**DIVISION 230**

**INCINERATOR REGULATIONS**

**340-230-0010**

**Purpose**

The purpose of this division is to establish state of the art emission standards, design requirements, and performance standards for all solid and infectious waste incinerators, hospital/medical/infectious waste incinerators, crematory incinerators, and municipal waste combustors in order to minimize air contaminant emissions and provide adequate protection of public health.

Stat. Auth.: ORS 183, ORS 468 & ORS 468A
Stats. Implemented: ORS 468A.025
Hist.: DEQ 9-1990, f. & cert. ef. 3-13-90; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0850; DEQ 4-2003, f. & cert. ef. 2-06-03

**340-230-0020**

**Applicability**

(1) OAR 340-230-0100 through 340-230-0150 apply to all solid and infectious waste incinerators other than:

(a) Municipal waste combustors, including those municipal waste combustors that burn some medical waste, that are subject to either OAR 340-238-0060, or 340-230-0300 through 340-230-0395; and

(b) Hospital/medical/infectious waste incinerators that are subject to OAR 340-230-0400 through 340-230-0410.

(2) OAR 340-230-0200 through 340-230-0230 apply to all new and existing crematory incinerators;

(3) OAR 340-230-0300 through 340-230-0395 apply to municipal waste combustors as specified in 340-230-0300.

(4) OAR 340-230-0400 through 340-230-0410 apply to hospital/medical/infectious waste incinerators as specified in 340-230-0400.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 27-1996, f. & cert. ef. 12-11-96; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0852; DEQ 4-2003, f. & cert. ef. 2-06-03; DEQ 8-2007, f. & cert. ef. 11-8-07

**340-230-0030**

**Definitions**

The definitions in OAR 340-200-0020, 340-238-0040 and this rule apply to this division. If the same term is defined in this rule and 340-200-0020 or 340-238-0040, the definition in this rule applies to this division. Applicable definitions have the same meaning as those provided in 40 CFR 60.51c including, but not limited to:

(1) "Acid Gases" means any exhaust gas that includes hydrogen chloride and sulfur dioxide.

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

(3) "CFR" means Code of Federal Regulations and, unless otherwise expressly identified, refers to the July 1, 2013 edition.

(4) "Commercial and industrial solid waste incineration unit (CISWI) means any combustion device that combusts commercial and industrial waste, as defined in this subpart. The boundaries of a CISWI unit are defined as, but not limited to the commercial or industrial solid waste fuel feed system, grate system, flue gas system, and bottom ash. The CISWI unit does not include air pollution control equipment or the stack. The CISWI unit boundary starts at the commercial and industrial solid waste hopper (if applicable) and extends through two areas:

(a) The combustion unit flue gas system, which ends immediately after the last combustion chamber.

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

(5) "Commercial and industrial waste" means solid waste combusted in an enclosed device using controlled flame combustion without energy recovery that is a distinct operating unit of any commercial or industrial facility (including field-erected, modular, and custom built incineration units operating with starved or excess air), or solid waste combusted in an air curtain incinerator without energy recovery that is a distinct operating unit of any commercial or industrial facility.

(6) "Continuous Emission Monitoring (CEM)" means a monitoring system for continuously measuring the emissions of a pollutant from an affected incinerator. Continuous monitoring equipment and operation must be certified in accordance with EPA performance specifications and quality assurance procedures outlined in 40 CFR 60, Appendices B and F, and DEQ's CEM Manual.

(7) "Crematory Incinerator" means an incinerator used solely for the cremation of human and animal bodies.

 (9) "Fluidized bed combustion unit" means a unit where municipal waste is combusted in a fluidized bed of material. The fluidized bed material may remain in the primary combustion zone or may be carried out of the primary combustion zone and returned through a recirculation loop.

(10) "Incinerator" means any structure or furnace in which combustion takes place, the primary purpose of which is the reduction in volume and weight of unwanted material.

(11) "Infectious Waste" means waste as defined in ORS Chapter 763, Oregon Laws 1989, that contains or may contain any disease producing microorganism or material, and includes, but is not limited to the following:

(a) "Biological waste", which includes blood and blood products, and body fluids that cannot be directly discarded into a municipal sewer system, and waste materials saturated with blood or body fluids, but does not include soiled diapers;

(b) "Cultures and stocks", which includes etiologic agents and associated biologicals; including specimen cultures and dishes, devices used to transfer, inoculate and mix cultures, wastes from production of biologicals, and serums and discarded live and attenuated vaccines. "Cultures" does not include throat and urine cultures;

(c) "Pathological waste", which includes biopsy materials and all human tissues, anatomical parts that emanate from surgery, obstetrical procedures, autopsy and laboratory procedures and animal carcasses exposed to pathogens in research and the bedding and other waste from such animals. "Pathological wastes" does not include teeth or formaldehyde or other preservative agents;

(d) "Sharps", which includes needles, IV tubing with needles attached, scalpel blades, lancets, glass tubes that could be broken during handling and syringes that have been removed from their original sterile containers.

(12) "Infectious Waste Facility" or "Infectious Waste Incinerator" means an incinerator that is operated or utilized for the disposal or treatment of infectious waste, including combustion for the recovery of heat, and which utilizes high temperature thermal destruction technologies.

(13) "Mass burn refractory municipal waste combustion unit" means a field-erected municipal waste combustion unit that combusts municipal solid waste in a refractory wall furnace. Unless otherwise specified, that includes municipal waste combustion units with a cylindrical rotary refractory wall furnace.

(14) "Mass burn rotary waterwall municipal waste combustion unit" means a field-erected municipal waste combustion unit that combusts municipal solid waste in a cylindrical rotary waterwall furnace.

(15) "Mass burn waterwall municipal waste combustion unit" means a field-erected municipal waste combustion unit that combusts municipal solid waste in a waterwall furnace.

(16) "Modular excess-air municipal waste combustion unit" means a municipal waste combustion unit that combusts municipal solid waste, 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.

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

(18) "Municipal waste combustor plant" means one or more municipal waste combustor units at the same location.

(19) "Municipal waste combustor plant capacity" means the aggregate municipal waste combustor unit capacity of all municipal waste combustor units at a municipal waste combustor plant for which construction was commenced on or before September 20, 1994.

(20) "Primary Combustion Chamber" means the discrete equipment, chamber or space in which drying of the waste, pyrolysis, and essentially the burning of the fixed carbon in the waste occurs.

(21) "Pyrolysis" means the endothermic gasification of waste material using external energy.

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

(a) Low-density fluff refuse-derived fuel through densified refuse-derived fuel.

(b) Pelletized refuse-derived fuel.

(23) "Secondary" or "Final Combustion Chamber" means the discrete equipment, chamber, or space in which the products of pyrolysis are combusted in the presence of excess air such that essentially all carbon is burned to carbon dioxide.

(24) "Solid Waste" means refuse, more than 50 percent of which is waste consisting of a mixture of paper, wood, yard wastes, food wastes, plastics, leather, rubber, and other combustible materials, and noncombustible materials such as metal, glass, and rock.

(25) "Solid Waste Facility" or "Solid Waste Incinerator" means an incinerator that is operated or utilized for the disposal or treatment of solid waste including combustion for the recovery of heat, and that utilizes high temperature thermal destruction technologies.

(26) "Spreader stoker, mixed fuel-fired (coal/refuse-derived fuel) combustion unit" means a municipal waste combustion unit that combusts 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.

(27) "Transmissometer" means a device that measures opacity and conforms to EPA Specification Number 1 in **40 CFR 60**, **Appendix B**.

[Publications: Publications referenced are available from the agency.]

Stat. Auth.: ORS 183, 468 & 468A
Stats. Implemented: ORS 468A.025
Hist.: DEQ 22-1998, f. & cert. ef. 10-21-98; DEQ 9-1990, f. & cert. ef. 3-13-90; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 27-1996, f. & cert. ef. 12-11-96; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0750, 340-025-0855, 340-025-0950; DEQ 4-2003, f. & cert. ef. 2-06-03; DEQ 2-2005, f. & cert. ef. 2-10-05; DEQ 8-2007, f. & cert. ef. 11-8-07; DEQ 1-2011, f. & cert. ef. 2-24-11

**Solid and Infectious Waste Incinerators**

**340-230-0100**

**Best Available Control Technology**

(1) Notwithstanding the specific emission limits set forth in OAR 340-230-0110, in order to maintain overall air quality at the highest possible levels, all solid waste facilities and infectious waste facilities are required to use Best Available Control Technology (BACT). In no event shall the application of BACT result in emissions of any air contaminant which would exceed the emission limits set forth in 340-230-0100 through 340-230-0150.

(2) All installed equipment shall be operated and maintained in such a manner that emissions of air contaminants are kept at lowest possible levels.

Stat. Auth.: ORS 183, 468 & 468A
Stats. Implemented: ORS 468A.025
Hist.: DEQ 9-1990, f. & cert. ef. 3-13-90; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0860; DEQ 8-2007, f. & cert. ef. 11-8-07

**Solid and Infectious Waste Incinerators**

**340-230-0110**

**Emissions Limitations**

No person shall cause, suffer, allow, or permit the operation of any solid waste facility or infectious waste facility in a manner which violates the following emission limits and requirements:

(1) Particulate Emissions:

(a) For incinerator facilities constructed or modified on or after March 13, 1990, emissions from each stack shall not exceed 0.015 grains per dry standard cubic foot of exhaust gases corrected to seven percent O2 at standard conditions;

(b) For incinerator facilities constructed or modified before March 13, 1990, emissions from each stack shall not exceed 0.030 grains per dry standard cubic foot of exhaust gases corrected to seven percent O2 at standard conditions.

(2) Hydrogen Chloride (HC1). For all incinerator facilities, emissions of hydrogen chloride from each stack shall not exceed 50 ppm during any 60-minute period corrected to seven percent O2; or shall be reduced by at least 90 percent by weight on an hourly basis.

(3) Sulfur Dioxide (SO2). For all incinerator facilities, emissions of sulfur dioxide from each stack shall not exceed 50 ppm as a running three-hour average corrected to seven percent O2; or shall be reduced by at least 70 percent by weight on a three-hour basis.

(4) Carbon Monoxide (CO). For all incinerator facilities, emissions of carbon monoxide from each stack shall not exceed 100 ppm as a running eight-hour average corrected to seven percent O2.

(5) Nitrogen Oxide (NOx). Emissions of nitrogen oxide from each stack shall not exceed 200 ppm as a running 24-hour average corrected to seven percent O2 for incinerator facilities constructed or modified on or after March 13, 1990 capable of processing more than 250 tons/day of wastes.

(6) Opacity. The opacity as measured visually or by a transmissometer shall not exceed ten percent as a six–minute average.

(7) Fugitive Emissions. Solid waste incinerator facilities shall be operated in a manner which prevents or minimizes fugitive emissions, including the paving of all normally traveled roadways within the plant boundary and enclosing all material transfer points.

(8) Other Wastes. No solid waste incinerator or infectious waste incinerator shall burn radioactive or hazardous waste, or any other waste not specifically authorized in DEQ's Air Contaminant Discharge Permit.

