the principal public libraries used to announce the meeting) in the service area where the affected facility is to be located.

(5) The owner or operator shall prepare a final draft materials separation plan for the affected facility considering the public comments received at the public meeting.

(6) As required under §60.59b(a), the owner or operator shall submit to EPA a copy of the notification of the public meeting, a transcript of the public meeting, the document summarizing responses to public comments, and copies of both the preliminary and final draft materials separation plans on or before the time the facility's application for a construction permit is submitted under 40 CFR part 51, subpart I, or part 52, as applicable.

(7) As part of the distribution of the siting analysis required under paragraph (b)(3) of this section, the owner or operator shall make the final draft materials separation plan required under paragraph (a)(5) of this section available to the public, as specified in paragraph (b)(3) of this section.

(8) As part of the public meeting for review of the siting analysis required under paragraph (b)(4) of this section, the owner or operator shall address questions concerning the final draft materials separation plan required by paragraph (a)(5) of this section including discussion of how the final draft materials separation plan has changed from the preliminary draft materials separation plan that was discussed at the first public meeting required by paragraph (a)(2) of this section.

(9) If the owner or operator receives any comments on the final draft materials separation plan during the public meeting required in paragraph (b)(4) of this section, the owner or operator shall respond to those comments in the document prepared in accordance with paragraph (b)(5) of this section.

(10) The owner or operator shall prepare a final materials separation plan and shall submit, as required under §60.59b(b)(5)(ii), the final materials separation plan as part of the initial notification of construction.

(b) The owner or operator of an affected facility for which the initial application for a construction permit under 40 CFR part 51, subpart I, or part 52, as applicable, is submitted after December 19, 1995 shall prepare a siting analysis in accordance with paragraphs (b)(1) and (b)(2) of this section and shall comply with the requirements specified in paragraphs (b)(3) through (b)(7) of this section.

(1) The siting analysis shall be an analysis of the impact of the affected facility on ambient air quality, visibility, soils, and vegetation.

(2) The analysis shall consider air pollution control alternatives that minimize, on a site-specific basis, to the maximum extent practicable, potential risks to the public health or the environment.

(3) The owner or operator shall make the siting analysis and final draft materials separation plan required by paragraph (a)(5) of this section available to the public as specified in paragraphs (b)(3)(i) and (b)(3)(ii) of this section.

(i) The owner or operator shall distribute the siting analysis and final draft materials separation plan to the principal public libraries in the area where the affected facility is to be constructed.

(ii) The owner or operator shall publish a notification of a public meeting in the principal newspaper(s) serving the area where the affected facility is to be constructed and where the waste treated by the affected facility will primarily be collected. As a minimum, the notification shall include the information specified in paragraphs (b)(3)(ii)(A) through (b)(3)(ii)(D) of this section.

(A) The date, time, and location of the public meeting.

(B) The location of the public libraries where the siting analyses and final draft materials separation plan may be found, including normal business hours.

(C) An agenda of the issues to be discussed at the public meeting.

(D) The dates that the public comment period on the siting analyses and final draft materials separation plan begins and ends.

(4) The owner or operator shall conduct a public meeting and accept comments on the siting analysis and the final draft materials separation plan required under paragraph (a)(5) of this section. The public meeting shall be conducted in the county where the affected facility is to be located and shall be scheduled to occur 30 days or more after making the siting analysis available to the public as specified under paragraph (b)(3) of this section.

(5) The owner or operator shall prepare responses to the comments on the siting analysis and the final draft materials separation plan that are received at the public meeting.

(6) The owner or operator shall make the document summarizing responses to public comments available to the public (including distribution to all public libraries) in the service area where the affected facility is to be located.

(7) As required under §60.59b(b)(5), the owner or operator shall submit a copy of the notification of the public meeting, a transcript of the public meeting, the document summarizing responses to public comments, and the siting analysis as part of the initial notification of construction.

(c) The owner or operator of an affected facility for which construction is commenced after September 20, 1994 shall prepare a siting analysis in accordance with 40 CFR part 51, Subpart I, or part 52, as applicable, and shall submit the siting analysis as part of the initial notification of construction. Affected facilities subject to paragraphs (a) and (b) of this section are not subject to this paragraph.

[60 FR 65419, Dec. 19, 1995, as amended at 62 FR 45126, Aug. 25, 1997; 71 FR 27337, May 10, 2006]

**§ 60.58b Compliance and performance testing.**

(a) The provisions for startup, shutdown, and malfunction are provided in paragraphs (a)(1) and (a)(2) of this section.

(1) Except as provided by §60.56b, the standards under this subpart apply at all times except during periods of startup, shutdown, and malfunction. Duration of startup, shutdown, or malfunction periods are limited to 3 hours per occurrence, except as provided in paragraph (a)(1)(iii) of this section. During periods of startup, shutdown, or malfunction, monitoring data shall be dismissed or excluded from compliance calculations, but shall be recorded and reported in accordance with the provisions of 40 CFR 60.59b(d)(7).

(i) The startup period commences when the affected facility begins the continuous burning of municipal solid waste and does not include any warmup period when the affected facility is combusting fossil fuel or other nonmunicipal solid waste fuel, and no municipal solid waste is being fed to the combustor.

(ii) Continuous burning is the continuous, semicontinuous, or batch feeding of municipal solid waste for purposes of waste disposal, energy production, or providing heat to the combustion system in preparation for waste disposal or energy production. The use of municipal solid waste solely to provide thermal protection of the grate or hearth during the startup period when municipal solid waste is not being fed to the grate is not considered to be continuous burning.

(iii) For the purpose of compliance with the carbon monoxide emission limits in §60.53b(a), if a loss of boiler water level control ( *e.g.*, boiler waterwall tube failure) or a loss of combustion air control ( *e.g.*, loss of combustion air fan, induced draft fan, combustion grate bar failure) is determined to be a malfunction, the duration of the malfunction period is limited to 15 hours per occurrence. During such periods of malfunction, monitoring data

shall be dismissed or excluded from compliance calculations, but shall be recorded and reported in accordance with the provisions of §60.59b(d)(7).

(2) The opacity limits for air curtain incinerators specified in §60.56b apply at all times as specified under §60.56b except during periods of malfunction. Duration of malfunction periods are limited to 3 hours per occurrence.

(b) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous emission monitoring system for measuring the oxygen or carbon dioxide content of the flue gas at each location where carbon monoxide, sulfur dioxide, nitrogen oxides emissions, or particulate matter (if the owner or operator elects to continuously monitor emissions under paragraph (n) of this section) are monitored and record the output of the system and shall comply with the test procedures and test methods specified in paragraphs (b)(1) through (b)(8) of this section.

(1) The span value of the oxygen (or 20 percent carbon dioxide) monitor shall be 25 percent oxygen (or 20 percent carbon dioxide).

(2) The monitor shall be installed, evaluated, and operated in accordance with §60.13 of subpart A of this part.

(3) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under §60.8 of subpart A of this part.

(4) The monitor shall conform to Performance Specification 3 in appendix B of this part except for section 2.3 (relative accuracy requirement).

(5) The quality assurance procedures of appendix F of this part except for section 5.1.1 (relative accuracy test audit) shall apply to the monitor.

(6) If carbon dioxide is selected for use in diluent 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 paragraphs (b)(6)(i) through (b)(6)(iv) of this section. 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 3, 3A, or 3B, or as an alternative ASME PTC–19–10–1981—Part 10, 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 three runs shall be performed.

(7) The relationship between carbon dioxide and oxygen concentrations that is established in accordance with paragraph (b)(6) of this section shall be submitted to EPA as part of the initial performance test report and, if applicable, as part of the annual test report if the relationship is reestablished during the annual performance test.

(8) During a loss of boiler water level control or loss of combustion air control malfunction period as specified in paragraph (a)(1)(iii) of this section, a diluent cap of 14 percent for oxygen or 5 percent for carbon dioxide may be used in the emissions calculations for sulfur dioxide and nitrogen oxides.

(c) Except as provided in paragraph (c)(10) of this section, the procedures and test methods specified in paragraphs (c)(1) through (c)(11) of this section shall be used to determine compliance with the emission limits for particulate matter and opacity under §60.52b(a)(1) and (a)(2).

(1) The EPA Reference Method 1 shall be used to select sampling site and number of traverse points.

(2) The EPA Reference Method 3, 3A or 3B, or as an alternative ASME PTC–19–10–1981—Part 10, as applicable, shall be used for gas analysis.

(3) EPA Reference Method 5 shall be used for determining compliance with the particulate matter emission limit. The minimum sample volume shall be 1.7 cubic meters. The probe and filter holder heating systems in the sample train shall be set to provide a gas temperature no greater than 160 °C. An oxygen or carbon dioxide measurement shall be obtained simultaneously with each Method 5 run.

(4) 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 as specified in paragraph (b)(6) of this section.

(5) As specified under §60.8 of subpart A of this part, all performance tests shall consist of three test runs. The average of the particulate matter emission concentrations from the three test runs is used to determine compliance.

(6) In accordance with paragraphs (c)(7) and (c)(11) of this section, EPA Reference Method 9 shall be used for determining compliance with the opacity limit except as provided under §60.11(e) of subpart A of this part.

(7) The owner or operator of an affected facility shall conduct an initial performance test for particulate matter emissions and opacity as required under §60.8 of subpart A of this part.

(8) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous opacity monitoring system for measuring opacity and shall follow the methods and procedures specified in paragraphs (c)(8)(i) through (c)(8)(iv) of this section.

(i) The output of the continuous opacity monitoring system shall be recorded on a 6-minute average basis.

(ii) The continuous opacity monitoring system shall be installed, evaluated, and operated in accordance with §60.13 of subpart A of this part.

(iii) The continuous opacity monitoring system shall conform to Performance Specification 1 in appendix B of this part.

(iv) The initial performance evaluation shall be completed no later than 180 days after the date of the initial startup of the municipal waste combustor unit, as specified under §60.8 of subpart A of this part.

(9) Following the date that the initial performance test for particulate matter is completed or is required to be completed under §60.8 of subpart A of this part for an affected facility, the owner or operator shall conduct a performance test for particulate matter on a calendar year basis (no less than 9 calendar months and no more than 15 calendar months following the previous performance test; and must complete five performance tests in each 5-year calendar period).

(10) In place of particulate matter testing with EPA Reference Method 5, an owner or operator may elect to install, calibrate, maintain, and operate a continuous emission monitoring system 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 elects to continuously monitor particulate matter emissions instead of conducting performance testing using EPA Method 5 shall install, calibrate, maintain, and operate a continuous emission monitoring system and shall comply with the requirements specified in paragraphs (c)(10)(i) through (c)(10)(xiv) of this section. The owner or operator who elects to continuously monitor particulate matter emissions instead of conducting performance testing using EPA Method 5 is not required to complete performance testing for particulate matter as specified in paragraph (c)(9) of this section and is not required to continuously monitor opacity as specified in paragraph (c)(8) of this section.

(i) Notify the Administrator one month before starting use of the system.

(ii) Notify the Administrator one month before stopping use of the system.

(iii) The monitor shall be installed, evaluated, and operated in accordance with §60.13 of subpart A of this part.

(iv) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under §60.8 of subpart A of this part or within 180 days of notification to the Administrator of use of the continuous monitoring system if the owner or operator was previously determining compliance by Method 5 performance tests, whichever is later.

(v) 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 as specified in paragraph (b)(6) of this section.

(vi) The owner or operator of an affected facility shall conduct an initial performance test for particulate matter emissions as required under §60.8 of subpart A of this part. Compliance with the particulate matter emission limit shall be determined by using the continuous emission monitoring system specified in paragraph (c)(10) of this section to measure particulate matter and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19, section 12.4.1.

(vii) Compliance with the particulate matter emission limit shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emission concentrations using continuous emission monitoring system outlet data.

(viii) After April 28, 2008, at a minimum, valid continuous monitoring system hourly averages shall be obtained as specified in paragraphs (c)(10)(viii)(A) and (c)(10)(viii)(B) for at least 90 percent of the operating hours per calendar quarter and 95 percent of the operating hours per calendar year that the affected facility is combusting municipal solid waste.

(A) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(B) Each particulate matter 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) continuous emission monitoring system data.

(ix) The 1-hour arithmetic averages required under paragraph (c)(10)(vii) of this section shall be expressed in milligrams per dry standard cubic meter corrected to 7 percent oxygen (dry basis) and shall be used to calculate the 24-hour daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under §60.13(e)(2) of subpart A of this part.

(x) All valid continuous emission monitoring system data shall be used in calculating average emission concentrations even if the minimum continuous emission monitoring system data requirements of paragraph (c)(10)(viii) of this section are not met.

(xi) The continuous emission monitoring system shall be operated according to Performance Specification 11 in appendix B of this part.

(xii) During each relative accuracy test run of the continuous emission monitoring system required by Performance Specification 11 in appendix B of this part, particulate matter and oxygen (or carbon dioxide) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in paragraphs (c)(10)(xii)(A) and (c)(10)(xii)(B) of this section.

(A) For particulate matter, EPA Reference Method 5 shall be used.

(B) For oxygen (or carbon dioxide), EPA Reference Method 3, 3A, or 3B, as applicable shall be used.

(xiii) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 2 in appendix F of this part.

(xiv) When particulate matter emissions data are not obtained because of continuous emission monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 to provide, as necessary, valid emissions data for a minimum of 90 percent of the hours per calendar quarter and 95 percent of the hours per calendar year that the affected facility is operated and combusting municipal solid waste.

(11) Following the date that the initial performance test for opacity is completed or is required to be completed under §60.8 of subpart A of this part for an affected facility, the owner or operator shall conduct a performance test for opacity on an annual basis (no less than 9 calendar months and no more than 15 calendar months following the previous performance test; and must complete five performance tests in each 5-year calendar period) using the test method specified in paragraph (c)(6) of this section.

(d) The procedures and test methods specified in paragraphs (d)(1) and (d)(2) of this section shall be used to determine compliance with the emission limits for cadmium, lead, and mercury under §60.52b(a).

(1) The procedures and test methods specified in paragraphs (d)(1)(i) through (d)(1)(ix) of this section shall be used to determine compliance with the emission limits for cadmium and lead under §60.52b(a) (3) and (4).

(i) The EPA Reference Method 1 shall be used for determining the location and number of sampling points.

(ii) The EPA Reference Method 3, 3A, or 3B, or as an alternative ASME PTC–19–10–1981—Part 10, as applicable, shall be used for flue gas analysis.

(iii) The EPA Reference Method 29 shall be used for determining compliance with the cadmium and lead emission limits.

(iv) An oxygen or carbon dioxide measurement shall be obtained simultaneously with each Method 29 test run for cadmium and lead required under paragraph (d)(1)(iii) of this section.

(v) The owner or operator of an affected facility may request that compliance with the cadmium or lead 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 as specified in paragraph (b)(6) of this section.

(vi) All performance tests shall consist of a minimum of three test runs conducted under representative full load operating conditions. The average of the cadmium or lead emission concentrations from three test runs or more shall be used to determine compliance.

(vii) Following the date of the initial performance test or the date on which the initial performance test is required to be completed under §60.8 of subpart A of this part, the owner or operator of an affected facility shall conduct a performance test for compliance with the emission limits for cadmium and lead on a calendar year basis (no less than 9 calendar months and no more than 15 calendar months following the previous performance test; and must complete five performance tests in each 5-year calendar period).

(viii)–(ix) [Reserved]

(2) The procedures and test methods specified in paragraphs (d)(2)(i) through (d)(2)(xi) of this section shall be used to determine compliance with the mercury emission limit under §60.52b(a)(5).

(i) The EPA Reference Method 1 shall be used for determining the location and number of sampling points.

(ii) The EPA Reference Method 3, 3A, or 3B, or as an alternative ASME PTC–19–10–1981—Part 10, as applicable, shall be used for flue gas analysis.

(iii) The EPA Reference Method 29 or as an alternative ASTM D6784–02 shall be used to determine the mercury emission concentration. The minimum sample volume when using Method 29 as an alternative ASTM D6784–02 for mercury shall be 1.7 cubic meters.

(iv) An oxygen (or carbon dioxide) measurement shall be obtained simultaneously with each Method 29 or as an alternative ASTM D6784–02 test run for mercury required under paragraph (d)(2)(iii) of this section.

(v) The percent reduction in the potential mercury emissions (%PHg) is computed using equation 1:

$$\left(\%P_{Hg}\right) = \left(\frac{E_i - E_o}{E_i}\right) \times 100 \qquad (1)$$

where:

$\%P_{Hg}$ = percent reduction of the potential mercury emissions achieved.

$E_i$ = potential mercury emission concentration measured at the control device inlet, corrected to 7 percent oxygen (dry basis).

$E_o$ = controlled mercury emission concentration measured at the mercury control device outlet, corrected to 7 percent oxygen (dry basis).

(vi) All performance tests shall consist of a minimum of three test runs conducted under representative full load operating conditions. The average of the mercury emission concentrations or percent reductions from three test runs or more is used to determine compliance.

(vii) The owner or operator of an affected facility may request that compliance with the mercury 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 as specified in paragraph (b)(6) of this section.

(viii) The owner or operator of an affected facility shall conduct an initial performance test for mercury emissions as required under §60.8 of subpart A of this part.

(ix) Following the date that the initial performance test for mercury is completed or is required to be completed under §60.8 of subpart A of this part, the owner or operator of an affected facility shall conduct a performance test for mercury emissions on a calendar year basis (no less than 9 calendar months and no more than 15 calendar months from the previous performance test; and must complete five performance tests in each 5-year calendar period).

(x) [Reserved]

(xi) The owner or operator of an affected facility where activated carbon injection is used to comply with the mercury emission limit shall follow the procedures specified in paragraph (m) of this section for measuring and calculating carbon usage.

(3) In place of cadmium and lead testing with EPA Reference Method 29 as an alternative ASTM D6784–02, an owner or operator may elect to install, calibrate, maintain, and operate a continuous emission monitoring system for monitoring cadmium and lead emissions discharged to the atmosphere and record the output of the system according to the provisions of paragraphs (n) and (o) of this section.

(4) In place of mercury testing with EPA Reference Method 29 or as an alternative ASTM D6784–02, an owner or operator may elect to install, calibrate, maintain, and operate a continuous emission monitoring system or a continuous automated sampling system for monitoring mercury emissions discharged to the atmosphere and record the output of the system according to the provisions of paragraphs (n) and (o) of this section, or paragraphs (p) and (q) of this section, as appropriate. The owner or operator who elects to continuously monitor mercury in place of mercury testing with EPA Reference Method 29 or as an alternative ASTM D6784–02 is not required to complete performance testing for mercury as specified in paragraph (d)(2)(ix) of this section.

(e) The procedures and test methods specified in paragraphs (e)(1) through (e)(14) of this section shall be used for determining compliance with the sulfur dioxide emission limit under §60.52b(b)(1).

(1) The EPA Reference Method 19, section 4.3, shall be used to calculate the daily geometric average sulfur dioxide emission concentration.

(2) The EPA Reference Method 19, section 5.4, shall be used to determine the daily geometric average percent reduction in the potential sulfur dioxide emission concentration.

(3) The owner or operator of an affected facility may request that compliance with the sulfur dioxide 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 as specified in paragraph (b)(6) of this section.

(4) The owner or operator of an affected facility shall conduct an initial performance test for sulfur dioxide emissions as required under §60.8 of subpart A of this part. Compliance with the sulfur dioxide emission limit (concentration or percent reduction) shall be determined by using the continuous emission monitoring system specified in paragraph (e)(5) of this section to measure sulfur dioxide and calculating a 24-hour daily geometric average emission concentration or a 24-hour daily geometric average percent reduction using EPA Reference Method 19, sections 4.3 and 5.4, as applicable.

(5) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous emission monitoring system for measuring sulfur dioxide emissions discharged to the atmosphere and record the output of the system.

(6) Following the date that the initial performance test for sulfur dioxide is completed or is required to be completed under §60.8 of subpart A of this part, compliance with the sulfur dioxide emission limit shall be determined based on the 24-hour daily geometric average of the hourly arithmetic average emission concentrations using continuous

emission monitoring system outlet data if compliance is based on an emission concentration, or continuous emission monitoring system inlet and outlet data if compliance is based on a percent reduction.

(7) At a minimum, valid continuous monitoring system hourly averages shall be obtained as specified in paragraphs (e)(7)(i) and (e)(7)(ii) for 90 percent of the operating hours per calendar quarter and 95 percent of the operating days per calendar year that the affected facility is combusting municipal solid waste.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) Each sulfur dioxide 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) continuous emission monitoring system data.

(8) The 1-hour arithmetic averages required under paragraph (e)(6) of this section shall be expressed in parts per million corrected to 7 percent oxygen (dry basis) and used to calculate the 24-hour daily geometric average emission concentrations and daily geometric average emission percent reductions. The 1-hour arithmetic averages shall be calculated using the data points required under §60.13(e)(2) of subpart A of this part.

(9) All valid continuous emission monitoring system data shall be used in calculating average emission concentrations and percent reductions even if the minimum continuous emission monitoring system data requirements of paragraph (e)(7) of this section are not met.

(10) The procedures under §60.13 of subpart A of this part shall be followed for installation, evaluation, and operation of the continuous emission monitoring system.

(11) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the municipal waste combustor as specified under §60.8 of subpart A of this part.

(12) The continuous emission monitoring system shall be operated according to Performance Specification 2 in appendix B of this part. For sources that have actual inlet emissions less than 100 parts per million dry volume, the relative accuracy criterion for inlet sulfur dioxide continuous emission monitoring systems 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 continuous emission monitoring systems, whichever is greater.

(i) During each relative accuracy test run of the continuous emission monitoring system required by Performance Specification 2 in appendix B of this part, sulfur dioxide and oxygen (or carbon dioxide) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in paragraphs (e)(12)(i)(A) and (e)(12)(i)(B) of this section.

(A) For sulfur dioxide, EPA Reference Method 6, 6A, or 6C, or as an alternative ASME PTC–19–10–1981—Part 10, shall be used.

(B) For oxygen (or carbon dioxide), EPA Reference Method 3, 3A, or 3B, or as an alternative ASME PTC–19–10–1981—Part 10, as applicable, shall be used.

(ii) The span value of the continuous emissions monitoring system at the inlet to the sulfur dioxide control device shall be 125 percent of the maximum estimated hourly potential sulfur dioxide emissions of the municipal waste combustor unit. The span value of the continuous emission monitoring system at the outlet of the sulfur dioxide control device shall be 50 percent of the maximum estimated hourly potential sulfur dioxide emissions of the municipal waste combustor unit.