(9) Other Contaminants. In the absence of an air-contaminant-specific emission limit or ambient air quality standard, DEQ may establish by permit emission limits for any hazardous air contaminants that are more protective of human health and the environment for any solid waste incinerator or infectious waste incinerator.

Stat. Auth.: ORS 183, 468 & 468A
Stats. Implemented: ORS 468A.025
Hist.: DEQ 9-1990, f. & cert. ef. 3-13-90; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0865; DEQ 8-2007, f. & cert. ef. 11-8-07

**340-230-0120**

**Design and Operation**

(1) Temperature and Residence Time. Each incinerator must be designed and operated to maintain combustion gases at a minimum temperature of 1,800° F. for at least one second residence time. For a multi-chamber incinerator, these parameters must be met after the primary combustion chamber, which must be maintained at no less than 1,000° F.

(2) Auxiliary Burners. Each incinerator must be designed and operated with automatically controlled auxiliary burners capable of maintaining the combustion chamber temperatures specified in section (1) of this rule, and must have sufficient auxiliary fuel capacity to maintain said temperatures.

(3) Interlocks. Each incinerator must be designed and operated with an interlock system that:

(a) Prevents charging until the final combustion chamber reaches 1,800° F.;

(b) For batch-fed incinerators, prevents recharging until each combustion cycle is complete;

(c) Ceases charging if the incinerator temperature falls below either 1,800° F. for any continuous 15-minute period; and

(d) Ceases charging if carbon monoxide levels exceed 150 ppm, corrected to seven percent O2 over a continuous 15-minute period. Existing incinerators may request from DEQ, and DEQ may grant, an exemption for installing an interlock system, if it can be shown to the satisfaction of DEQ that such a system would not allow sufficient flexibility in operation, or that significant technical or economic constraints would prevent retrofitting.

(4) Air Locks. All infectious waste facilities with mechanically fed incinerators must be designed and operated with an air lock control system to prevent opening the incinerator to the room environment. The volume of the loading system must be designed so as to prevent overcharging to assure complete combustion of the waste.

(5) Flue Gas Outlet Temperature. Each incinerator must be designed and operated such that the flue gas temperature at the outlet from the primary control device does not exceed 350° F., unless it can be demonstrated that a greater collection of condensible matter can be achieved at a higher outlet temperature.

(6) Combustion efficiency. Except during periods of startup and shutdown, all waste incinerators must achieve a combustion efficiency of 99.9 percent based on a running eight-hour average, computed as follows: [Table not included. See ED. NOTE.]

(7) Stack Height. All incinerator stacks must be designed in accordance with Good Engineering Practice (GEP) as defined in 40 CFR 51.100(ii) and 51.118, in order to assure compliance with applicable air standards, and to avoid the flow of stack pollutants into any building ventilation intake plenum.

(8) Operator Training and Certification. Each incinerator must be operated at all times under the direction of one or more individuals who have received training necessary for proper operation. A description of the training program must be submitted to DEQ for approval. A satisfactory training program consists of any of the following:

(a) Certification by the American Society of Mechanical Engineers (ASME) for solid waste incinerator operation; or

(b) For infectious waste incineration, successful completion of EPA's Medical Waste Incinerator Operator training course; or

(c) Other certification or training by a qualified organization as to proper operating practices and procedures, which has been pre-approved by DEQ before enrollment. In addition, the owner or operator of an incinerator facility must develop and submit a manual for proper operation and maintenance, to be reviewed with employees responsible for incinerator operation on an annual basis.

(9) In cases where incinerator operation may cause odors that unreasonably interfere with the use and enjoyment of property, DEQ may require by permit the use of good practices and procedures to prevent or eliminate those odors.

[ED. NOTE: Tables & Publications referenced are available from the agency.]

Stat. Auth.: ORS 183, ORS 468 & ORS 468A
Stats. Implemented: ORS 468A.025
Hist.: DEQ 9-1990, f. & cert. ef. 3-13-90; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0870; DEQ 4-2003, f. & cert. ef. 2-06-03

**340-230-0130**

**Continuous Emission Monitoring**

(1) All solid waste incinerators shall operate and maintain continuous monitoring for the following:

(a) Sulfur dioxide;

(b) Carbon monoxide;

(c) Opacity;

(d) Final Combustion Chamber Exit Temperature;

(e) Control Equipment Outlet Temperature;

(f) Oxygen; and

(g) Nitrogen Oxide -- New facilities only (over 250 tons/day).

(2) All infectious waste incinerators shall operate and maintain continuous monitoring for the following:

(a) Carbon monoxide;

(b) Opacity; and

(c) Final Combustion Chamber Exit Temperature.

(3) DEQ may at any time require the installation of hydrogen chloride monitors for any solid and infectious waste incinerator, or sulfur dioxide monitors for any infectious waste incinerator, if DEQ determines such monitoring is necessary, in order to demonstrate compliance with the hydrogen chloride emission limit.

(4) The monitors specified above shall comply with EPA performance specifications in **Title 40, CFR, Part 60, Appendix B**, and DEQ's **CEM Manual**. All monitoring equipment shall be located so as to accurately monitor emission levels, in order to demonstrate compliance with OAR 340-230-0110.

Stat. Auth.: ORS 183, ORS 468 & ORS 468A
Stats. Implemented: ORS 468A.025.
Hist.: DEQ 9-1990, f. & cert. ef. 3-13-90; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0875

**340-230-0140**

**Reporting and Testing**

(1) Reporting:

(a) Stack test results shall be reported to DEQ within 60 days of completion;

(b) All records associated with continuous monitoring data including, but not limited to, original data sheets, charts, calculations, calibration data, production records and final reports shall be maintained for a continuous period of at least one year and shall be furnished to DEQ upon request.

(2) Source Testing:

(a) All solid waste incinerators and infectious waste incinerators must be tested to demonstrate compliance with the standards in OAR 340-230-0100 through 340-230-0150;

(b) Source testing shall be conducted at the maximum design rate using waste that is representative of normal operation. If requested by the owner/operator, source testing may be performed at a lower rate, however, permit limits will be established based on the lower rate of operation;

(c) Unless otherwise specified by DEQ, each incinerator shall be tested at start-up and annually thereafter for particulate, hydrogen chloride, sulfur dioxide, and carbon monoxide emissions.

(3) Hazardous or Toxic Air Contaminant Source Testing. DEQ may at any time, conduct or require source testing and require access to information specific to the control, recovery, or release of hazardous or toxic air contaminants.

Stat. Auth.: ORS 183, ORS 468 & ORS 468A
Stats. Implemented: ORS 468A.025
Hist.: DEQ 9-1990, f. & cert. ef. 3-13-90; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0880

**340-230-0150**

**Compliance**

(1) All waste incinerators constructed or modified before March 13, 1990 must demonstrate compliance with the applicable provisions of OAR 340-230-0100 through 340-230-0150 by March 13, 1995, or by the date required by applicable federal guidelines adopted by the Environmental Protection Agency, whichever is sooner. Existing data such as that collected in accordance with the requirements of an Air Contaminant Discharge Permit may be used to demonstrate compliance.

(2) Solid waste incinerators and infectious waste incinerators constructed or modified on or after March 13, 1990 must demonstrate compliance with the emission limits and operating requirements of OAR 340-230-0100 through 340-230-0150 in accordance with a schedule established by DEQ before commencing regular operation.

(3) Compliance with OAR 340-230-0100 through 340-230-0150 does not relieve the owner or operator of the source from the responsibility to comply with requirements of DEQ's Solid and Hazardous Waste rules, OAR 340, division 61, regarding the disposal of ash generated from waste incinerators.

Stat. Auth.: ORS 183, 468 & 468A
Stats. Implemented: ORS 468A.025
Hist.: DEQ 9-1990, f. & cert. ef. 3-13-90; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0885; DEQ 8-2007, f. & cert. ef. 11-8-07

**Crematory Incinerators**

**340-230-0200**

**Emission Limitations**

(1) No person may cause to be emitted particulate matter from any crematory incinerator in excess of 0.080 grains per dry standard cubic foot of exhaust gases corrected to 7 percent O2 at standard conditions.

(2) Opacity. No visible emissions may be present except for one 6 minute period per hour of not more than 20% opacity as measured by EPA Method 9.

(3) Odors. In cases where incinerator operation may cause odors which unreasonably interfere with the use and enjoyment of property, DEQ may require by permit the use of good practices and procedures to prevent or eliminate those odors.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 9-1990, f. & cert. ef. 3-13-90; DEQ 15-1992, f. & cert. ef. 8-3-92 (and corrected 8-11-92), Section (3) Renumbered from 340-025-0895(3); DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 19-1996, f. & cert. ef. 9-24-96; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0890; DEQ 8-2007, f. & cert. ef. 11-8-07

**340-230-0210**

**Design and Operation**

(1) Temperature and Residence Time:

(a) For a crematory incinerator installed on or after March 13, 1993, the temperature at the final combustion chamber must be equal to or greater than 1800º F with a residence time of at least 0.5 seconds. The temperature in the final chamber must be equal to or greater than 1400º F prior to igniting the primary burner.

(b) For a crematory incinerator installed prior to March 13, 1993, the temperature at the final combustion chamber must be equal to or greater than 1600º F with a residence time of at least 0.5 seconds. The temperature in the final chamber must be equal to or greater than 1200º F prior to igniting the primary burner.

(2) Operator Training and Certification. Each crematory incinerator shall be operated at all times under the direction of individuals who have received training necessary for proper operation. The following shall be available on-site at all times for Department inspection:

(a) A description of a Department-approved training program; and

(b) A written statement signed by each operator stating that the operator has undergone and understood the training program.

(3) As defined in OAR 340-230-0030(10), crematory incinerators may only be used for incineration of human and animal bodies, and appropriate containers. No waste, including infectious waste as defined in 340-230-0030, may be incinerated unless specifically authorized in DEQ's Air Contaminant Discharge Permit.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 9-1990, f. & cert. ef. 3-13-90; DEQ 15-1992, f. & cert. ef. 8-3-92 (and corrected 8-11-92), Section (3) Renumbered from 340-025-0890(3); DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 19-1996, f. & cert. ef. 9-24-96; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0895; DEQ 8-2007, f. & cert. ef. 11-8-07

**340-230-0220**

**Monitoring and Reporting**

(1) All crematory incinerators shall operate and maintain continuous monitoring for final combustion chamber exit temperature. The monitoring device shall be installed and operated in accordance with the manufacturer's instructions, and shall be located in an area of the secondary combustion chamber that will allow evaluation of compliance with OAR 340-230-0210

(2) All records associated with continuous monitoring data including, but not limited to, original data sheets, charts, calculations, calibration data, production records and final reports shall be maintained for a continuous period of at least two years and shall be furnished to DEQ upon request.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 9-1990, f. & cert. ef. 3-13-90; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 19-1996, f. & cert. ef. 9-24-96; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0900; DEQ 8-2007, f. & cert. ef. 11-8-07

**340-230-0230**

**Compliance**

A crematory incinerator installed on or after March 13, 1993, must demonstrate within 180 days of startup compliance with OAR 340-230-0200(1) by:

(1) Conducting a source test for particulate matter emissions in accordance with OAR 340-212-0120 through 340-212-0140; or

(2) Submitting the results of testing performed on a crematory incinerator that DEQ agrees is comparable to the incinerator in question.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 9-1990, f. & cert. ef. 3-13-90; DEQ 15-1992, f. & cert. ef. 8-3-92 (and corrected 8-11-92); DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 19-1996, f. & cert. ef. 9-24-96; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0905; DEQ 8-2007, f. & cert. ef. 11-8-07

**Municipal Waste Combustors**

**340-230-0300**

**Applicability**

(1) Applicability: OAR 340-230-0310 through 340-230-0359 apply to each municipal waste combustor unit with a combustion capacity greater than 250 tons per day of municipal solid waste for which construction was commenced on or before September 20, 1994. MWC subject to OAR 340-230-0300 through 340-230-0350 are not subject to the incinerator rules in 340-230-0100 through 340-230-0150.