(13) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 1 in appendix F of this part.

(14) When sulfur dioxide emissions data are not obtained because of continuous emission monitoring system breakdowns, repairs, calibration checks, and/or zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by EPA or EPA Reference Method 19 to provide, as necessary, valid emissions data for a minimum of 90 percent of the hours per calendar quarter and 95 percent of the hours per calendar year that the affected facility is operated and combusting municipal solid waste.

(f) The procedures and test methods specified in paragraphs (f)(1) through (f)(8) of this section shall be used for determining compliance with the hydrogen chloride emission limit under §60.52b(b)(2).

(1) The EPA Reference Method 26 or 26A, as applicable, shall be used to determine the hydrogen chloride emission concentration. The minimum sampling time shall be 1 hour.

(2) An oxygen (or carbon dioxide) measurement shall be obtained simultaneously with each test run for hydrogen chloride required by paragraph (f)(1) of this section.

(3) The percent reduction in potential hydrogen chloride emissions (% $P_{HCl}$) is computed using equation 2:

$$(\%P_{HCl}) = \left(\frac{E_i - E_o}{E_i}\right) \times 100 \qquad (2)$$

where:

$\%P_{HCl}$ = percent reduction of the potential hydrogen chloride emissions achieved.

$E_i$ = potential hydrogen chloride emission concentration measured at the control device inlet, corrected to 7 percent oxygen (dry basis).

$E_o$ = controlled hydrogen chloride emission concentration measured at the control device outlet, corrected to 7 percent oxygen (dry basis).

(4) The owner or operator of an affected facility may request that compliance with the hydrogen chloride 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 as specified in paragraph (b)(6) of this section.

(5) As specified under §60.8 of subpart A of this part, all performance tests shall consist of three test runs. The average of the hydrogen chloride emission concentrations or percent reductions from the three test runs is used to determine compliance.

(6) The owner or operator of an affected facility shall conduct an initial performance test for hydrogen chloride as required under §60.8 of subpart A of this part.

(7) Following the date that the initial performance test for hydrogen chloride is completed or is required to be completed under §60.8 of subpart A of this part, the owner or operator of an affected facility shall conduct a performance test for hydrogen chloride emissions on an annual basis (no more than 12 calendar months following the previous performance test).

(8) In place of hydrogen chloride testing with EPA Reference Method 26 or 26A, an owner or operator may elect to install, calibrate, maintain, and operate a continuous emission monitoring system for monitoring hydrogen chloride emissions discharged to the atmosphere and record the output of the system according to the provisions of paragraphs (n) and (o) of this section.

(g) The procedures and test methods specified in paragraphs (g)(1) through (g)(9) of this section shall be used to determine compliance with the limits for dioxin/furan emissions under §60.52b(c).

(1) The EPA Reference Method 1 shall be used for determining the location and number of sampling points.

(2) The EPA Reference Method 3, 3A, or 3B, or as an alternative ASME PTC–19–10–1981—Part 10, as applicable, shall be used for flue gas analysis.

(3) The EPA Reference Method 23 shall be used for determining the dioxin/furan emission concentration.

(i) The minimum sample time shall be 4 hours per test run.

(ii) An oxygen (or carbon dioxide) measurement shall be obtained simultaneously with each Method 23 test run for dioxins/furans.

(4) The owner or operator of an affected facility shall conduct an initial performance test for dioxin/furan emissions in accordance with paragraph (g)(3) of this section, as required under §60.8 of subpart A of this part.

(5) Following the date that the initial performance test for dioxins/furans is completed or is required to be completed under §60.8 of subpart A of this part, the owner or operator of an affected facility shall conduct performance tests

for dioxin/furan emissions in accordance with paragraph (g)(3) of this section, according to one of the schedules specified in paragraphs (g)(5)(i) through (g)(5)(iii) of this section.

(i) For affected facilities, performance tests shall be conducted on a calendar year basis (no less than 9 calendar months and no more than 15 calendar months following the previous performance test; and must complete five performance tests in each 5-year calendar period).

(ii) For the purpose of evaluating system performance to establish new operating parameter levels, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving facility performance or advancing the state-of-the-art for controlling facility emissions, the owner or operator of an affected facility that qualifies for the performance testing schedule specified in paragraph (g)(5)(iii) of this section, may test one unit for dioxin/furan and apply the dioxin/furan operating parameters to similarly designed and equipped units on site by meeting the requirements specified in paragraphs (g)(5)(ii)(A) through (g)(5)(ii)(D) of this section.

(A) Follow the testing schedule established in paragraph (g)(5)(iii) of this section. For example, each year a different affected facility at the municipal waste combustor plant shall be tested, and the affected facilities at the plant shall be tested in sequence ( *e.g.* , unit 1, unit 2, unit 3, as applicable).

(B) Upon meeting the requirements in paragraph (g)(5)(iii) of this section for one affected facility, the owner or operator may elect to apply the average carbon mass feed rate and associated carbon injection system operating parameter levels for dioxin/furan as established in paragraph (m) of this section to similarly designed and equipped units on site.

(C) Upon testing each subsequent unit in accordance with the testing schedule established in paragraph (g)(5)(iii) of this section, the dioxin/furan and mercury emissions of the subsequent unit shall not exceed the dioxin/furan and mercury emissions measured in the most recent test of that unit prior to the revised operating parameter levels.

(D) The owner or operator of an affected facility that selects to follow the performance testing schedule specified in paragraph (g)(5)(iii) of this section and apply the carbon injection system operating parameters to similarly designed and equipped units on site shall follow the procedures specified in §60.59b(g)(4) for reporting.

(iii) Where all performance tests over a 2-year period indicate that dioxin/furan emissions are less than or equal to 7 nanograms per dry standard cubic meter (total mass) for all affected facilities located within a municipal waste combustor plant, the owner or operator of the municipal waste combustor plant may elect to conduct annual performance tests for one affected facility (i.e., unit) per year at the municipal waste combustor plant. At a minimum, a performance test for dioxin/furan emissions shall be conducted on a calendar year basis (no less than 9 calendar months and no more than 15 months following the previous performance test; and must complete five performance tests in each 5-year calendar period) for one affected facility at the municipal waste combustor plant. Each year a different affected facility at the municipal waste combustor plant shall be tested, and the affected facilities at the plant shall be tested in sequence ( *e.g.* , unit 1, unit 2, unit 3, as applicable). If each annual performance test continues to indicate a dioxin/furan emission level less than or equal to 7 nanograms per dry standard cubic meter (total mass), the owner or operator may continue conducting a performance test on only one affected facility per calendar year. If any annual performance test indicates either a dioxin/furan emission level greater than 7 nanograms per dry standard cubic meter (total mass), performance tests shall thereafter be conducted annually on all affected facilities at the plant until and unless all annual performance tests for all affected facilities at the plant over a 2-year period indicate a dioxin/furan emission level less than or equal to 7 nanograms per dry standard cubic meter (total mass).

(6) The owner or operator of an affected facility that selects to follow the performance testing schedule specified in paragraph (g)(5)(iii) of this section shall follow the procedures specified in §60.59b(g)(4) for reporting the selection of this schedule.

(7) The owner or operator of an affected facility where activated carbon is used shall follow the procedures specified in paragraph (m) of this section for measuring and calculating the carbon usage rate.

(8) The owner or operator of an affected facility may request that compliance with the dioxin/furan 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 as specified in paragraph (b)(6) of this section.

(9) As specified under §60.8 of subpart A of this part, all performance tests shall consist of three test runs. The average of the dioxin/furan emission concentrations from the three test runs is used to determine compliance.

(10) In place of dioxin/furan sampling and testing with EPA Reference Method 23, an owner or operator may elect to sample dioxin/furan by installing, calibrating, maintaining, and operating a continuous automated sampling system for monitoring dioxin/furan emissions discharged to the atmosphere, recording the output of the system, and analyzing the sample using EPA Method 23. This option to use a continuous automated sampling system takes effect on the date a final performance specification applicable to dioxin/furan from monitors is published in the Federal Register or the date of approval of a site-specific monitoring plan. The owner or operator of an affected facility who elects to continuously sample dioxin/furan emissions instead of sampling and testing using EPA Method 23 shall install, calibrate, maintain, and operate a continuous automated sampling system and shall comply with the requirements specified in paragraphs (p) and (q) of this section.

(h) The procedures and test methods specified in paragraphs (h)(1) through (h)(12) of this section shall be used to determine compliance with the nitrogen oxides emission limit for affected facilities under §60.52b(d).

(1) The EPA Reference Method 19, section 4.1, shall be used for determining the daily arithmetic average nitrogen oxides emission concentration.

(2) 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. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph (b)(6) of this section.

(3) The owner or operator of an affected facility subject to the nitrogen oxides limit under §60.52b(d) shall conduct an initial performance test for nitrogen oxides as required under §60.8 of subpart A of this part. Compliance with the nitrogen oxides emission limit shall be determined by using the continuous emission monitoring system specified in paragraph (h)(4) of this section for measuring nitrogen oxides and calculating a 24-hour daily arithmetic average emission concentration using EPA Reference Method 19, section 4.1.

(4) The owner or operator of an affected facility subject to the nitrogen oxides emission limit under §60.52b(d) shall install, calibrate, maintain, and operate a continuous emission monitoring system for measuring nitrogen oxides discharged to the atmosphere, and record the output of the system.

(5) Following the date that the initial performance test for nitrogen oxides is completed or is required to be completed under §60.8 of subpart A of this part, compliance with the emission limit for nitrogen oxides required under §60.52b(d) shall be determined based on the 24-hour daily arithmetic average of the hourly emission concentrations using continuous emission monitoring system outlet data.

(6) At a minimum, valid continuous emission monitoring system hourly averages shall be obtained as specified in paragraphs (h)(6)(i) and (h)(6)(ii) of this section for 90 percent of the operating hours per calendar quarter and for 95 percent of the operating hours per calendar year that the affected facility is combusting municipal solid waste.

(i) At least 2 data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) Each nitrogen oxides 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) continuous emission monitoring system data.

(7) The 1-hour arithmetic averages required by paragraph (h)(5) of this section shall be expressed in parts per million by volume (dry basis) and used to calculate the 24-hour daily arithmetic average concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under §60.13(e)(2) of subpart A of this part.

(8) All valid continuous emission monitoring system data must be used in calculating emission averages even if the minimum continuous emission monitoring system data requirements of paragraph (h)(6) of this section are not met.

(9) The procedures under §60.13 of subpart A of this part shall be followed for installation, evaluation, and operation of the continuous emission monitoring system. The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the municipal waste combustor unit, as specified under §60.8 of subpart A of this part.

(10) The owner or operator of an affected facility shall operate the continuous emission monitoring system according to Performance Specification 2 in appendix B of this part and shall follow the procedures and methods specified in paragraphs (h)(10)(i) and (h)(10)(ii) of this section.

(i) During each relative accuracy test run of the continuous emission monitoring system required by Performance Specification 2 of appendix B of this part, nitrogen oxides and oxygen (or carbon dioxide) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in paragraphs (h)(10)(i)(A) and (h)(10)(i)(B) of this section.

(A) For nitrogen oxides, EPA Reference Method 7, 7A, 7C, 7D, or 7E shall be used.

(B) For oxygen (or carbon dioxide), EPA Reference Method 3, 3A, or 3B, or as an alternative ASME PTC–19–10–1981—Part 10, as applicable, shall be used.

(ii) The span value of the continuous emission monitoring system shall be 125 percent of the maximum estimated hourly potential nitrogen oxide emissions of the municipal waste combustor unit.

(11) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 1 in appendix F of this part.

(12) When nitrogen oxides continuous emission data are not obtained because of continuous emission monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained using other monitoring systems as approved by EPA or EPA Reference Method 19 to provide, as necessary, valid emissions data for a minimum of 90 percent of the hours per calendar quarter and 95 percent of the hours per calendar year the unit is operated and combusting municipal solid waste.

(i) The procedures specified in paragraphs (i)(1) through (i)(12) of this section shall be used for determining compliance with the operating requirements under §60.53b.

(1) Compliance with the carbon monoxide emission limits in §60.53b(a) shall be determined using a 4-hour block arithmetic average for all types of affected facilities except mass burn rotary waterwall municipal waste combustors and refuse-derived fuel stokers.

(2) For affected mass burn rotary waterwall municipal waste combustors and refuse-derived fuel stokers, compliance with the carbon monoxide emission limits in §60.53b(a) shall be determined using a 24-hour daily arithmetic average.

(3) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous emission monitoring system for measuring carbon monoxide at the combustor outlet and record the output of the system and shall follow the procedures and methods specified in paragraphs (i)(3)(i) through (i)(3)(iii) of this section.

(i) The continuous emission monitoring system shall be operated according to Performance Specification 4A in appendix B of this part.

(ii) During each relative accuracy test run of the continuous emission monitoring system required by Performance Specification 4A in appendix B of this part, carbon monoxide and oxygen (or carbon dioxide) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in paragraphs (i)(3)(ii)(A) and (i)(3)(ii)(B) of this section. For affected facilities subject to the 100 parts per million dry volume carbon monoxide standard, the relative accuracy criterion of 5 parts per million dry volume is calculated as the absolute value of the mean difference between the reference method and continuous emission monitoring systems.

(A) For carbon monoxide, EPA Reference Method 10, 10A, or 10B shall be used.

(B) For oxygen (or carbon dioxide), EPA Reference Method 3, 3A, or 3B, or ASME PTC–19–10–1981—Part 10 (incorporated by reference, see §60.17 of subpart A of this part), as applicable, shall be used.

(iii) The span value of the continuous emission monitoring system shall be 125 percent of the maximum estimated hourly potential carbon monoxide emissions of the municipal waste combustor unit.

(4) The 4-hour block and 24-hour daily arithmetic averages specified in paragraphs (i)(1) and (i)(2) of this section shall be calculated from 1-hour arithmetic averages expressed in parts per million by volume corrected to 7 percent oxygen (dry basis). The 1-hour arithmetic averages shall be calculated using the data points generated by the continuous emission monitoring system. At least two data points shall be used to calculate each 1-hour arithmetic average.

(5) The owner or operator of an affected facility may request that compliance with the carbon monoxide 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 as specified in paragraph (b)(6) of this section.

(6) The procedures specified in paragraphs (i)(6)(i) through (i)(6)(v) of this section shall be used to determine compliance with load level requirements under §60.53b(b).

(i) The owner or operator of an affected facility with steam generation capability shall install, calibrate, maintain, and operate a steam flow meter or a feedwater flow meter; measure steam (or feedwater) flow in kilograms per hour (or pounds per hour) on a continuous basis; and record the output of the monitor. Steam (or feedwater) flow shall be calculated in 4-hour block arithmetic averages.

(ii) The method included in the "American Society of Mechanical Engineers Power Test Codes: Test Code for Steam Generating Units, Power Test Code 4.1—1964 (R1991)" section 4 (incorporated by reference, see §60.17 of subpart A of this part) shall be used for calculating the steam (or feedwater) flow required under paragraph (i)(6)(i) of this section. The recommendations in "American Society of Mechanical Engineers Interim Supplement 19.5 on Instruments and Apparatus: Application, Part II of Fluid Meters, 6th edition (1971)," chapter 4 (incorporated by reference—see §60.17 of subpart A of this part) shall be followed for design, construction, installation, calibration, and use of nozzles and orifices except as specified in (i)(6)(iii) of this section.

(iii) Measurement devices such as flow nozzles and orifices are not required to be recalibrated after they are installed.

(iv) All signal conversion elements associated with steam (or feedwater flow) measurements must be calibrated according to the manufacturer's instructions before each dioxin/furan performance test, and at least once per year.

(7) To determine compliance with the maximum particulate matter control device temperature requirements under §60.53b(c), the owner or operator of an affected facility shall install, calibrate, maintain, and operate a device for measuring on a continuous basis the temperature of the flue gas stream at the inlet to each particulate matter control device utilized by the affected facility. Temperature shall be calculated in 4-hour block arithmetic averages.

(8) The maximum demonstrated municipal waste combustor unit load shall be determined during the initial performance test for dioxins/furans and each subsequent performance test during which compliance with the dioxin/furan emission limit specified in §60.52b(c) is achieved. The maximum demonstrated municipal waste combustor unit load shall be the highest 4-hour arithmetic average load achieved during four consecutive hours during the most recent test during which compliance with the dioxin/furan emission limit was achieved. If a subsequent dioxin/furan performance test is being performed on only one affected facility at the MWC plant, as provided in paragraph (g)(5)(iii) of this section, the owner or operator may elect to apply the same maximum municipal waste combustor unit load from the tested facility for all the similarly designed and operated affected facilities at the MWC plant.

(9) For each particulate matter control device employed at the affected facility, the maximum demonstrated particulate matter control device temperature shall be determined during the initial performance test for dioxins/furans and each subsequent performance test during which compliance with the dioxin/furan emission limit specified in §60.52b(c) is achieved. The maximum demonstrated particulate matter control device temperature shall be the highest 4-hour arithmetic average temperature achieved at the particulate matter control device inlet during four consecutive hours during the most recent test during which compliance with the dioxin/furan limit was achieved. If a subsequent

dioxin/furan performance test is being performed on only one affected facility at the MWC plant, as provided in paragraph (g)(5)(iii) of this section, the owner or operator may elect to apply the same maximum particulate matter control device temperature from the tested facility for all the similarly designed and operated affected facilities at the MWC plant.

(10) At a minimum, valid continuous emission monitoring system hourly averages shall be obtained as specified in paragraphs (i)(10)(i) and (i)(10)(ii) of this section for at least 90 percent of the operating hours per calendar quarter and 95 percent of the operating hours per calendar year that the affected facility is combusting municipal solid waste.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) At a minimum, each carbon monoxide 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) continuous emission monitoring system data.

(11) All valid continuous emission monitoring system data must be used in calculating the parameters specified under paragraph (i) of this section even if the minimum data requirements of paragraph (i)(10) of this section are not met. When carbon monoxide continuous emission data are not obtained because of continuous emission monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained using other monitoring systems as approved by EPA or EPA Reference Method 10 to provide, as necessary, the minimum valid emission data.

(12) Quarterly accuracy determinations and daily calibration drift tests for the carbon monoxide continuous emission monitoring system shall be performed in accordance with procedure 1 in appendix F of this part.

(j) The procedures specified in paragraphs (j)(1) and (j)(2) of this section shall be used for calculating municipal waste combustor unit capacity as defined under §60.51b.

(1) For municipal waste combustor units capable of combusting municipal solid waste continuously for a 24-hour period, municipal waste combustor unit capacity shall be calculated based on 24 hours of operation at the maximum charging rate. The maximum charging rate shall be determined as specified in paragraphs (j)(1)(i) and (j)(1)(ii) of this section as applicable.

(i) For combustors that are designed based on heat capacity, the maximum charging rate shall be calculated based on the maximum design heat input capacity of the unit and a heating value of 12,800 kilojoules per kilogram for combustors firing refuse-derived fuel and a heating value of 10,500 kilojoules per kilogram for combustors firing municipal solid waste that is not refuse-derived fuel.

(ii) For combustors that are not designed based on heat capacity, the maximum charging rate shall be the maximum design charging rate.

(2) For batch feed municipal waste combustor units, municipal waste combustor unit capacity shall be calculated as the maximum design amount of municipal solid waste that can be charged per batch multiplied by the maximum number of batches that could be processed in a 24-hour period. The maximum number of batches that could be processed in a 24-hour period is calculated as 24 hours divided by the design number of hours required to process one batch of municipal solid waste, and may include fractional batches (e.g., if one batch requires 16 hours, then 24/16, or 1.5 batches, could be combusted in a 24-hour period). For batch combustors that are designed based on heat capacity, the design heating value of 12,800 kilojoules per kilogram for combustors firing refuse-derived fuel and a heating value of 10,500 kilojoules per kilogram for combustors firing municipal solid waste that is not refuse-derived fuel shall be used in calculating the municipal waste combustor unit capacity in megagrams per day of municipal solid waste.

(k) The procedures specified in paragraphs (k)(1) through (k)(4) of this section shall be used for determining compliance with the fugitive ash emission limit under §60.55b.

(1) The EPA Reference Method 22 shall be used for determining compliance with the fugitive ash emission limit under §60.55b. The minimum observation time shall be a series of three 1-hour observations. The observation period shall include times when the facility is transferring ash from the municipal waste combustor unit to the area where ash is stored or loaded into containers or trucks.

(2) The average duration of visible emissions per hour shall be calculated from the three 1-hour observations. The average shall be used to determine compliance with §60.55b.

(3) The owner or operator of an affected facility shall conduct an initial performance test for fugitive ash emissions as required under §60.8 of subpart A of this part.

(4) Following the date that the initial performance test for fugitive ash emissions is completed or is required to be completed under §60.8 of subpart A of this part for an affected facility, the owner or operator shall conduct a performance test for fugitive ash emissions on an annual basis (no more than 12 calendar months following the previous performance test).

(l) The procedures specified in paragraphs (l)(1) through (l)(3) of this section shall be used to determine compliance with the opacity limit for air curtain incinerators under §60.56b.

(1) The EPA Reference Method 9 shall be used for determining compliance with the opacity limit.

(2) The owner or operator of the air curtain incinerator shall conduct an initial performance test for opacity as required under §60.8 of subpart A of this part.

(3) Following the date that the initial performance test is completed or is required to be completed under §60.8 of subpart A of this part, the owner or operator of the air curtain incinerator shall conduct a performance test for opacity on an annual basis (no more than 12 calendar months following the previous performance test).

(m) The owner or operator of an affected facility where activated carbon injection is used to comply with the mercury emission limit under §60.52b(a)(5), and/or the dioxin/furan emission limits under §60.52(b)(c), or the dioxin/furan emission level specified in paragraph (g)(5)(iii) of this section shall follow the procedures specified in paragraphs (m)(1) through (m)(4) of this section.

(1) During the performance tests for dioxins/furans and mercury, as applicable, the owner or operator shall estimate an average carbon mass feed rate based on carbon injection system operating parameters such as the screw feeder speed, hopper volume, hopper refill frequency, or other parameters appropriate to the feed system being employed, as specified in paragraphs (m)(1)(i) and (m)(1)(ii) of this section.

(i) An average carbon mass feed rate in kilograms per hour or pounds per hour shall be estimated during the initial performance test for mercury emissions and each subsequent performance test for mercury emissions.