(2) Exemptions:

(a) Any municipal 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 rule if the owner or operator:

(A) Notifies DEQ of an exemption claim;

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

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

(b) Physical or operational changes made to an existing municipal waste combustor unit primarily for the purpose of complying with emission limits under these rules are not considered in determining whether the unit is a modified or reconstructed facility under 40 CFR 60, Subparts Ea or Eb.

(c) 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 these rules if the owner or operator of the facility notifies DEQ of this exemption and provides data documenting that the facility qualifies for this exemption.

(d) 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 these rules if the owner or operator of the facility notifies DEQ of this exemption and provides data documenting that the facility qualifies for this exemption.

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

(A) Notifies DEQ of an exemption claim; and

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

(f) Any unit required to have a permit under section 3005 of the Solid Waste Disposal Act is not subject to these rules.

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

(h) Any cofired combustor, as defined in 40 CFR 60.51b, that meets the capacity specifications in section (1) of this rule is not subject to these rules if the owner or operator of the cofired combustor:

(A) Notifies DEQ of an exemption claim;

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

(C) 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.

(i) Pyrolysis/combustion units that are an integrated part of a plastics/rubber recycling unit (as defined in 40 CFR 60.51b) are not subject to this rule if the owner or operator of the plastics/rubber recycling unit keeps records of:

(A) The weight of plastics, rubber, and/or rubber tires processed on a calendar quarter basis;

(B) The weight of chemical plant feedstocks and petroleum refinery feedstocks produced and marketed on a calendar quarter basis; and

(C) 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 these rules.

(j) Air curtain incinerators that meet the capacity specifications in subsection (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 standard under OAR 340-230-0310, the testing procedures under 340-230-0340, and the reporting and recordkeeping provisions under 340-230-0350.

(k) Air curtain incinerators that meet the capacity specifications in subsection (a) of this section and that combust municipal solid waste other than yard waste are subject to all provisions of this subpart.

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

(m) Any affected facility meeting the applicability requirements under this rule is not subject to **40 CFR part 60 subpart E**.

Stat. Auth.: ORS 468.020
Stats.Implemented: ORS 468A.025
Hist.: DEQ 27-1996, f. & cert. ef. 12-11-96; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0950; DEQ 4-2003, f. & cert. ef. 2-06-03; DEQ 15-2008, f. & cert. ef 12-31-08; DEQ 1-2011, f. & cert. ef. 2-24-11

**340-230-0310**

**Emissions Limitations**

No person may cause, suffer, allow, or permit the operation of any affected municipal waste combustor unit in a manner that violates the following emission limits and requirements:

(1) Before April 28, 2009, particulate matter emissions from each unit must not exceed 27 milligrams per dry standard cubic meter (0.012 grains per dry standard cubic foot) corrected to 7 percent oxygen. On and after April 28, 2009, particulate matter emissions from each unit must not exceed 25 milligrams per dry standard cubic meter (0.011 grains per dry standard cubic foot) corrected to 7 percent oxygen.

(2) Opacity. The emission limit for opacity exhibited by the gases discharged to the atmosphere from a designated facility must not exceed 10 percent opacity as a 6-minute average.

(3) Municipal Waste Combustor Metals:

(a) Before April 28, 2009, cadmium emissions from each unit must not exceed 0.040 milligrams per dry standard cubic meter (0.000018 gr/dscf) corrected to 7 percent oxygen. On and after April 28, 2009, cadmium emissions from each unit must not exceed 0.020 milligrams per dry standard cubic meter (0.000008 gr/dscf) corrected to 7 percent oxygen.

(b) Before April 28, 2009, lead emissions from each unit must not exceed 0.44 milligrams per dry standard cubic meter (0.00020 gr/dscf) corrected to 7 percent oxygen. On and after April 28, 2009, lead emissions from each unit must not exceed 0.20 milligrams per dry standard cubic meter (0.00009 gr/dscf) corrected to 7 percent oxygen.

(c) Before April 28, 2009, mercury emissions from each unit must not exceed 0.080 milligrams per dry standard cubic meter (0.000035 gr/dscf) or 15 percent of the potential mercury emission concentration (an 85 percent reduction by weight), corrected to 7 percent oxygen, whichever is less stringent. On and after April 28, 2009, mercury emissions from each unit must not exceed 0.050 milligrams per dry standard cubic meter (0.000022 gr/dscf) or 15 percent of the potential mercury emission concentration (an 85-percent reduction by weight), corrected to 7 percent oxygen, whichever is less stringent.

(4) Sulfur dioxide (SO2) emissions from each unit must not exceed 29 parts per million by volume or 25 percent of the potential sulfur dioxide emission concentration (75-percent reduction by weight or volume), corrected to 7 percent oxygen (dry basis), whichever is less stringent. Compliance with this emission limit is based on a 24-hour daily geometric mean.

(5) Hydrogen chloride (HCl) emissions from each unit must not exceed 29 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.

(6) The dioxin/furan emissions from each unit must not exceed:

(a) Before April 28, 2009, 60 nanograms per dry standard cubic meter (total mass), corrected to 7 percent oxygen, for a municipal waste combustor unit that employs an electrostatic precipitator-based emission control system;

(b) On and after April 28, 2009, 35 nanograms per dry standard cubic meter (total mass), corrected to 7 percent oxygen, for a municipal waste combustor unit that employs an electrostatic precipitator-based emission control system;

(c) Before April 28, 2009, 30 nanograms per dry standard cubic meter (total mass), corrected to 7 percent oxygen, for a municipal waste combustor unit that does not employ an electrostatic precipitator-based emission control system. On and after April 28, 2009, 15 nanograms per dry standard cubic meter (total mass), corrected to 7 percent oxygen, for a municipal waste combustor unit that does not employ an electrostatic precipitator-based emission control system.

(7) Emissions of nitrogen oxides from each unit must not exceed 205 parts per million by volume on a dry basis corrected to 7 percent oxygen.

(8) Fugitive Emissions:

(a) No owner or operator may cause or allow 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, except as provided in subsections (b) and (c) of this section.

(b) The emission limit specified in subsection (a) of this section does not cover visible emissions discharged inside buildings or enclosures of ash conveying systems; however, the emission limit specified in subsection (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 subsection (a) of this section do not apply during maintenance and repair of ash conveying systems.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 27-1996, f. & cert. ef. 12-11-96; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0960; DEQ 4-2003, f. & cert. ef. 2-06-03; DEQ 15-2008, f. & cert. ef 12-31-08

**340-230-0320**

**Operating Practices**

(1) Emissions of carbon monoxide from each unit must not exceed 100 parts per million by volume on a dry basis corrected to 7 percent oxygen as a 4-hour block arithmetic average.

(2) No owner or operator of an affected facility may 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 **40 CFR 60.51b** except as specified in subsections (2)(a) and (b) of this rule. The averaging time is a 4-hour block arithmetic average as specified under OAR 340-230-0340(9).

(a) 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 subsection (2)(b) of this rule are met.

(b) 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.

(3) No owner or operator of an affected facility may cause or allow 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 40 CFR 60.51b, except as specified in subsections (3)(a) and (b) of this rule. The averaging time must be a 4-hour block arithmetic average as specified under OAR 340-230-0340(9). The requirements specified in this paragraph apply to each particulate matter control device utilized at the affected facility.

(a) 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 subsection (3)(b) of this rule are met.

(b) 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 continues to apply, and remains enforceable, until and unless the Administrator grants the waiver.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 27-1996, f. & cert. ef. 12-11-96; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0970; DEQ 4-2003, f. & cert. ef. 2-06-03; DEQ 15-2008, f. & cert. ef 12-31-08

**340-230-0330**

**Operator Training and Certification**

(1) Each chief facility operator and shift supervisor must have completed full certification with either the American Society of Mechanical Engineers (ASME) (QRO-1-1994 - see 40 CFR 60.17) or other State approved certification program.

(2) If a chief facility operator or shift supervisor is not fully certified in accordance with section (1) of this rule, the chief facility operator and shift supervisor must obtain and maintain a current provisional operator certification from either the ASME (QRO-1-1994 -- see 40 CFR 60.17) or other State approved certification and must have scheduled a full certification exam with either the ASME (QRO-1-1994) or other State approved certification program.

(3) No owner or operator of an affected facility may 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, a fully certified shift supervisor, or a provisionally certified shift supervisor who is scheduled to take the full certification exam.

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

(A) 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.

(B) 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 or approval. 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 OAR 340-230-0350(3)(e).

(C) 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. However, the owner or operator of the affected facility must take two actions:

(i) Notify the 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.

(ii) Submit a status report and corrective action summary to the every four weeks following the initial notification. If DEQ 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 DEQ withdraws the disapproval, municipal waste combustion unit operation may continue.

(b) 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 for up to six months before taking the ASME QRO certification exam.

(4) The owner or operator of an affected facility must develop and update on a yearly basis a site-specific operating manual that, at a minimum, addresses the elements of municipal waste combustor unit operation specified in subsections (4)(a) through (k) of this rule:

(a) A summary of the applicable standards under OAR 340-230-0310 through 340-230-0335;

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

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

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

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

(f) Procedures for operating the municipal waste combustor unit within the standards established under OAR 340-230-0310 through 340-230-0335;

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

(h) Procedures for minimizing particulate matter carryover;

(i) Procedures for handling ash;

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

(k) Reporting and recordkeeping procedures.

(5) The owner or operator of an affected facility must establish a training program to review the operating manual according to the schedule specified in subsections (5)(a) and (b) of this rule 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.

(a) Each person specified in section (5) of this rule must undergo initial training no later than the date specified in paragraph (5)(a)(A) or (B) of this rule, whichever is later.

(A) The date before the day the person assumes responsibilities affecting municipal waste combustor unit operation; or

(B) June 19, 1998.

(b) Annually, following the initial review required by subsection (5)(a) of this rule.

(6) The operating manual required by section (4) of this rule must be kept in a readily accessible location for all persons required to undergo training under section (5) of this rule. The operating manual and records of training must be available for inspection by the EPA or DEQ upon request.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 27-1996, f. & cert. ef. 12-11-96; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0980; DEQ 4-2003, f. & cert. ef. 2-06-03; DEQ 15-2008, f. & cert. ef 12-31-08

**340-230-0335**

**Standards for Municipal Waste Combustor Fugitive Ash Emissions**

(1) 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 OAR 340-230-0340(11), except as provided in sections (2) and (3) of this rule.

(2) The emission limit specified in section (1) of this rule does not cover visible emissions discharged inside buildings or enclosures of ash conveying systems; however, the emission limit specified in section (1) of this rule does cover visible emissions discharged to the atmosphere from buildings or enclosures of ash conveying systems.

(3) The provisions specified in section (1) of this rule do not apply during maintenance and repair of ash conveying systems.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 15-2008, f. & cert. ef 12-31-08

**340-230-0340**

**Monitoring and Testing**

(1) The standards under OAR 340-230-0300 through 0359 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 subsection (1)(c) of this rule. During periods of startup, shutdown, or malfunction, monitoring data must be dismissed or excluded from compliance calculations, but must be recorded and reported in accordance with the provisions of OAR 340-230-0350(1)(f).

(a) 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.

(b) 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.

(c) For purposes of compliance with the carbon monoxide emissions limit in OAR 340-230-320(1), 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 must be dismissed or excluded from compliance calculations, but must be recorded and reported in accordance with the provisions of 340-230-0350(1)(f).

(2) The owner or operator of an affected facility must 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, or nitrogen oxides emissions, or particulate matter (if the owner or operator elects to continuously monitor emissions under section (13) of this rule) are monitored and record the output of the system and must comply with the test procedures and test methods specified in subsections (2)(a) through (g) of this rule.

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

(b) The monitor must be installed, evaluated, and operated in accordance with 40 CFR 60.13.

(c) The monitor must conform to Performance Specification 3 in appendix B of 40 CFR 60 except for section 2.3 (relative accuracy requirement).

(d) The quality assurance procedures of Appendix F of 40 CFR 60 except for section 5.1.1 (relative accuracy test audit) shall apply to the monitor.

(e) If carbon dioxide is selected for use in diluent corrections, the relationship between oxygen and carbon dioxide levels must be established during the initial performance test according to the following procedures and methods specified in paragraphs (2)(e)(A) through (D) of this rule. This relationship may be reestablished during subsequent performance compliance tests.

(A) The fuel factor equation in Method 3B must be used to determine the relationship between oxygen and carbon dioxide at a sampling location. EPA Reference Method 3, 3A, 3B, or as an alternative ASME PTC-19-10-1981-Part 10, as applicable, must be used to determine the oxygen concentration at the same location as the carbon dioxide monitor.

(B) Samples must be taken for at least 30 minutes in each hour.

(C) Each sample must represent a 1-hour average.

(D) A minimum of three runs must be performed.

(f) The relationship between carbon dioxide and oxygen concentrations that is established in accordance with subsection (2)(e) of this rule must be submitted to DEQ as part of the annual performance test report if the relationship is reestablished during the annual performance test.

(g) During a loss of boiler water level control or loss of combustion air control malfunction period as specified in subsection (1)(c) of this rule, 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.

(3) Except as provided in subsection (3)(i) of this rule, the procedures and test methods specified in subsections (3)(a) through (j) of this rule must be used to determine compliance with the emission limits for particulate matter and opacity under OAR 340-230-0310(1) and (2).

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

(b) EPA Reference Method 3, 3A or 3B, or as an alternative ASME PTC-19-10-1981-Part 10, as applicable, must be used for gas analysis.

(c) EPA Reference Method 5 must be used for determining compliance with the particulate matter emission limit. The minimum sample volume must be 1.7 cubic meters (60 cubic feet). The probe and filter holder heating systems in the sample train must be set to provide a gas temperature no greater than 160°C (320°F). An oxygen or carbon dioxide measurement must be obtained simultaneously with each EPA Reference Method 5 run.

(d) 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 must be established as specified in subsection (2)(e) of this rule.

(e) As specified under 40 CFR 60.8, all performance tests must consist of at least three test runs. The average of the particulate matter emission concentrations from the three test runs is used to determine compliance.

(f) In accordance with subsections (3)(g) and (j) of this rule, EPA Reference Method 9 must be used for determining compliance with the opacity limit except as provided under 40 CFR 60.11(e).

(g) The owner or operator of an affected facility must install, calibrate, maintain, and operate a continuous opacity monitoring system for measuring opacity and must follow the methods and procedures specified in paragraphs (3)(g)(A) through (C) of this rule.

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

(B) The continuous opacity monitoring system must be installed, evaluated, and operated in accordance with 40 CFR 60.13.

(C) The continuous opacity monitoring system must conform to Performance Specification 1 in Appendix B of 40 CFR Part 60.

(h) The owner or operator of an affected facility must 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).

(i) 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 Reference Method 5 must install, calibrate, maintain, and operate a continuous emission monitoring system and must comply with the requirements specified in paragraphs (3)(i)(A) through (N) of this rule. The owner or operator who elects to continuously monitor particulate matter emissions instead of conducting performance testing using EPA Reference Method 5 is not required to complete performance testing for particulate matter as specified in subsection (3)(h) of this rule and is not required to continuously monitor opacity as specified in subsection (3)(g) of this rule.

(A) Notify the Administrator and DEQ one month before starting use of the system.

(B) Notify the Administrator and DEQ one month before stopping use of the system.

(C) The monitor must be installed, evaluated, and operated in accordance with 40 CFR 60.13.

(D) The initial performance evaluation must be completed no later than 180 days of notification to the Administrator and DEQ of use of the continuous monitoring system if the owner or operator was previously determining compliance by Method 5 performance tests, whichever is later.

(E) 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 must be established as specified in subsection (2)(e) of this rule.

(F) The owner or operator of an affected facility must conduct an initial performance test for particulate matter emissions as required under 40 CFR 60.8. Compliance with the particulate matter emission limit must be determined by using the continuous emission monitoring system specified in subsection (3)(i) of this rule to measure particulate matter and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19, section 12.4.1.

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

(H) At a minimum, valid continuous monitoring system hourly averages must be obtained as specified in subparagraphs (3)(i)(H)(i) and (ii) of this rule 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 must be used to calculate each 1-hour arithmetic average.

(ii) Each particulate matter 1-hour arithmetic average must 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.

(I) The 1-hour arithmetic averages required under paragraph (3)(i)(G) of this rule must be expressed in milligrams per dry standard cubic meter corrected to 7 percent oxygen (dry basis) and must be used to calculate the 24-hour daily arithmetic average emission concentrations. The 1-hour arithmetic averages must be calculated using the data points required under 40 CFR 60.13(e)(2).

(J) All valid continuous emission monitoring system data must be used in calculating average emission concentrations even if the minimum continuous emission monitoring system data requirements of paragraph (3)(i)(H) of this rule are not met.

(K) The continuous emission monitoring system must be operated according to Performance Specification 11 in 40 CFR part 60 appendix B.

(L) During each relative accuracy test run of the continuous emission monitoring system required by Performance Specification 11 in 40 CFR part 60 appendix B, particulate matter and oxygen (or carbon dioxide) data must be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in subparagraphs (3)(i)(L)(i) and (ii) of this rule.

(i) For particulate matter, EPA Reference Method 5 must be used.

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

(M) Quarterly accuracy determinations and daily calibration drift tests must be performed in accordance with Procedure 2 in 40 CFR part 60 appendix F.

(N) 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 must 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.

(j) For each affected facility, the owner or operator must 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 subsection (3)(f) of this rule.

(4) The procedures and test methods specified in subsections (4)(a) and (b) of this rule must be used to determine compliance with the emission limits for cadmium, lead, and mercury under OAR 340-230-0310(3).

(a) The procedures and test methods specified in paragraphs (4)(a)(A) through (G) of this rule must be used to determine compliance with the emission limits for cadmium and lead under OAR 340-230-0310(3)(a) and (b).

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

(B) EPA Reference Method 3, 3A, or 3B, or as an alternative ASME PTC-19-10-1981-Part 10, as applicable, must be used for flue gas analysis.

(C) EPA Reference Method 29 must be used for determining compliance with the cadmium and lead emission limits.

(D) An oxygen or carbon dioxide measurement must be obtained simultaneously with each EPA Reference Method 29 test run for cadmium and lead required under paragraph (4)(a)(C) of this rule.

(E) 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 must be established as specified in subsection (2)(e) of this rule.

(F) All performance tests must consist of at least three test runs conducted under representative full load operating conditions. The average of the cadmium and lead emission concentrations from three test runs or more must be used to determine compliance.

(G) The owner or operator of an affected facility must 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).

(b) The procedures and test methods specified in paragraphs (4)(b)(A) through (I) of this rule must be used to determine compliance with the mercury emission limit under OAR 340-230-0310(3)(c).

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

(B) EPA Reference Method 3, 3A, or 3B, or as an alternative ASME PTC-19-10-1981-Part 10, as applicable, must be used for flue gas analysis.

(C) EPA Reference Method 29 or as an alternative ASTM D6784-02 must be used to determine the mercury emission concentration. The minimum sample volume when using EPA Reference Method 29 or as an alternative ASTM D6784-02 for mercury is 1.7 cubic meters (60 cubic feet).

(D) An oxygen (or carbon dioxide) measurement must be obtained simultaneously with each EPA Reference Method 29 or as an alternative ASTM D6784-02 test run for mercury required under paragraph (4)(b)(C) of this rule.

(E) The percent reduction in the potential mercury emissions (%PHg) is computed using equation 1: [Equation not included. See ED. NOTE.]

(F) All performance tests must 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.

(G) The owner or operator of an affected source 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 must be established as specified in subsection (2)(e) of this rule.

(H) The owner or operator of an affected facility must 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).

(I) The owner or operator of an affected facility where activated carbon injection is used to comply with the mercury emission limit must follow the procedures specified in section (12) of this rule for measuring and calculating carbon usage.

(c) In place of cadmium and lead 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 for monitoring cadmium and lead emissions discharged to the atmosphere and record the output of the system according to the provisions of sections (13) and (14) of this rule.

(d) 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 sections (13) and (14) of this rule, or sections (15) and (16) of this rule, 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 (4)(b)(H) of this rule.

(5) The procedures and test methods specified in subsections (5)(a) through (l) of this rule must be used for determining compliance with the sulfur dioxide emission limit under OAR 340-230-0310(4).

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

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

(c) 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 must be established as specified in subsection (2)(e) of this rule.

(d) Compliance with the sulfur dioxide emission limit (concentration or percent reduction) must be determined by using the continuous emission monitoring system specified in subsection (5)(e) of this rule to measure sulfur dioxide and calculating 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.

(e) The owner or operator of an affected facility must install, evaluate, 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 in accordance with 40 CFR 60.13.

(f) Compliance with the sulfur dioxide emission limit must 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.