(ii) An average carbon mass feed rate in kilograms per hour or pounds per hour shall be estimated during the initial performance test for dioxin/furan emissions and each subsequent performance test for dioxin/furan emissions. If a subsequent dioxin/furan performance test is being performed on only one affected facility at the MWC plant, as provided in paragraph (g)(5)(iii) of this section, the owner or operator may elect to apply the same estimated average carbon mass feed rate from the tested facility for all the similarly designed and operated affected facilities at the MWC plant.

(2) During operation of the affected facility, the carbon injection system operating parameter(s) that are the primary indicator(s) of the carbon mass feed rate ( *e.g.* , screw feeder setting) shall be averaged over a block 8-hour period, and the 8-hour block average must equal or exceed the level(s) documented during the performance tests specified under paragraphs (m)(1)(i) and (m)(1)(ii) of this section, except as specified in paragraphs (m)(2)(i) and (m)(2)(ii) of this section.

(i) During the annual dioxin/furan or mercury performance test and the 2 weeks preceding the annual dioxin/furan or mercury performance test, no limit is applicable for average mass carbon feed rate if the provisions of paragraph (m)(2)(ii) of this section are met.

(ii) The limit for average mass carbon feed rate may be waived in accordance with permission granted by the Administrator for the purpose of evaluating system performance, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving facility performance or advancing the state-of-the-art for controlling facility emissions.

(3) The owner or operator of an affected facility shall estimate the total carbon usage of the plant (kilograms or pounds) for each calendar quarter by two independent methods, according to the procedures in paragraphs (m)(3)(i) and (m)(3)(ii) of this section.

(i) The weight of carbon delivered to the plant.

(ii) Estimate the average carbon mass feed rate in kilograms per hour or pounds per hour for each hour of operation for each affected facility based on the parameters specified under paragraph (m)(1) of this section, and sum the results for all affected facilities at the plant for the total number of hours of operation during the calendar quarter.

(4) Pneumatic injection pressure or other carbon injection system operational indicator shall be used to provide additional verification of proper carbon injection system operation. The operational indicator shall provide an instantaneous visual and/or audible alarm to alert the operator of a potential interruption in the carbon feed that would not normally be indicated by direct monitoring of carbon mass feed rate ( *e.g.* , continuous weight loss feeder) or monitoring of the carbon system operating parameter(s) that are the indicator(s) of carbon mass feed rate ( *e.g.* , screw feeder speed). The carbon injection system operational indicator used to provide additional verification of carbon injection system operation, including basis for selecting the indicator and operator response to the indicator alarm, shall be included in section (e)(6) of the site-specific operating manual required under §60.54b(e) of this subpart.

(n) In place of periodic manual testing of mercury, cadmium, lead, or hydrogen chloride with EPA Reference Method 26, 26A, 29, or as an alternative ASTM D6784–02 (as applicable), the owner or operator of an affected facility may elect to install, calibrate, maintain, and operate a continuous emission monitoring system for monitoring emissions discharged to the atmosphere and record the output of the system. The option to use a continuous emission monitoring system for mercury takes effect on the date of approval of the site-specific monitoring plan required in paragraph (n)(13) and (o) of this section. The option to use a continuous emission monitoring system for cadmium, lead, or hydrogen chloride takes effect on the date a final performance specification applicable to cadmium, lead, or hydrogen chloride monitor is published in the Federal Register or the date of approval of the site-specific monitoring plan required in paragraphs (n)(13) and (o) of this section. The owner or operator of an affected facility who elects to continuously monitor emissions instead of conducting manual performance testing shall install, calibrate, maintain, and operate a continuous emission monitoring system and shall comply with the requirements specified in paragraphs (n)(1) through (n)(13) of this section.

(1) Notify the Administrator one month before starting use of the system.

(2) Notify the Administrator one month before stopping use of the system.

(3) The monitor shall be installed, evaluated, and operated in accordance with §60.13 of subpart A of this part.

(4) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under §60.8 of subpart A of this part or within 180 days of notification to the Administrator of use of the continuous monitoring system if the owner or operator was previously determining compliance by Method 26, 26A, 29, or as an alternative ASTM D6784–02 (as applicable) performance tests, whichever is later.

(5) The owner or operator may request that compliance with the emission limits 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 as specified in paragraph (b)(6) of this section.

(6) The owner or operator shall conduct an initial performance test for emissions as required under §60.8 of subpart A of this part. Compliance with the emission limits shall be determined by using the continuous emission monitoring system specified in paragraph (n) of this section to measure emissions and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19, section 12.4.1.

(7) Compliance with the emission limits shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emission concentrations using continuous emission monitoring system outlet data.

(8) Beginning on April 28, 2008 for mercury and on the date two years after final performance specifications for cadmium, lead or hydrogen chloride monitors are published in the Federal Register or the date two years after approval of a site-specific monitoring plan, valid continuous monitoring system hourly averages shall be obtained as specified in paragraphs (n)(8)(i) and (n)(8)(ii) of this section for at least 90 percent of the operating hours per calendar quarter and 95 percent of the operating hours per calendar year that the affected facility is combusting municipal solid waste.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) Each 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) continuous emission monitoring system data.

(9) The 1-hour arithmetic averages required under paragraph (n)(7) of this section shall be expressed in micrograms per dry standard cubic meter for mercury, cadmium, lead and parts per million dry volume for hydrogen chloride corrected to 7 percent oxygen (dry basis) and shall be used to calculate the 24-hour daily arithmetic (block) average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under §60.13(e)(2) of subpart A of this part.

(10) All valid continuous emission monitoring system data shall be used in calculating average emission concentrations even if the minimum continuous emission monitoring system data requirements of paragraph (n)(8) of this section are not met.

(11) The continuous emission monitoring system shall be operated according to the performance specifications in paragraphs (n)(11)(i) through (n)(11)(iii) of this section or the approved site-specific monitoring plan.

(i) For mercury, Performance Specification 12A in appendix B of this part.

(ii) [Reserved]

(iii) [Reserved]

(12) During each relative accuracy test run of the continuous emission monitoring system required by the performance specifications in paragraph (n)(11) of this section, mercury, cadmium, lead, hydrogen chloride, and oxygen (or carbon dioxide) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in paragraphs (n)(12)(i) through (n)(12)(iii) of this section.

(i) For mercury, cadmium, and lead, EPA Reference Method 29 or as an alternative ASTM D6784–02 shall be used.

(ii) For hydrogen chloride, EPA Reference Method 26 or 26A shall be used.

(iii) For oxygen (or carbon dioxide), EPA Reference Method 3, 3A, or 3B, as applicable shall be used.

(13) The owner or operator who elects to install, calibrate, maintain, and operate a continuous emission monitoring system for mercury, cadmium, lead, or hydrogen chloride must develop and implement a site-specific monitoring plan as specified in paragraph (o) of this section. The owner or operator who relies on a performance specification may refer to that document in addressing applicable procedures and criteria.

(14) When emissions data are not obtained because of continuous emission monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, parametric monitoring data shall be obtained by using other monitoring systems as approved by EPA.

(o) The owner or operator who elects to install, calibrate, maintain, and operate a continuous emission monitoring system for mercury, cadmium, lead, or hydrogen chloride must develop and submit for approval by EPA, a site-specific mercury, cadmium, lead, or hydrogen chloride monitoring plan that addresses the elements and requirements in paragraphs (o)(1) through (o)(7) of this section.

(1) Installation of the continuous emission 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).

(2) Performance and equipment specifications for the sample interface, the pollutant concentration analyzer, and the data collection and reduction system.

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

(4) Provisions for periods when the continuous emission monitoring system is out of control as described in paragraphs (o)(4)(i) through (o)(4)(iii) of this section.

(i) A continuous emission monitoring system is out of control if either of the conditions in paragraphs (o)(4)(i)(A) or (o)(4)(ii)(B) of this section are met.

(A) The zero (low-level), mid-level (if applicable), or high-level calibration drift exceeds two times the applicable calibration drift specification in the applicable performance specification or in the relevant standard; or

(B) The continuous emission monitoring system fails a performance test audit ( *e.g.* , cylinder gas audit), relative accuracy audit, relative accuracy test audit, or linearity test audit.

(ii) When the continuous emission monitoring system is out of control as defined in paragraph (o)(4)(i) of this section, the owner or operator of the affected source shall take the necessary corrective action and shall repeat all necessary tests that indicate that the system is out of control. The owner or operator shall take corrective action and conduct retesting until the performance requirements are below the applicable limits. The beginning of the out-of-control period is the hour the owner or operator conducts a performance check ( *e.g.* , calibration drift) that indicates an exceedance of the performance requirements established under this part. The end of the out-of-control period is the hour following the completion of corrective action and successful demonstration that the system is within the allowable limits. During the period the continuous emission monitoring system is out of control, recorded data shall not be used in data averages and calculations or to meet any data availability requirements in paragraph (n)(8) of this section.

(iii) The owner or operator of a continuous emission monitoring system that is out of control as defined in paragraph (o)(4) of this section shall submit all information concerning out-of-control periods, including start and end dates and hours and descriptions of corrective actions taken in the annual or semiannual compliance reports required in §60.59b(g) or (h).

(5) Ongoing data quality assurance procedures for continuous emission monitoring systems as described in paragraphs (o)(5)(i) and (o)(5)(ii) of this section.

(i) Develop and implement a continuous emission monitoring system quality control program. As part of the quality control program, the owner or operator shall develop and submit to EPA for approval, upon request, a site-specific performance evaluation test plan for the continuous emission monitoring system performance evaluation required in paragraph (o)(5)(ii) of this section. In addition, each quality control program shall include, at a minimum, a written protocol that describes procedures for each of the operations described in paragraphs (o)(7)(i)(A) through (o)(7)(i)(F) of this section.

(A) Initial and any subsequent calibration of the continuous emission monitoring system;

(B) Determination and adjustment of the calibration drift of the continuous emission monitoring system;

(C) Preventive maintenance of the continuous emission monitoring system, including spare parts inventory;

(D) Data recording, calculations, and reporting;

(E) Accuracy audit procedures, including sampling and analysis methods; and

(F) Program of corrective action for a malfunctioning continuous emission monitoring system.

(ii) The performance evaluation test plan shall include the evaluation program objectives, an evaluation program summary, the performance evaluation schedule, data quality objectives, and both an internal and external quality assurance program. Data quality objectives are the pre-evaluation expectations of precision, accuracy, and completeness of data. The internal quality assurance program shall include, at a minimum, the activities planned by routine operators and analysts to provide an assessment of continuous emission monitoring system performance, for example, plans for relative accuracy testing using the appropriate reference method in §60.58b(n)(12) of this section. The external quality assurance program shall include, at a minimum, systems audits that include the opportunity for on-site evaluation by the Administrator of instrument calibration, data validation, sample logging, and documentation of quality control data and field maintenance activities.

(6) Conduct a performance evaluation of each continuous emission monitoring system in accordance with the site-specific monitoring plan.

(7) Operate and maintain the continuous emission monitoring system in continuous operation according to the site-specific monitoring plan.

(p) In place of periodic manual testing of dioxin/furan or mercury with EPA Reference Method 23, 29, or as an alternative ASTM D6784–02 (as applicable), the owner or operator of an affected facility may elect to install, calibrate, maintain, and operate a continuous automated sampling system for determining emissions discharged to the atmosphere. This option takes effect on the date a final performance specification applicable to such continuous automated sampling systems is published in the Federal Register or the date of approval of a site-specific monitoring plan required in paragraphs (p)(10) and (q) of this section. The owner or operator of an affected facility who elects to use a continuous automated sampling system to determine emissions instead of conducting manual performance testing shall install, calibrate, maintain, and operate the sampling system and conduct analyses in compliance with the requirements specified in paragraphs (p)(1) through (p)(12) of this section.