(g) At a minimum, valid continuous monitoring system hourly averages must be obtained as specified in paragraphs (5)(g)(A) and (B) of this rule for 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 must be used to calculate each 1-hour arithmetic average.

(B) Each sulfur dioxide 1-hour arithmetic average must 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.

(h) The 1-hour arithmetic averages required under subsection (5)(f) of this rule must 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 must be calculated using the data points required under 40 CFR 60.13(e)(2).

(i) All valid continuous emission monitoring system data must be used in calculating average emission concentrations and percent reductions even if the minimum continuous emission monitoring system data requirements of subsection (5)(g) of this rule are not met.

(j) The continuous emission monitoring system must be operated according to Performance Specification 2 in appendix B of 40 CFR 60. 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.

(A) During each relative accuracy test run of the continuous emission monitoring system required by Performance Specification 2 in appendix B of 40 CFR 60, sulfur dioxide and oxygen (or carbon dioxide) must be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in subparagraphs (5)(j)(A)(i) and (ii) of this rule.

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

(ii) For oxygen (or carbon dioxide), EPA Reference Method 3, 3A, or 3B, or as an alternative ASME PTC-19-10-1981-Part 10, must be used.

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

(k) Quarterly accuracy determinations and daily calibration tests must be performed in accordance with Procedure 1 in Appendix F of 40 CFR 60.

(l) 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 must be obtained by using other monitoring systems as approved by DEQ 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.

(6) The procedures and test methods specified in subsections (6)(a) through (h) if this rule must be used for determining compliance with the hydrogen chloride emission limit under OAR 340-230-0310(5).

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

(b) An oxygen (or carbon dioxide) measurement must be obtained simultaneously with each test run for hydrogen chloride required by subsection (6)(a) of this rule.

(c) The percent reduction in potential hydrogen chloride emissions (% PHCl) is computed using equation 2: [Equation not included. See ED. NOTE.]

(d) 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 must be established as specified in subsection (2)(e) of this rule.

(e) As specified under 40 CFR 60.8, all performance tests must consist of three test runs. The average of the hydrogen chloride emission concentrations from the three test runs is used to determine compliance.

(f) The owner or operator of an affected facility must conduct a performance test for hydrogen chloride emissions 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).

(g) 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 sections (13) and (14) of this rule.

(7) The procedures and test methods specified in subsections (7)(a) through (h) of this rule must be used to determine compliance with the limits for dioxin/furan emissions under OAR 340-230-0310(6).

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

(b) EPA Reference Method 3, 3A, or 3B, or as an alternative ASME PTC-19-10-1981-Part 10, as applicable, must be used for flue gas analysis.

(c) EPA Reference Method 23 must be used for determining the dioxin/furan emission concentration.

(A) The minimum sample time must be 4 hours per test run.

(B) An oxygen (or carbon dioxide) measurement must be obtained simultaneously with each EPA Reference Method 23 test run for dioxins/furans.

(d) The owner or operator of an affected facility must conduct performance tests for dioxin/furan emissions in accordance with subsection (7)(c) of this rule, according to one of the schedules specified in paragraphs (7)(d)(A) through (C) of this rule.

(A) Performance tests must 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).

(B) 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 (7)(d)(C) of this rule, 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 subparagraphs (7)(d)(B)(i) through (iv) of this rule.

(i) Follow the testing schedule established in paragraph (7)(d)(C) of this rule. For example, each year a different affected facility at the municipal waste combustor plant must be tested, and the affected facilities at the plant must be tested in sequence (e.g., unit 1, unit 2, unit 3, as applicable).

(ii) Where such units use carbon to meet the applicable dioxin/furan emission limit, upon meeting the requirements in paragraph (7)(d)(C) of this rule 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 section (13) of this rule to similarly designed and equipped units on site.

(iii) Upon testing each subsequent unit in accordance with the testing schedule established in paragraph (7)(d)(C) of this rule, the dioxin/furan and mercury emissions of the subsequent unit must not exceed the dioxin/furan and mercury emissions measured in the most recent test of that unit prior to the revised operating parameter levels.

(iv) The owner or operator of an affected facility that selects to follow the performance testing schedule specified in paragraph (7)(d)(C) of this rule and apply the carbon injection system operating parameters to similarly designed and equipped units on site must follow the procedures specified in OAR 340-230-0350(3)(d) for reporting.

(C) 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 must 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 must be tested, and the affected facilities at the plant must 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 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 thereafter must 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).

(e) The owner or operator of an affected facility that selects to follow the performance testing schedule specified in paragraph (7)(d)(C) of this rule must follow the procedures specified in OAR 340-230-0350(3)(d) for reporting the selection of this schedule.

(f) The owner or operator of an affected facility where activated carbon is used must follow the procedures specified in section (12) of this rule for measuring and calculating the carbon usage rate.

(g) 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 must be established as specified in subsection (2)(e) of this rule.

(h) As specified under 40 CFR 60.8, all performance tests must consist of three test runs. The average of the dioxin/furan emission concentrations from the three test runs is used to determine compliance.

(i) 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 Reference 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 Reference Method 23 must install, calibrate, maintain, and operate a continuous automated sampling system and must comply with the requirements specified in sections (15) and (16) of this rule.

(8) The procedures and test methods specified in subsections (8)(a) through (i) of this rule must be used to determine compliance with the nitrogen oxides emission limit for affected facilities.

(a) Compliance with the nitrogen oxides emission limit must be determined by using the continuous emission monitoring system specified in subsection (8)(c) of this rule for measuring nitrogen oxides and calculating a 24-hour daily arithmetic average emission concentration using EPA Reference Method 19, section 4.1.

(b) An owner or operator 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 must be established as specified in subsection (2)(e) of this rule.

(c) The owner or operator of an affected facility must 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.

(d) At a minimum, valid continuous emission monitoring system hourly averages must be obtained as specified in paragraphs (8)(d)(A) and (B) of this rule 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.

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

(B) Each nitrogen oxides 1-hour arithmetic average must 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.

(e) The 1-hour arithmetic averages must 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 must be calculated using the data points required under 40 CFR 60.13(e)(2).

(f) 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 subsection (8)(d) of this rule are not met.

(g) The owner or operator of an affected facility must operate the continuous emission monitoring system according to Performance Specification 2 in Appendix B of 40 CFR 60 and must follow the procedures and methods specified in paragraphs (8)(g)(A) and (B) of this rule.

(A) During each relative accuracy test run of the continuous emission monitoring system required by Performance Specification 2 in Appendix B of 40 CFR 60, nitrogen oxides and oxygen (or carbon dioxide) must be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in subparagraphs (8)(g)(A)(i) and (ii) of this rule.

(i) For nitrogen oxides, EPA Reference Methods 7, 7A, 7C, 7D, or 7E must be used.

(ii) 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, must be used.

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

(h) Quarterly accuracy determinations and daily calibration drift tests must be performed in accordance with Procedure 1 in Appendix F of 40 CFR Part 60.

(i) When nitrogen oxides continuous emissions data are not obtained because of continuous emission monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data must be obtained using other monitoring systems as approved by DEQ 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.

(9) The procedures specified in subsections (9)(a) through (k) of this rule must be used for determining compliance with the operating requirements under OAR 340-230-0320.

(a) Compliance with the carbon monoxide emission limits in OAR 340-230-0320(1) must be determined using a 4-hour block arithmetic average.

(b) The owner or operator of an affected facility must 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 must follow the procedures and methods specified in paragraphs (9)(a)(A) through (C) of this rule:

(A) The continuous emission monitoring system must be operated according to Performance Specification 4A in Appendix B of 40 CFR 60.

(B) During each relative accuracy test run of the continuous emission monitoring system required by Performance Specification 4A in Appendix B of 40 CFR Part 60, carbon monoxide and oxygen (or carbon dioxide) data must be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in subparagraphs (9)(b)(B)(i) and (ii) of this rule. 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.

(i) For carbon monoxide, EPA Reference Methods 10, 10A, or 10B must be used.

(ii) For oxygen (or carbon dioxide), EPA Reference Method 3, 3A, or 3B, or ASME PTC-19-10-1981 -- Part 10 (incorporated by reference, see 40 CFR 60.17), as applicable, must be used.

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

(c) The 4-hour block daily arithmetic averages specified in subsection (9)(a) of this rule must 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 must be calculated using the data points generated by the continuous emission monitoring system. At least two data points must be used to calculate each 1-hour arithmetic average.

(d) 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 must be established as specified in subsection (2)(e) of this rule.

(e) The procedures specified in paragraphs (9)(e)(A) through (D) of this rule must be used to determine compliance with load level requirements under OAR 340-230-0320(2).

(A) The owner or operator of an affected facility with steam generation capability must 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 must be calculated in 4-hour block arithmetic averages.

(B) 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 40 CFR 60.17) must be used for calculating the steam (or feedwater) flow required under paragraph (9)(c)(A) of this rule. 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 40 CFR 60.17) must be followed for design, construction, installation, calibration, and use of nozzles and orifices except as specified in paragraph (9)(e)(C) of this rule:

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

(D) 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.

(f) To determine compliance with the maximum particulate matter control device temperature requirements under OAR 340-230-0320(3), the owner or operator of an affected facility must 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 must be calculated in 4-hour block arithmetic averages.

(g) The maximum demonstrated municipal waste combustor unit load must 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 OAR 340-230-0310(6) 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 (7)(d)(C) of this rule, 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.

(h) For each particulate matter control device employed at the affected facility, the maximum demonstrated particulate matter control device temperature must be determined during each performance test during which compliance with the dioxin/furan emission limit specified in OAR 340-230-0310(6) 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 (7)(d)(C) of this rule, 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.

(i) At a minimum, valid continuous emission monitoring system hourly averages must be obtained as specified in paragraphs (9)(i)(A) and (B) of this rule 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 must be used to calculate each 1-hour arithmetic average.

(B) At a minimum, each carbon monoxide 1-hour arithmetic must 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.

(j) All valid continuous emission monitoring system data must be used in calculating the parameters specified under section (9) of this rule even if the minimum data requirements of subsection (9)(i) of this rule 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 must be obtained using other monitoring systems as approved by DEQ or EPA Reference Method 10 to provide, as necessary, the minimum valid emission data.

(k) Quarterly accuracy determinations and daily calibration drift tests for the carbon monoxide continuous emission monitoring system must be performed in accordance with **Procedure 1** in **appendix F of 40 CFR part 60**.

(10) The procedures specified in subsections (10)(a) an (b) of this rule must be used for calculating municipal waste combustor unit capacity as defined by 40 CFR 60.51b.

(a) For municipal waste combustor units capable of combusting municipal solid waste continuously for a 24-hour period, municipal waste combustor unit capacity must be calculated based on 24 hours of operation at the maximum charging rate. The maximum charging rate must be determined as specified in paragraphs (10)(a)(A) and (B) of this rule, as applicable:

(A) For combustors that are designed based on heat capacity, the maximum charging rate must 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.

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

(b) For batch feed municipal waste combustor units, municipal waste combustor unit capacity must 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 must be used in calculating the municipal waste combustor unit capacity in megagrams per day of municipal solid waste.

(11) The procedures specified in subsections (11)(a) through (c) of this rule must be used for determining compliance with the fugitive ash emission limit under OAR 340-0230-0335.

(a) EPA Reference Method 22 must be used for determining compliance with the fugitive ash emission limit under OAR 340-0230-0335. The minimum observation time must be a series of three 1-hour observations. The observation period must 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.

(b) The average duration of visible emissions per hour must be calculated from the three 1-hour observations. The average must be used to determine compliance with OAR 340-0230-0335.

(c) The owner or operator of an affected facility must conduct a performance test for fugitive ash emissions 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 period).

(12) The owner or operator of an affected facility where activated carbon injection is used to comply with the mercury emission limit under OAR 340-230-0310(3)(c), the dioxin/furan emission limits under OAR 340-230-0310(6), or the dioxin/furan emission level specified in paragraph (7)(d)(C) of this rule must follow the procedures specified in subsections (12)(a) through (d) of this rule.

(a) During the performance tests for dioxins/furans and mercury, as applicable, the owner or operator must 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 (12)(a)(A) and (B) of this rule.

(A) An average carbon mass feed rate in kilograms per hour or pounds per hour must be estimated during each performance test for mercury emissions.

(B) An average carbon mass feed rate in kilograms per hour or pounds per hour must be estimated during each performance test for dioxin/furan emissions, if applicable. If a subsequent dioxin/furan performance test is being performed on only one affected facility at the MWC plant, as provided in paragraph (7)(d)(C) of this rule, 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.

(b) 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) must be averaged over a block 8-hour period, and the 8-hour average must equal or exceed the level(s) documented during the performance tests specified under paragraphs (12)(a)(A) and (B) of this rule, except as specified in paragraphs (12)(b)(A) and (B) of this rule.

(A) 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 (12)(b)(B) of this rule are met.

(B) 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.

(c) The owner or operator must 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 (12)(c)(A) and (B) of this rule.

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

(B) 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 subsection (12)(a) of this rule, and sum the results for all affected facilities at the plant for the total number of hours of operation during the calendar quarter.

(d) Pneumatic injection pressure or other carbon injection system operational indicator must be used to provide additional verification of proper carbon injection system operation. The operational indicator must 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, must be included in subsection (5)(f) of this rule of the site-specific operating manual required under OAR 340-230-0330(4).

(13) 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), affected facilities 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 subsection (13)(m) of this rule and section (14) of this rule. 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 subsection (13)(m) of this rule and section (14) of this rule. The owner or operator of an affected facility who elects to continuously monitor emissions instead of conducting manual performance testing must install, calibrate, maintain, and operate a continuous emission monitoring system and must comply with the requirements in subsections (13)(a) through (n) of this rule.

(a) Notify the Administrator and DEQ one month before starting use of the system.

(b) Notify the Administrator and DEQ one month before stopping use of the system.

(c) The monitor must be installed, evaluated, and operated in accordance with 40 CFR 60.13.

(d) The initial performance evaluation must be completed no later than 180 days after the date of initial startup of the affected facility, as specified under 40 CFR 60.8 or within 180 days of notification to the Administrator and DEQ of use of the continuous monitoring system if the owner or operator was previously determining compliance by EPA Reference Method 26, 26A, 29, or as an alternative ASTM D6784-02 (as applicable) performance tests, whichever is later.

(e) 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 must be established as specified in subsection (2)(e) of this rule.

(f) The owner or operator must conduct an initial performance test for emissions as required under 40 CFR 60.8. Compliance with the emission limits must be determined by using the continuous emission monitoring system specified in section (13) of this rule to measure emissions and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19, section 12.4.1.

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

(h) 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 must be obtained as specified in paragraphs (13)(h)(A) and (B) of this rule 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 must be used to calculate each 1-hour arithmetic average.

(B) Each 1-hour arithmetic average must 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.

(i) The 1-hour arithmetic averages required under subsection (13)(g) of this rule must 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 must be used to calculate the 24-hour daily arithmetic (block) average emission concentrations. The 1-hour arithmetic averages must be calculated using the data points required under 40 CFR 60.13(e)(2).

(j) All valid continuous emission monitoring system data must be used in calculating average emission concentrations even if the minimum continuous emission monitoring system data requirements of subsection (13)(h) of this rule are not met.

(k) The continuous emission monitoring system for mercury must be operated according to Performance Specification 12A in 40 CFR part 60 appendix B or the approved site-specific monitoring plan.

(l) During each relative accuracy test run of the continuous emission monitoring system required by the performance specifications in subsection (13)(k) of this rule, mercury, cadmium, lead, hydrogen chloride, and oxygen (or carbon dioxide) data must be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in paragraphs (13)(l)(A) through (C) of this rule.

(A) For mercury, cadmium, and lead, EPA Reference Method 29 or as an alternative ASTM D6784-02 must be used.

(B) For hydrogen chloride, EPA Reference Method 26 or 26A must be used.

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

(m) 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 section (14) of this rule. The owner or operator who relies on a performance specification may refer to that document in addressing applicable procedures and criteria.

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

(14) 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 subsections (14)(a) through (g) of this rule.

(a) 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).

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

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

(d) Provisions for periods when the continuous emission monitoring system is out of control as described in paragraphs (14)(d)(A) through (C) of this rule.

(A) A continuous emission monitoring system is out of control if either of the conditions in subparagraph (14)(d)(A)(i) or (ii) of this rule are met.

(i) 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

(ii) 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.

(B) When the continuous emission monitoring system is out of control as defined in paragraph (14)(d)(A) of this rule, the owner or operator of the affected source must take the necessary corrective action and must repeat all necessary tests that indicate that the system is out of control. The owner or operator must 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 subsection (13)(h) of this rule.

(C) The owner or operator of a continuous emission monitoring system that is out of control as defined in subsection (14)(d) of this rule must 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 OAR 340-230-0350(3) or (4).

(e) Ongoing data quality assurance procedures for continuous emission monitoring systems as described in paragraphs (14)(e)(A) and (B) of this rule.

(A) Develop and implement a continuous emission monitoring system quality control program. As part of the quality control program, the owner or operator must 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 (14)(e)(B) of this rule. In addition, each quality control program must include, at a minimum, a written protocol that describes procedures for each of the operations described in subparagraphs (14)(e)(A)(i) through (vi) of this rule.

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

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

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

(iv) Data recording, calculations, and reporting;

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

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

(B) The performance evaluation test plan must 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 must 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. The external quality assurance program must include, at a minimum, systems audits that include the opportunity for on-site evaluation by the Administrator or DEQ of instrument calibration, data validation, sample logging, and documentation of quality control data and field maintenance activities.

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

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

(15) 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. 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 must install, calibrate, maintain, and operate the sampling system and conduct analyses in compliance with the requirements specified in subsections (15)(a) through (k) of this rule.

(a) Notify the Administrator and DEQ one month before starting use of the system.

(b) Notify the Administrator and DEQ one month before stopping use of the system.

(c) The initial performance evaluation must be completed within 180 days of notification to the Administrator and DEQ 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.

(d) 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 must be established as specified in subsection (2)(e) of this rule.

(e) The owner or operator must conduct an initial performance test for emissions as required under 40 CFR 60.8. Compliance with the emission limits must be determined by using the continuous automated sampling system specified in section (15) of this rule to collect integrated samples and analyze emissions for the time period specified in paragraphs (15)(e)(A) and (B) of this rule.

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

(B) For mercury, the continuous automated sampling system must collect an integrated sample over each 24-hour daily period and the sample must be analyzed according to the applicable final performance specification or the approved site-specific monitoring plan required by section (16) of this rule.

(f) Compliance with the emission limits must 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 must 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).

(g) 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.

(h) All valid data must be used in calculating emission concentrations.

(i) The continuous automated sampling system must be operated according to the final performance specification or the approved site-specific monitoring plan.

(j) 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 section (16) of this rule. The owner or operator who relies on a performance specification may refer to that document in addressing applicable procedures and criteria.

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

(16) 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 subsections (16)(a) through (g) of this rule.

(a) 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).

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

(c) Performance evaluation procedures and acceptance criteria.

(d) Provisions for periods when the continuous automated sampling system is malfunctioning or is out of control as described in paragraphs (16)(d)(A) through (C) of this rule.

(A) The site-specific monitoring plan must identify criteria for determining that the continuous automated sampling system is out of control. This includes 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 subsection (16)(e) of this rule.

(B) When the continuous automated sampling system is out of control as defined in paragraph (16)(d)(A) of this rule, the owner or operator must take the necessary corrective action and must repeat all necessary tests that indicate that the system is out of control. The owner or operator must 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 subsection (15)(h) of this rule.

(C) The owner or operator of a continuous automated sampling system that is out of control as defined in subsection (16)(d) of this rule must 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 OAR 340-230-0350(3) or (4).

(e) Ongoing data quality assurance procedures for continuous automated sampling systems as described in paragraphs (16)(e)(A) and (B) of this rule.

(A) Develop and implement a continuous automated sampling system and analysis quality control program. As part of the quality control program, affected facilities must 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 (16)(e)(B) of this rule. In addition, each quality control program must include, at a minimum, a written protocol that describes procedures for each of the operations described in subparagraphs (16)(e)(A)(i) through (vii) of this rule.

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

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

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

(iv) 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;

(v) 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;

(vi) Accuracy audit procedures for analytical methods; and

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

(B) The performance evaluation test plan must 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 must 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 subsection (15)(c) of this rule, and an assessment of quality of analysis results. The external quality assurance program must include, at a minimum, systems audits that include the opportunity for on-site evaluation by the Administrator or DEQ of instrument calibration, data validation, sample logging, and documentation of quality control data and field maintenance activities.

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

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

(17) Continuous monitoring for opacity, sulfur dioxide, nitrogen oxides, carbon monoxide,and diluent gases (oxygen or carbon dioxide) must be conducted in accordance with DEQ's Continuous Monitoring Manual and the specific requirements of this rule. If at any time there is a conflict between DEQ's Continuous Monitoring Manual and the federal requirements contained in **40 CFR 60.13**, **Appendix B** and **Appendix F**), the federal requirements must govern.

[ED NOTE: Equations referenced are available from the agency.]
[Publications: Publications referenced are available from the agency.]

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.02
Hist.: DEQ 27-1996, f. & cert. ef. 12-11-96; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-0990; DEQ 4-2003, f. & cert. ef. 2-06-03; DEQ 15-2008, f. & cert. ef 12-31-08

**340-230-0350**

**Recordkeeping and Reporting**

(1) The owner or operator of an affected facility subject to the standards contained in OAR 340-230-0310 through 340-230-0335 must maintain records of the information specified in subsections (1)(a) through (l) of this rule , as applicable, for each affected facility for a period of at least 5 years. The information must be available for submittal to DEQ or for review onsite by an inspector.

(a) The calendar date of each record.