(1) Notify the Administrator one month before starting use of the system.

(2) Notify the Administrator one month before stopping use of the system.

(3) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under §60.8 of subpart A of this part or within 180 days of notification to the Administrator of use of the continuous monitoring system if the owner or operator was previously determining compliance by manual performance testing using Method 23, 29, or as an alternative ASTM D6784–02 (as applicable), whichever is later.

(4) The owner or operator may request that compliance with the emission limits 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 as specified in paragraph (b)(6) of this section.

(5) The owner or operator shall conduct an initial performance test for emissions as required under §60.8 of subpart A of this part. Compliance with the emission limits shall be determined by using the continuous automated sampling system specified in paragraph (p) of this section to collect integrated samples and analyze emissions for the time period specified in paragraphs (p)(5)(i) and (ii) of this section.

(i) For dioxin/furan, the continuous automated sampling system shall collect an integrated sample over each 2-week period. The collected sample shall be analyzed using Method 23.

(ii) For mercury, the continuous automated sampling system shall collect an integrated sample over each 24-hour daily period and the sample shall be analyzed according to the applicable final performance specification or the approved site-specific monitoring plan required by paragraph (q) of this section.

(6) Compliance with the emission limits shall be determined based on 2-week emission concentrations for dioxin/furan and on the 24-hour daily emission concentrations for mercury using samples collected at the system outlet. The emission concentrations shall be expressed in nanograms per dry standard cubic meter (total mass) for dioxin/furan and micrograms per dry standard cubic meter for mercury, corrected to 7 percent oxygen (dry basis).

(7) Beginning on the date two years after the respective final performance specification for continuous automated sampling systems for dioxin/furan or mercury is published in the Federal Register or two years after approval of a site-specific monitoring plan, the continuous automated sampling system must be operated and collect emissions for at least 90 percent of the operating hours per calendar quarter and 95 percent of the operating hours per calendar year that the affected facility is combusting municipal solid waste.

(8) All valid data shall be used in calculating emission concentrations.

(9) The continuous automated sampling system shall be operated according to the final performance specification in paragraphs (p)(9)(i) or (p)(9)(ii) of this section or the approved site-specific monitoring plan.

(i) [Reserved]

(ii) [Reserved]

(10) The owner or operator who elects to install, calibrate, maintain, and operate a continuous automated sampling system for dioxin/furan or mercury must develop and implement a site-specific monitoring plan as specified in paragraph (q) of this section. The owner or operator who relies on a performance specification may refer to that document in addressing applicable procedures and criteria.

(11) When emissions data are not obtained because of continuous automated sampling system breakdowns, repairs, quality assurance checks, or adjustments, parametric monitoring data shall be obtained by using other monitoring systems as approved by EPA.

(q) The owner or operator who elects to install, calibrate, maintain, and operate a continuous automated sampling system for dioxin/furan or mercury must develop and submit for approval by EPA, a site-specific monitoring plan that has sufficient detail to assure the validity of the continuous automated sampling system data and that addresses the elements and requirements in paragraphs (q)(1) through (q)(7) of this section.

(1) Installation of the continuous automated sampling 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).

(2) Performance and equipment specifications for the sample interface, the pollutant concentration analytical method, and the data collection system.

(3) Performance evaluation procedures and acceptance criteria.

(4) Provisions for periods when the continuous automated sampling system is malfunctioning or is out of control as described in paragraphs (q)(4)(i) through (q)(4)(iii) of this section.

(i) The site-specific monitoring plan shall identify criteria for determining that the continuous automated sampling system is out of control. This shall include periods when the sampling system is not collecting a representative sample or is malfunctioning, or when the analytical method does not meet site-specific quality criteria established in paragraph (q)(5) of this section.

(ii) When the continuous automated sampling system is out of control as defined in paragraph (q)(4)(i) of this section, the owner or operator shall take the necessary corrective action and shall repeat all necessary tests that indicate that the system is out of control. The owner or operator shall take corrective action and conduct retesting until the performance requirements are within the applicable limits. The out-of-control period includes all hours that the sampling system was not collecting a representative sample or was malfunctioning, or hours represented by a sample for which the analysis did not meet the relevant quality criteria. Emissions data obtained during an out-of-control period shall not be used in determining compliance with the emission limits or to meet any data availability requirements in paragraph (p)(8) of this section.

(iii) The owner or operator of a continuous automated sampling system that is out of control as defined in paragraph (q)(4) of this section shall submit all information concerning out-of-control periods, including start and end dates and hours and descriptions of corrective actions taken in the annual or semiannual compliance reports required in §60.59b(g) or (h).

(5) Ongoing data quality assurance procedures for continuous automated sampling systems as described in paragraphs (q)(5)(i) and (q)(5)(ii) of this section.

(i) Develop and implement a continuous automated sampling system and analysis quality control program. As part of the quality control program, the owner or operator shall develop and submit to EPA for approval, upon request, a site-specific performance evaluation test plan for the continuous automated sampling system performance evaluation required in paragraph (q)(5)(ii) of this section. In addition, each quality control program shall include, at a minimum, a written protocol that describes procedures for each of the operations described in paragraphs (q)(7)(i)(A) through (q)(7)(i)(F) of this section.

(A) Correct placement, installation of the continuous automated sampling system such that the system is collecting a representative sample of gas;

(B) Initial and subsequent calibration of flow such that the sample collection rate of the continuous automated sampling system is known and verifiable;

(C) Procedures to assure representative ( *e.g.* , proportional or isokinetic) sampling;

(D) Preventive maintenance of the continuous automated sampling system, including spare parts inventory and procedures for cleaning equipment, replacing sample collection media, or other servicing at the end of each sample collection period;

(E) Data recording and reporting, including an automated indicator and recording device to show when the continuous automated monitoring system is operating and collecting data and when it is not collecting data;

(F) Accuracy audit procedures for analytical methods; and

(G) Program of corrective action for a malfunctioning continuous automated sampling system.

(ii) The performance evaluation test plan shall include the evaluation program objectives, an evaluation program summary, the performance evaluation schedule, data quality objectives, and both an internal and external quality assurance program. Data quality objectives are the pre-evaluation expectations of precision, accuracy, and completeness of data. The internal quality assurance program shall include, at a minimum, the activities planned by routine operators and analysts to provide an assessment of continuous automated sampling system performance, for example, plans for relative accuracy testing using the appropriate reference method in 60.58b(p)(3), and an assessment of quality of analysis results. The external quality assurance program shall include, at a minimum, systems audits that include the opportunity for on-site evaluation by the Administrator of instrument calibration, data validation, sample logging, and documentation of quality control data and field maintenance activities.

(6) Conduct a performance evaluation of each continuous automated sampling system in accordance with the site-specific monitoring plan.

(7) Operate and maintain the continuous automated sampling system in continuous operation according to the site-specific monitoring plan.

[60 FR 65419, Dec. 19, 1995, as amended at 62 FR 45126, Aug. 25, 1997; 65 FR 61753, Oct. 17, 2000; 66 FR 57827, Nov. 16, 2001; 71 FR 27337, May 10, 2006]

**§ 60.59b Reporting and recordkeeping requirements.**

(a) The owner or operator of an affected facility with a capacity to combust greater than 250 tons per day shall submit, on or before the date the application for a construction permit is submitted under 40 CFR part 51, subpart I, or part 52, as applicable, the items specified in paragraphs (a)(1) through (a)(4) of this section.

(1) The preliminary and final draft materials separation plans required by §60.57b(a)(1) and (a)(5).

(2) A copy of the notification of the public meeting required by §60.57b(a)(1)(ii).

(3) A transcript of the public meeting required by §60.57b(a)(2).

(4) A copy of the document summarizing responses to public comments required by §60.57b(a)(3).

(b) The owner or operator of an affected facility with a capacity to combust greater than 250 tons per day shall submit a notification of construction, which includes the information specified in paragraphs (b)(1) through (b)(5) of this section.

(1) Intent to construct.

(2) Planned initial startup date.

(3) The types of fuels that the owner or operator plans to combust in the affected facility.

(4) The municipal waste combustor unit capacity, and supporting capacity calculations prepared in accordance with §60.58b(j).

(5) Documents associated with the siting requirements under §60.57b (a) and (b), as specified in paragraphs (b)(5)(i) through (b)(5)(v) of this section.

(i) The siting analysis required by §60.57b (b)(1) and (b)(2).

(ii) The final materials separation plan for the affected facility required by §60.57b(a)(10).

(iii) A copy of the notification of the public meeting required by §60.57b(b)(3)(ii).

(iv) A transcript of the public meeting required by §60.57b(b)(4).

(v) A copy of the document summarizing responses to public comments required by §60.57b (a)(9) and (b)(5).

(c) The owner or operator of an air curtain incinerator subject to the opacity limit under §60.56b shall provide a notification of construction that includes the information specified in paragraphs (b)(1) through (b)(4) of this section.

(d) The owner or operator of an affected facility subject to the standards under §§60.52b, 60.53b, 60.54b, 60.55b, and 60.57b shall maintain records of the information specified in paragraphs (d)(1) through (d)(15) of this section, as applicable, for each affected facility for a period of at least 5 years.

(1) The calendar date of each record.

(2) The emission concentrations and parameters measured using continuous monitoring systems as specified under paragraphs (d)(2)(i) and (d)(2)(ii) of this section.

(i) The measurements specified in paragraphs (d)(2)(i)(A) through (d)(2)(i)(F) of this section shall be recorded and be available for submittal to the Administrator or review on site by an EPA or State inspector.

(A) All 6-minute average opacity levels as specified under §60.58b(c).

(B) All 1-hour average sulfur dioxide emission concentrations as specified under §60.58b(e).

(C) All 1-hour average nitrogen oxides emission concentrations as specified under §60.58b(h).

(D) All 1-hour average carbon monoxide emission concentrations, municipal waste combustor unit load measurements, and particulate matter control device inlet temperatures as specified under §60.58b(i).

(E) For owners and operators who elect to continuously monitor particulate matter, cadmium, lead, mercury, or hydrogen chloride emissions instead of conducting performance testing using EPA manual test methods, all 1-hour average particulate matter, cadmium, lead, mercury, or hydrogen chloride emission concentrations as specified under §60.58b(n).

(ii) The average concentrations and percent reductions, as applicable, specified in paragraphs (d)(2)(ii)(A) through (d)(2)(ii)(F) of this section shall be computed and recorded, and shall be available for submittal to the Administrator or review on-site by an EPA or State inspector.

(A) All 24-hour daily geometric average sulfur dioxide emission concentrations and all 24-hour daily geometric average percent reductions in sulfur dioxide emissions as specified under §60.58b(e).

(B) All 24-hour daily arithmetic average nitrogen oxides emission concentrations as specified under §60.58b(h).

(C) All 4-hour block or 24-hour daily arithmetic average carbon monoxide emission concentrations, as applicable, as specified under §60.58b(i).

(D) All 4-hour block arithmetic average municipal waste combustor unit load levels and particulate matter control device inlet temperatures as specified under §60.58b(i).

(E) For owners and operators who elect to continuously monitor particulate matter, cadmium, lead, mercury, or hydrogen chloride emissions instead of conducting performance testing using EPA manual test methods, all 24-hour daily arithmetic average particulate matter, cadmium, lead, mercury, or hydrogen chloride emission concentrations as specified under §60.58b(n).

(F) For owners and operators who elect to use a continuous automated sampling system to monitor mercury or dioxin/furan instead of conducting performance testing using EPA manual test methods, all integrated 24-hour mercury concentrations or all integrated 2-week dioxin/furan concentrations as specified under §60.586(p).

(3) Identification of the calendar dates when any of the average emission concentrations, percent reductions, or operating parameters recorded under paragraphs (d)(2)(ii)(A) through (d)(2)(ii)(F) of this section, or the opacity levels recorded under paragraph (d)(2)(i)(A) of this section are above the applicable limits, with reasons for such exceedances and a description of corrective actions taken.

(4) For affected facilities that apply activated carbon for mercury or dioxin/furan control, the records specified in paragraphs (d)(4)(i) through (d)(4)(v) of this section.

(i) The average carbon mass feed rate (in kilograms per hour or pounds per hour) estimated as required under §60.58b(m)(1)(i) of this section during the initial mercury performance test and all subsequent annual performance tests, with supporting calculations.

(ii) The average carbon mass feed rate (in kilograms per hour or pounds per hour) estimated as required under §60.58b(m)(1)(ii) of this section during the initial dioxin/furan performance test and all subsequent annual performance tests, with supporting calculations.

(iii) The average carbon mass feed rate (in kilograms per hour or pounds per hour) estimated for each hour of operation as required under §60.58b(m)(3)(ii) of this section, with supporting calculations.

(iv) The total carbon usage for each calendar quarter estimated as specified by paragraph 60.58b(m)(3) of this section, with supporting calculations.

(v) Carbon injection system operating parameter data for the parameter(s) that are the primary indicator(s) of carbon feed rate (e.g., screw feeder speed).

(5) [Reserved]

(6) Identification of the calendar dates and times (hours) for which valid hourly data specified in paragraphs (d)(6)(i) through (d)(6)(vi) of this section have not been obtained, or continuous automated sampling systems were not operated as specified in paragraph (d)(6)(vii) of this section, including reasons for not obtaining the data and a description of corrective actions taken.

(i) Sulfur dioxide emissions data;

(ii) Nitrogen oxides emissions data;

(iii) Carbon monoxide emissions data;

(iv) Municipal waste combustor unit load data;

(v) Particulate matter control device temperature data; and

(vi) For owners and operators who elect to continuously monitor particulate matter, cadmium, lead, mercury, or hydrogen chloride emissions instead of performance testing by EPA manual test methods, particulate matter, cadmium, lead, mercury, or hydrogen chloride emissions data.

(vii) For owners and operators who elect to use continuous automated sampling systems for dioxins/furans or mercury as allowed under "60.58b(p) and (q), dates and times when the sampling systems were not operating or were not collecting a valid sample.

(7) Identification of each occurrence that sulfur dioxide emissions data, nitrogen oxides emissions data, particulate matter emissions data, cadmium emissions data, lead emissions data, mercury emissions data, hydrogen chloride emissions data, or dioxin/furan emissions data (for owners and operators who elect to continuously monitor particulate matter, cadmium, lead, mercury, or hydrogen chloride, or who elect to use continuous automated sampling systems for dioxin/furan or mercury emissions, instead of conducting performance testing using EPA manual test methods) or operational data ( *i.e.* , carbon monoxide emissions, unit load, and particulate matter control device temperature) have been excluded from the calculation of average emission concentrations or parameters, and the reasons for excluding the data.

(8) The results of daily drift tests and quarterly accuracy determinations for sulfur dioxide, nitrogen oxides, and carbon monoxide continuous emission monitoring systems, as required under appendix F of this part, procedure 1.

(9) The test reports documenting the results of the initial performance test and all annual performance tests listed in paragraphs (d)(9)(i) and (d)(9)(ii) of this section shall be recorded along with supporting calculations.

(i) The results of the initial performance test and all annual performance tests conducted to determine compliance with the particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emission limits.

(ii) For the initial dioxin/furan performance test and all subsequent dioxin/furan performance tests recorded under paragraph (d)(9)(i) of this section, the maximum demonstrated municipal waste combustor unit load and

maximum demonstrated particulate matter control device temperature (for each particulate matter control device).

(10) An owner or operator who elects to continuously monitor emissions instead of performance testing by EPA manual methods must maintain records specified in paragraphs (10)(i) through (iii) of this section.

(i) For owners and operators who elect to continuously monitor particulate matter instead of conducting performance testing using EPA manual test methods), as required under appendix F of this part, procedure 2, the results of daily drift tests and quarterly accuracy determinations for particulate matter.

(ii) For owners and operators who elect to continuously monitor cadmium, lead, mercury, or hydrogen chloride instead of conducting EPA manual test methods, the results of all quality evaluations, such as daily drift tests and periodic accuracy determinations, specified in the approved site-specific performance evaluation test plan required by §60.58b(o)(5).

(iii) For owners and operators who elect to use continuous automated sampling systems for dioxin/furan or mercury, the results of all quality evaluations specified in the approved site-specific performance evaluation test plan required by §60.58b(q)(5).

(11) For each affected facility subject to the siting provisions under §60.57b, the siting analysis, the final materials separation plan, a record of the location and date of the public meetings, and the documentation of the responses to public comments received at the public meetings.

(12) The records specified in paragraphs (d)(12)(i) through (d)(12)(iv) of this section.

(i) Records showing the names of the municipal waste combustor chief facility operator, shift supervisors, and control room operators who have been provisionally certified by the American Society of Mechanical Engineers or an equivalent State-approved certification program as required by §60.54b(a) including the dates of initial and renewal certifications and documentation of current certification.

(ii) Records showing the names of the municipal waste combustor chief facility operator, shift supervisors, and control room operators who have been fully certified by the American Society of Mechanical Engineers or an equivalent State-approved certification program as required by §60.54b(b) including the dates of initial and renewal certifications and documentation of current certification.

(iii) Records showing the names of the municipal waste combustor chief facility operator, shift supervisors, and control room operators who have completed the EPA municipal waste combustor operator training course or a State-approved equivalent course as required by §60.54b(d) including documentation of training completion.

(iv) Records of when a certified operator is temporarily off site. Include two main items:

(A) If the certified chief facility operator and certified shift supervisor are off site for more than 12 hours, but for 2 weeks or less, and no other certified operator is on site, record the dates that the certified chief facility operator and certified shift supervisor were off site.

(B) When all certified chief facility operators and certified shift supervisors are off site for more than 2 weeks and no other certified operator is on site, keep records of four items:

( *1* ) Time of day that all certified persons are off site.

( *2* ) The conditions that cause those people to be off site.

( *3* ) The corrective actions taken by the owner or operator of the affected facility to ensure a certified chief facility operator or certified shift supervisor is on site as soon as practicable.

( *4* ) Copies of the written reports submitted every 4 weeks that summarize the actions taken by the owner or operator of the affected facility to ensure that a certified chief facility operator or certified shift supervisor will be on site as soon as practicable.

(13) Records showing the names of persons who have completed a review of the operating manual as required by §60.54b(f) including the date of the initial review and subsequent annual reviews.

(14) For affected facilities that apply activated carbon, identification of the calendar dates when the average carbon mass feed rates recorded under paragraph (d)(4)(iii) of this section were less than either of the hourly carbon feed rates estimated during performance tests for mercury emissions and recorded under paragraphs (d)(4)(i) and (d)(4)(ii) of this section, respectively, with reasons for such feed rates and a description of corrective actions taken. For affected facilities that apply activated carbon, identification of the calendar dates when the average carbon mass feed rates recorded under paragraph (d)(4)(iii) of this section were less than either of the hourly carbon feed rates estimated during performance tests for dioxin/furan emissions and recorded under paragraphs (d)(4)(i) and (d)(4)(ii) of this section, respectively, with reasons for such feed rates and a description of corrective actions taken.

(15) For affected facilities that apply activated carbon for mercury or dioxin/furan control, identification of the calendar dates when the carbon injection system operating parameter(s) that are the primary indicator(s) of carbon mass feed rate (e.g., screw feeder speed) recorded under paragraph (d)(4)(v) of this section are below the level(s) estimated during the performance tests as specified in §60.58b(m)(1)(i) and §60.58b(m)(1)(ii) of this section, with reasons for such occurrences and a description of corrective actions taken.

(e) The owner or operator of an air curtain incinerator subject to the opacity limit under §60.56b shall maintain records of results of the initial opacity performance test and subsequent performance tests required by §60.58b(l) for a period of at least 5 years.

(f) The owner or operator of an affected facility shall submit the information specified in paragraphs (f)(1) through (f)(6) of this section in the initial performance test report.

(1) The initial performance test data as recorded under paragraphs (d)(2)(ii)(A) through (d)(2)(ii)(D) of this section for the initial performance test for sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load level, and particulate matter control device inlet temperature.

(2) The test report documenting the initial performance test recorded under paragraph (d)(9) of this section for particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emissions.

(3) The performance evaluation of the continuous emission monitoring system using the applicable performance specifications in appendix B of this part.

(4) The maximum demonstrated municipal waste combustor unit load and maximum demonstrated particulate matter control device inlet temperature(s) established during the initial dioxin/furan performance test as recorded under paragraph (d)(9) of this section.

(5) For affected facilities that apply activated carbon injection for mercury control, the owner or operator shall submit the average carbon mass feed rate recorded under paragraph (d)(4)(i) of this section.

(6) For those affected facilities that apply activated carbon injection for dioxin/furan control, the owner or operator shall submit the average carbon mass feed rate recorded under paragraph (d)(4)(ii) of this section.

(g) Following the first year of municipal waste combustor operation, the owner or operator of an affected facility shall submit an annual report that includes the information specified in paragraphs (g)(1) through (g)(5) of this section, as applicable, no later than February 1 of each year following the calendar year in which the data were collected (once the unit is subject to permitting requirements under title V of the Act, the owner or operator of an affected facility must submit these reports semiannually).

(1) A summary of data collected for all pollutants and parameters regulated under this subpart, which includes the information specified in paragraphs (g)(1)(i) through (g)(1)(v) of this section.

(i) A list of the particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emission levels achieved during the performance tests recorded under paragraph (d)(9) of this section.

(ii) A list of the highest emission level recorded for sulfur dioxide, nitrogen oxides, carbon monoxide, particulate matter, cadmium, lead, mercury, hydrogen chloride, and dioxin/furan (for owners and operators who elect to continuously monitor particulate matter, cadmium, lead, mercury, hydrogen chloride, and dioxin/furan emissions instead of conducting performance testing using EPA manual test methods), municipal waste combustor unit load level, and particulate matter control device inlet temperature based on the data recorded under paragraphs (d)(2)(ii)(A) through (d)(2)(ii)(E) of this section.

(iii) List the highest opacity level measured, based on the data recorded under paragraph (d)(2)(i)(A) of this section.

(iv) Periods when valid data were not obtained as described in paragraphs (g)(1)(iv)(A) through (g)(1)(iv)(C) of this section.

(A) The total number of hours per calendar quarter and hours per calendar year that valid data for sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load, or particulate matter control device temperature data were not obtained based on the data recorded under paragraph (d)(6) of this section.