(b) The emission concentrations and parameters measured using continuous monitoring systems as specified in paragraphs (1)(b)(A) and (B) of this rule:

(A) The measurements specified in subparagraphs (1)(b)(A)(i) through (v) of this rule must be recorded and be available for submittal to DEQ or review on-site by Department inspector:

(i) All 6-minute average opacity levels as specified under OAR 340-230-0340(3).

(ii) All 1-hour average sulfur dioxide emission concentrations as specified under OAR 340-230-0340(5).

(iii) All 1-hour average nitrogen oxides emission concentrations as specified under OAR 340-230-0340(8).

(iv) All 1-hour average carbon monoxide emission concentrations, municipal waste combustor unit load measurements (if applicable), and particulate matter control device inlet temperatures as specified under OAR 340-230-0340(9).

(v) 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 OAR 340-230-0340(13).

(B) The average concentrations and percent reductions, as applicable, specified in subparagraphs (1)(b)(B)(i) through (vi) of this rule must be computed and recorded, and must be available for submittal to DEQ or review on-site by Department inspector.

(i) 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 OAR 340-230-0340(5).

(ii) All 24-hour daily arithmetic average nitrogen oxides emission concentrations as specified under OAR 340-230-0340(8).

(iii) All 4-hour block or 24-hour daily arithmetic average carbon monoxide emission concentrations, as applicable, as specified under OAR 340-230-0340(9).

(iv) All 4-hour block arithmetic average municipal waste combustor unit load levels (if applicable) and particulate matter control device inlet temperatures as specified under OAR 340-230-0340(9).

(v) 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 OAR 340-230-0340(13).

(vi) 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 OAR 340-230-0340(15).

(c) Identification of the calendar dates when any of the average emission concentrations, percent reductions, or operating parameters recorded under subparagraphs (1)(b)(B)(i) through (vi) of this rule, or the opacity levels recorded under subparagraph (1)(b)(A)(i) of this rule are above the applicable limits, with reasons for such exceedances and a description of corrective actions taken.

(d) For affected facilities that apply activated carbon for mercury or dioxin/furan control, the records specified in paragraphs (1)(d)(A) through (E) of this rule:

(A) The average carbon mass feed rate (in kilograms per hour or pounds per hour) estimated as specified under OAR 340-230-0340(12)(a)(A) during each mercury emissions performance test, with supporting calculations.

(B) The average carbon mass feed rate (in kilograms per hour or pounds per hour) estimated as specified under OAR 340-230-0340(12)(a)(B) during each dioxin/furan emissions performance test, with supporting calculations.

(C) The average carbon mass feed rate (in kilograms per hour or pounds per hour) estimated for each hour of operation as specified under OAR 340-230-0340(12)(c)(B), with supporting calculations.

(D) The total carbon usage for each calendar quarter estimated as specified under OAR 340-230-0340(12)(c), with supporting calculations.

(E) 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).

(e) Identification of the calendar dates and times (hours) for which valid hourly data specified in paragraphs (1)(e)(A) through (F) of this rule have not been obtained, or continuous automated sampling systems were not operated as specified in paragraph (1)(e)(G) of this rule, including reasons for not obtaining the data and a description of corrective actions taken.

(A) Sulfur dioxide emissions data;

(B) Nitrogen oxides emissions data;

(C) Carbon monoxide emissions data;

(D) Municipal waste combustor unit load data;

(E) Particulate matter control device temperature data; and

(F) 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.

(G) For owners and operators who elect to use continuous automated sampling systems for dioxins/furans or mercury as allowed under OAR 340-230-0340(15) and (16), dates and times when the sampling systems were not operating or were not collecting a valid sample.

(f) 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.

(g) The results of daily drift tests and quarterly accuracy determinations for sulfur dioxide, nitrogen oxides, and carbon monoxide continuous emission monitoring systems, as required by 40 CFR part 60 appendix F, procedure 1.

(h) The test reports documenting the results of the initial performance test and all annual performance tests listed in paragraphs (1)(h)(A) and (B) of this rule must be recorded along with supporting calculations:

(A) 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.

(B) For the initial dioxin/furan performance test and all subsequent dioxin/furan performance tests recorded under paragraph (1)(h)(A) of this rule, the maximum demonstrated municipal waste combustor unit load and maximum demonstrated particulate matter control device temperature (for each particulate matter control device).

(i) An owner or operator who elects to continuously monitor emissions instead of performance testing by EPA manual methods must maintain records specified in paragraphs (1)(i)(A) through (C) of this rule.

(A) For owners and operators who elect to continuously monitor particulate matter instead of conducting performance testing using EPA manual test methods, as required under 40 CFR part 60 appendix F, procedure 2, the results of daily drift tests and quarterly accuracy determinations for particulate matter.

(B) 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 OAR 340-230-0340(14)(e).

(C) 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 OAR 340-230-0340(16)(e).

(j) Training records specified in paragraphs (1)(j)(A) through (D) of this rule.

(A) 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 OAR 340-230-0330(1), including the dates of initial and renewal certifications and documentation of current certification.

(B) 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 OAR 340-230-0330(2), including the dates of initial and renewal certifications and documentation of current certification.

(C) 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, including documentation of training completion.

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

(i) 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.

(ii) 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:

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

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

(III) The corrective actions taken by 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.

(IV) 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.

(k) Records showing the names of persons who have completed a review of the operating manual as required by OAR 340-230-0330(5), including the date of the initial review and subsequent annual reviews.

(l) For affected facilities that apply activated carbon for mercury or dioxin/furan control:

(A) Identification of the calendar dates when the average carbon mass feed rates were less than either of the hourly carbon feed rates estimated during performance tests for mercury or dioxin/furan emissions with reasons for such feed rates and a description of corrective actions taken.

(B) 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 OAR 340-230-0340(12)(a)(A) and (B) are below the level(s) estimated during the performance tests, with reasons for such occurrences and a description of corrective actions taken.

(2) The owner or operator of an affected facility must submit the information specified in subsections (2)(a) through (f) of this rule in a performance test report within 60 days following the completion of each performance test.

(a) The performance test data as recorded under subparagraphs (1)(b)(B)(i) through (iv) of this rule for each performance test for sulfur dioxide, nitrogen oxide, carbon monoxide, municipal waste combustor unit load level, and particulate matter control device inlet temperature.

(b) The test report documenting the performance test recorded under subsection (1)(h) of this rule for particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, fugitive ash emissions.

(c) The performance evaluation of the continuous emission monitoring systems using the applicable performance specifications in 40 CFR 60 appendix B.

(d) The maximum demonstrated municipal waste combustor unit load and maximum demonstrated particulate matter control device inlet temperature(s) established during the dioxin/furan performance test.

(e) For affected facilities that apply activated carbon injection for mercury control, the owner or operator must submit the average carbon mass feed rate recorded during the mercury performance test.

(f) For affected facilities that apply activated carbon injection for dioxin/furan control, the owner or operator must submit the average carbon mass feed rate recorded during the dioxin/furan performance test.

(3) The owner or operator of an affected facility must submit semi-annual reports that includes the information specified in subsections (3)(a) through (e) of this rule, as applicable, no later than July 30 for the first six months of each calendar year and February 1 for the second six months of each calendar year.

(a) A summary of data collected for all pollutants and parameters regulated under this rule, which includes the information specified in paragraphs (3)(a)(A) through (E) of this rule:

(A) A list of the particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emission levels achieved during any performance tests conducted during the reporting period.

(B) 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 during the reporting period.

(C) List the highest opacity level measured based on the data recorded during the reporting period.

(D) Periods when valid data were not obtained as described in subparagraphs (3)(a)(D)(i) through (iii) of this rule.

(i) 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 during the reporting period.

(ii) 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 during the reporting period. 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.

(iii) 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 during the reporting period. 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.

(E) Periods when valid data were excluded from the calculation of average emission concentrations or parameters as described subparagraphs (3)(a)(E)(i) through (iii) of this rule.

(i) 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 during the reporting period.

(ii) 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 during the reporting period.

(iii) 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 during the reporting periods.

(b) The summary of data reported under subsection (3)(a) of this rule must also provide the types of data specified in subsection (3)(a)(A) through (E) of this rule for the calendar year preceding the year being reported, in order to provide DEQ with a summary of the performance of the affected facility over a 2-year period.

(c) The summary of data including the information specified in subsections (3)(a) and (b) of this rule must highlight any emission or parameter levels that did not achieve the emission or parameter limits specified by OAR 340-230-0310 through 340-230-0320.

(d) A notification of intent to begin the reduced dioxin/furan performance testing schedule specified in OAR 340-230-0340(7)(d)(C) 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 OAR 340-230-0340(12) to similarly designed and equipped units on site.

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

(4) The owner or operator of an affected facility must submit a semiannual report that includes the information specified in subsections (4)(a) through (e) of this rule for any recorded pollutant or parameter that does not comply with the pollutant or parameter limit by July 30 for the first six months of each calendar year and February 1 for the second six months of each calendar year.

(a) The semiannual report must include information recorded under subsection (1)(c) of this rule 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 that 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.

(b) For each date recorded under subsection (1)(c) of this rule and reported, as required by subsection (4)(a) of this rule, the semiannual report must 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 subparagraphs (1)(b)(A)(i) and (1)(b)(B)(i) through (iv) of this rule, as applicable.

(c) If the test reports recorded under subsection (1)(h) of this rule 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 must include a copy of the test report documenting the emission levels and the corrective actions taken.

(d) The semiannual report must include the information recorded under subparagraph (1)(l)(B) of this rule for the carbon injection system operating parameter(s) that are the primary indicator(s) of carbon mass feed rate.

(e) For each operating date reported as required under subsection (4)(d) of this rule, the semiannual report must include the carbon feed rate data recorded under paragraph (1)(d)(C) of this rule.

(5) All reports specified under sections (2) through (4) of this rule must be submitted as a paper copy, postmarked on or before the submittal dates specified, and maintained onsite as a paper copy for a period of 5 years.

(6) All records specified under section (1) of this rule must be maintained onsite in either paper copy or computer-readable format, unless an alternative format is approved by DEQ.

(7) If the owner or operator of an affected facility would prefer to select a different annual or semiannual date for submitting the periodic reports required under paragraphs (3) and (4) of this rule, then the dates may be changed in an Oregon Title V Operating Permit by mutual agreement between the owner or operator and DEQ according to the procedures specified in 40 CFR 60.19(c).

(8) 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 and DEQ 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.

(9) 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 sections (1) through (8) of this rule, 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 OAR 340-230-0340(13), must maintain the records in subsections (9)(a) through (j) of this rule and report the information in subsections (9)(k) and (l) of this rule, relevant to the continuous emission monitoring system:

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

(b) 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.

(c) The date and time identifying each period during which the continuous emission monitoring system was out of control, as defined in OAR 340-230-0340(14)(d).

(d) 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.

(e) 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;

(f) The nature and cause of any malfunction (if known).

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

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

(i) All procedures that are part of a quality control program developed and implemented for the continuous emission monitoring system under OAR 340-230-0340(14).

(j) 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 must report the results as required for each continuous emission monitoring system.