(B) For owners and operators who elect to continuously monitor particulate matter, cadmium, lead, mercury, and hydrogen chloride emissions instead of conducting performance testing using EPA manual test methods, the total number of hours per calendar quarter and hours per calendar year that valid data for particulate matter, cadmium, lead, mercury, and hydrogen chloride were not obtained based on the data recorded under paragraph (d)(6) of this section. For each continuously monitored pollutant or parameter, the hours of valid emissions data per calendar quarter and per calendar year expressed as a percent of the hours per calendar quarter or year that the affected facility was operating and combusting municipal solid waste.

(C) For owners and operators who elect to use continuous automated sampling systems for dioxin/furan or mercury, the total number of hours per calendar quarter and hours per calendar year that the sampling systems were not operating or were not collecting a valid sample based on the data recorded under paragraph (d)(6)(vii) of this section. Also, the number of hours during which the continuous automated sampling system was operating and collecting a valid sample as a percent of hours per calendar quarter or year that the affected facility was operating and combusting municipal solid waste.

(v) Periods when valid data were excluded from the calculation of average emission concentrations or parameters as described in paragraphs (g)(1)(v)(A) through (g)(1)(v)(C) of this section.

(A) The total number of hours that data for sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load, and particulate matter control device temperature were excluded from the calculation of average emission concentrations or parameters based on the data recorded under paragraph (d)(7) of this section.

(B) For owners and operators who elect to continuously monitor particulate matter, cadmium, lead, mercury, or hydrogen chloride emissions instead of conducting performance testing using EPA manual test methods, the total number of hours that data for particulate matter, cadmium, lead, mercury, or hydrogen chloride were excluded from the calculation of average emission concentrations or parameters based on the data recorded under paragraph (d)(7) of this section.

(C) For owners and operators who elect to use continuous automated sampling systems for dioxin/furan or mercury, the total number of hours that data for mercury and dioxin/furan were excluded from the calculation of average emission concentrations or parameters based on the data recorded under paragraph (d)(7) of this section.

(2) The summary of data reported under paragraph (g)(1) of this section shall also provide the types of data specified in paragraphs (g)(1)(i) through (g)(1)(vi) of this section for the calendar year preceding the year being reported, in order to provide the Administrator with a summary of the performance of the affected facility over a 2-year period.

(3) The summary of data including the information specified in paragraphs (g)(1) and (g)(2) of this section shall highlight any emission or parameter levels that did not achieve the emission or parameter limits specified under this subpart.

(4) A notification of intent to begin the reduced dioxin/furan performance testing schedule specified in §60.58b(g)(5)(iii) of this section during the following calendar year and notification of intent to apply the average carbon mass feed rate and associated carbon injection system operating parameter levels as established in §60.58b(m) to similarly designed and equipped units on site.

(5) Documentation of periods when all certified chief facility operators and certified shift supervisors are off site for more than 12 hours.

(h) The owner or operator of an affected facility shall submit a semiannual report that includes the information specified in paragraphs (h)(1) through (h)(5) of this section for any recorded pollutant or parameter that does not comply with the pollutant or parameter limit specified under this subpart, according to the schedule specified under paragraph (h)(6) of this section.

(1) The semiannual report shall include information recorded under paragraph (d)(3) of this section for sulfur dioxide, nitrogen oxides, carbon monoxide, particulate matter, cadmium, lead, mercury, hydrogen chloride, dioxin/furan (for owners and operators who elect to continuously monitor particulate matter, cadmium, lead, mercury, or hydrogen chloride, or who elect to use continuous automated sampling systems for dioxin/furan or mercury emissions, instead of conducting performance testing using EPA manual test methods) municipal waste combustor unit load level, particulate matter control device inlet temperature, and opacity.

(2) For each date recorded as required by paragraph (d)(3) of this section and reported as required by paragraph (h)(1) of this section, the semiannual report shall include the sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load level, particulate matter control device inlet temperature, or opacity data, as applicable, recorded under paragraphs (d)(2)(ii)(A) through (d)(2)(ii)(D) and (d)(2)(i)(A) of this section, as applicable.

(3) If the test reports recorded under paragraph (d)(9) of this section document any particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emission levels that were above the applicable pollutant limits, the semiannual report shall include a copy of the test report documenting the emission levels and the corrective actions taken.

(4) The semiannual report shall include the information recorded under paragraph (d)(15) of this section for the carbon injection system operating parameter(s) that are the primary indicator(s) of carbon mass feed rate.

(5) For each operating date reported as required by paragraph (h)(4) of this section, the semiannual report shall include the carbon feed rate data recorded under paragraph (d)(4)(iii) of this section.

(6) Semiannual reports required by paragraph (h) of this section shall be submitted according to the schedule specified in paragraphs (h)(6)(i) and (h)(6)(ii) of this section.

(i) If the data reported in accordance with paragraphs (h)(1) through (h)(5) of this section were collected during the first calendar half, then the report shall be submitted by August 1 following the first calendar half.

(ii) If the data reported in accordance with paragraphs (h)(1) through (h)(5) of this section were collected during the second calendar half, then the report shall be submitted by February 1 following the second calendar half.

(i) The owner or operator of an air curtain incinerator subject to the opacity limit under §60.56b shall submit the results of the initial opacity performance test and all subsequent annual performance tests recorded under paragraph (e) of this section. Annual performance tests shall be submitted by February 1 of the year following the year of the performance test.

(j) All reports specified under paragraphs (a), (b), (c), (f), (g), (h), and (i) of this section shall be submitted as a paper copy, postmarked on or before the submittal dates specified under these paragraphs, and maintained onsite as a paper copy for a period of 5 years.

(k) All records specified under paragraphs (d) and (e) of this section shall be maintained onsite in either paper copy or computer-readable format, unless an alternative format is approved by the Administrator.

(l) If the owner or operator of an affected facility would prefer a different annual or semiannual date for submitting the periodic reports required by paragraphs (g), (h) and (i) of this section, then the dates may be changed by mutual agreement between the owner or operator and the Administrator according to the procedures specified in §60.19(c) of subpart A of this part.

(m) Owners and operators who elect to continuously monitor particulate matter, cadmium, lead, mercury, or hydrogen chloride, or who elect to use continuous automated sampling systems for dioxin/furan or mercury emissions, instead of conducting performance testing using EPA manual test methods must notify the Administrator one month prior to starting or stopping use of the particulate matter, cadmium, lead, mercury, hydrogen chloride, and dioxin/furan continuous emission monitoring systems or continuous automated sampling systems.

(n) *Additional recordkeeping and reporting requirements for affected facilities with continuous cadmium, lead, mercury, or hydrogen chloride monitoring systems.* In addition to complying with the requirements specified in paragraphs (a) through (m) of this section, the owner or operator of an affected source who elects to install a continuous emission monitoring system for cadmium, lead, mercury, or hydrogen chloride as specified in §60.58b(n), shall maintain the records in paragraphs (n)(1) through (n)(10) of this section and report the information in paragraphs (n)(11) through (n)(12) of this section, relevant to the continuous emission monitoring system:

(1) All required continuous emission monitoring measurements (including monitoring data recorded during unavoidable continuous emission monitoring system breakdowns and out-of-control periods);

(2) The date and time identifying each period during which the continuous emission monitoring system was inoperative except for zero (low-level) and high-level checks;

(3) The date and time identifying each period during which the continuous emission monitoring system was out of control, as defined in §60.58b(o)(4);

(4) The specific identification ( *i.e.* , the date and time of commencement and completion) of each period of excess emissions and parameter monitoring exceedances, as defined in the standard, that occurs during startups, shutdowns, and malfunctions of the affected source;

(5) The specific identification ( *i.e.* , the date and time of commencement and completion) of each time period of excess emissions and parameter monitoring exceedances, as defined in the standard, that occurs during periods other than startups, shutdowns, and malfunctions of the affected source;

(6) The nature and cause of any malfunction (if known);

(7) The corrective action taken to correct any malfunction or preventive measures adopted to prevent further malfunctions;

(8) The nature of the repairs or adjustments to the continuous emission monitoring system that was inoperative or out of control;

(9) All procedures that are part of a quality control program developed and implemented for the continuous emission monitoring system under §60.58b(o);

(10) When more than one continuous emission monitoring system is used to measure the emissions from one affected source ( *e.g.* , multiple breechings, multiple outlets), the owner or operator shall report the results as required for each continuous emission monitoring system.

(11) Submit to EPA for approval, the site-specific monitoring plan required by §60.58b(n)(13) and §60.58b(o), including the site-specific performance evaluation test plan for the continuous emission monitoring system required by §60.58(b)(o)(5). The owner or operator shall maintain copies of the site-specific monitoring plan on record for the life of the affected source to be made available for inspection, upon request, by the Administrator. If the site-specific monitoring plan is revised and approved, the owner or operator shall keep previous ( *i.e.* , superseded) versions of the plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan.

(12) Submit information concerning all out-of-control periods for each continuous emission monitoring system, including start and end dates and hours and descriptions of corrective actions taken, in the annual or semiannual reports required in paragraphs (g) or (h) of this section.

(o) *Additional recordkeeping and reporting requirements for affected facilities with continuous automated sampling systems for dioxin/furan or mercury monitoring.* In addition to complying with the requirements specified in paragraphs (a) through (m) of this section, the owner or operator of an affected source who elects to install a continuous automated sampling system for dioxin/furan or mercury, as specified in §60.58b(p), shall maintain the records in paragraphs (o)(1) through (o)(10) of this section and report the information in (o)(11) and (o)(12) of this section, relevant to the continuous automated sampling system:

(1) All required 24-hour integrated mercury concentration or 2-week integrated dioxin/furan concentration data (including any data obtained during unavoidable system breakdowns and out-of-control periods);

(2) The date and time identifying each period during which the continuous automated sampling system was inoperative;

(3) The date and time identifying each period during which the continuous automated sampling system was out of control, as defined in §60.58b(q)(4);

(4) The specific identification ( *i.e.* , the date and time of commencement and completion) of each period of excess emissions and parameter monitoring exceedances, as defined in the standard, that occurs during startups, shutdowns, and malfunctions of the affected source;

(5) The specific identification ( *i.e.* , the date and time of commencement and completion) of each time period of excess emissions and parameter monitoring exceedances, as defined in the standard, that occurs during periods other than startups, shutdowns, and malfunctions of the affected source;

(6) The nature and cause of any malfunction (if known);

(7) The corrective action taken to correct any malfunction or preventive measures adopted to prevent further malfunctions;

(8) The nature of the repairs or adjustments to the continuous automated sampling system that was inoperative or out of control;

(9) All procedures that are part of a quality control program developed and implemented for the continuous automated sampling system under §60.58b(q);

(10) When more than one continuous automated sampling system is used to measure the emissions from one affected source ( *e.g.* , multiple breechings, multiple outlets), the owner or operator shall report the results as required for each system.

(11) Submit to EPA for approval, the site-specific monitoring plan required by §60.58b(p)(11) and §60.58b(q) including the site-specific performance evaluation test plan for the continuous emission monitoring system required by §60.58(b)(q)(5). The owner or operator shall maintain copies of the site-specific monitoring plan on record for the life of the affected source to be made available for inspection, upon request, by the Administrator. If the site-specific monitoring plan is revised and approved, the owner or operator shall keep previous ( *i.e.* , superseded) versions of the plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan.

(12) Submit information concerning all out-of-control periods for each continuous automated sampling system, including start and end dates and hours and descriptions of corrective actions taken in the annual or semiannual reports required in paragraphs (g) or (h) of this section.

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