(k) Submit to DEQ for approval, the site-specific monitoring plan required by OAR 340-230-0340(13)(m) and (14), including the site-specific performance evaluation test plan for the continuous emission monitoring system required by OAR 340-230-0340(14)(e). The owner or operator must 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 DEQ. If the site-specific monitoring plan is revised and approved, the owner or operator must keep previous (i.e., superseded) versions of the plan on record to be made available for inspection, upon request, by DEQ, for a period of 5 years after each revision to the plan.

(l) 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 report required in sections (3) or (4) of this rule.

(10) 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 sections (1) through (8) of this rule, the owner or operator of an affected facility who elects to install a continuous automated sampling system for dioxin/furan or mercury, as specified in OAR 340-230-0340(16), must maintain the records in subsections (10)(a) through (j) of this rule and report the information in subsections (10)(k) and (l) of this rule, relevant to the continuous automated sampling system:

(a) 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);

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

(c) The date and time identifying each period during which the continuous automated sampling system was out of control, as defined in OAR 340-230-0340(16)(d);

(d) 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;

(e) 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;

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

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

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

(i) All procedures that are part of a quality control program developed and implemented for the continuous automated sampling system under OAR 340-230-0340(16);

(j) 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 must report the results as required for each system.

(k) Submit to DEQ for approval, the site-specific monitoring plan required by OAR 340-230-0340(15)(k) and (16) including the site-specific performance evaluation test plan for the continuous emission monitoring system required by OAR 340-230-0340(16)(e). The owner or operator must 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 DEQ. If the site-specific monitoring plan is revised and approved, the owner or operator must keep previous (i.e., superseded) versions of the plan on record to be made available for inspection, upon request, by DEQ, for a period of 5 years after each revision to the plan.

(l) 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 sections (3) or (4) of this rule.

(11) For affected facilities installing additional controls, the owner or operator must submit to DEQ semi-annual progress reports on July 30 for the first six months of each calendar year and February 1 for the second six months of each calendar year..

(12) The owner or operator of an affected facility subject to OAR 340-230-0300 through 340-230-0350 must maintain records of and submit the following information with any Notice of Construction required by OAR 340-210-0200 through 340-210-0220 or Notice of Approval required by 340-218-0190:

(a) Intent to construct;

(b) Planned initial startup date;

(c) The types of fuels that the owner or operated plans to combust in the municipal waste combustor; and

(d) The municipal waste combustor unit capacity and supporting capacity calculations prepared in accordance with OAR 340-230-0340(10).

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 27-1996, f. & cert. ef. 12-11-96; DEQ 4-2003, f. & cert. ef. 2-06-03DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-025-1000; DEQ 4-2003, f. & cert. ef. 2-06-03; DEQ 15-2008, f. & cert. ef 12-31-08

**340-230-0359**

**Compliance Schedule**

(1) Compliance with the revised April 28, 2009 emission limits in OAR 340-230-0310 is required as expeditiously as practicable, but not later than April 28, 2009, except as provided in section (2) of the rule.

(2) The owner or operator of an affected facility who is planning an extensive emission control system upgrade may petition the Administrator for a longer compliance schedule and must demonstrate to the satisfaction of the Administrator the need for additional time. If approved, the schedule may exceed the schedule in section (1) of this rule, but cannot exceed May 10, 2011.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 15-2008, f. & cert. ef 12-31-08

**340-230-0365**

**Small Municipal Waste Combustion Unit**

(1) Applicability:

(a) OAR 340-230-0365 through 340-230-0395 apply to each municipal waste combustion unit that has the capacity to combust at least 35 tons per day of municipal solid waste but no more than 250 tons per day of municipal solid waste or refuse-derived fuel on which construction commenced on or before August 30, 1999.

(A) Class I units are small municipal waste combustion units that are located at municipal waste combustion plants with an aggregate plant combustion capacity greater than 250 tons per day of municipal solid waste.

(B) Class II units are small municipal waste combustion units that are located at municipal waste combustion plants with an aggregate plant combustion capacity less than or equal to 250 tons per day of municipal solid waste.

(b) MWC subject to OAR 340-230-0365 through 340-230-0395 are not subject to the incinerator rules in 340-230-0100 through 340-230-0150.

(2) The following units in OAR 340-230-0365(2)(a)-(k) are exempt from the requirements in 340-230-0370 through 340-230-0395:

(a) Small municipal waste combustion units that combust less than 11 tons per day are exempt if the following requirements are met

(A) The municipal waste combustion unit is subject to a federally enforceable permit limiting the amount of municipal solid waste combusted to less than 11 tons per day.

(B) The owner or operator of the unit notifies DEQ of an exemption claim.

(C) The owner or operator of the unit provides a copy of the federally enforceable permit.

(D) The owner or operator of the unit keeps daily records of the amount of municipal solid waste combusted.

(b) Small power production units are exempt if four requirements are met:

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

(B) The unit combusts homogeneous waste (excluding refuse-derived fuel) to produce electricity.

(C) The owner or operator of the unit notifies DEQ of an exemption claim.

(D) The owner or operator of the unit provides documentation that the unit qualifies for the exemption.

(c) Cogeneration units are exempt if four requirements are met:

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

(B) The unit combusts homogeneous waste (excluding refuse-derived fuel) to produce electricity and steam or other forms of energy used for industrial, commercial, heating, or cooling purposes.

(C) The owner or operator of the unit notifies DEQ of an exemption claim.

(D) The owner or operator of the unit provides documentation that the unit qualifies for the exemption.

(d) Municipal waste combustion units that combust only tires are exempt if three requirements are met:

(A) The municipal waste combustion unit combusts a single-item waste stream of tires and no other municipal waste (the unit can co- fire coal, fuel oil, natural gas, or other nonmunicipal solid waste).

(B) The owner or operator of the unit notifies DEQ of an exemption claim.

(C) The owner or operator of the unit provides documentation that the unit qualifies for the exemption.

(e) Hazardous waste combustion units are exempt if the units have received a permit under section 3005 of the Solid Waste Disposal Act (42 U.S.C. § 6925).

(f) Materials recovery units are exempt if the units combust waste mainly to recover metals. Primary and secondary smelters may qualify for the exemption.

(g) Co-fired units are exempt if four requirements are met:

(A) The unit has a federally enforceable permit limiting municipal solid waste combustion to 30 percent of the total fuel input by weight.

(B) The owner or operator of the unit notifies DEQ of an exemption claim.

(C) The owner or operator of the unit provides documentation that the unit qualifies for the exemption.

(D) The owner or operator records the weights, each quarter, of municipal solid waste and of all other fuels combusted.

(h) Plastics/rubber recycling units are exempt if four requirements are met:

(B) The pyrolysis/combustion unit is an integrated part of a plastics/rubber recycling unit.

(C) The owner or operator of the unit records the weight, each quarter, of plastics, rubber, and rubber tires processed.

(D) The owner or operator of the unit records the weight, each quarter, of feed stocks produced and marketed from chemical plants and petroleum refineries.

(E) The owner or operator of the unit keeps the name and address of the purchaser of the feed stocks.

(i) Units that combust fuels made from products of plastics/rubber recycling plants are exempt if two requirements are met:

(A) The unit combusts 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 feed stocks produced by plastics/rubber recycling units.

(B) The unit does not combust any other municipal solid waste.

(j) Cement kilns that combust municipal solid waste are exempt.

(3) Reducing small municipal waste combustion unit capacity. An owner or operator of an affected municipal waste combustion unit may choose to reduce, by the final compliance date, the maximum combustion capacity of the unit to less than 35 tons per day of municipal solid waste. A final control plan must be submitted with the notifications of achievement of increments of progress as specified in OAR 340-230-0370(1)(a). The final control plan must include a description of the physical changes that will be made to accomplish the reduction and calculations of the current maximum combustion capacity and the planned maximum combustion capacity after the reduction, using the equations specified below. A permit restriction or a change in the method of operation does not qualify as a reduction in capacity.

(a) For a municipal waste combustion unit that can operate continuously for 24-hour periods, calculate the municipal waste combustion unit capacity based on 24 hours of operation at the maximum charge rate. To determine the maximum charge rate, use one of two methods.

(i) If the municipal waste combustion unit combusts refuse-derived fuel, use a heating value of 12,800 kilojoules per kilogram (5,500 British thermal units per pound).

(ii) If the municipal waste combustion unit combusts municipal solid waste, use a heating value of 10,500 kilojoules per kilogram (4,500 British thermal units per pound).

(b) For municipal waste combustion units with a design not based on heat input capacity, use the maximum designed charging rate.

(c) For a batch municipal waste combustion unit calculate the capacity of a batch municipal waste combustion unit as the maximum design amount of municipal solid waste charged per batch multiplied by the maximum number of batches processed in 24 hours. Calculate the maximum number of batches by dividing 24 by the number of hours needed to process one batch. Retain fractional batches in the calculation. For example, if one batch requires 16 hours, the municipal waste combustion unit can combust 24/16, or 1.5 batches, in 24 hours.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 4-2003, f. & cert. ef. 2-06-03

**340-230-0370**

**Increments of Progress**

(1) Increments of Progress

(a) For Class I units, if the owner or operator plans to achieve compliance more than 1 year following December 31, 2003 and a permit modification is not required, or more than 1 year following the date of issuance of a revised construction or operation permit if a permit modification is required, five increments of progress must be met as follows:

(A) Submit a final control plan;

(B) Submit a notification of retrofit contract award;

(C) Initiate onsite construction;

(D) Complete onsite construction;

(E) Achieve final compliance.

(b) For Class II units, if the owner or operator plans to achieve compliance more than 1 year following December 31, 2003 and a permit modification is not required, or more than 1 year following the date of issuance of a revised construction or operation permit is a permit modification is required, the following two increments of progress must be met:

(A) Submit a final control plan;

(B) Achieve final compliance.

(c) Deadlines:

(A) Submission of a final control plan to DEQ by no later than December 31, 2003.

(B) For Class I units only, award contracts must be submitted to DEQ by no later than June 6, 2004

(C) For Class I units only, onsite construction must begin by December 6, 2004.

(D) For Class I units only, onsite construction must be completed by June 6, 2005.

(E) Final compliance must be completed by December 6, 2005.

(2) Notification:

(a) The notification of achievement of increment of progress must include: notification that the increment of progress has been achieved and any items required to be submitted with the increment of progress. The notification must be signed by the owner or operator of the municipal waste combustion unit.

(b) Notifications of achievement of increments of progress must be postmarked no later than 10 days after the compliance date for the increment.

(3) Failure to meet deadlines. If the owner or operator fails to meet an increment of progress, a notification to DEQ must be submitted no later than 10 days after the compliance date for the increment. The notification must explain to DEQ why the increment was not met and the plan for meeting the increment as expeditiously as possible. Reports must be submitted each subsequent month until the increment of progress is met.

(4) Control Plan:

(a) Submit the final control plan, including a description of the devices for air pollution control and process changes that will be used to comply with the emission limits and other requirements of this division.

(b) A copy of the final control plan must be maintained onsite.

(5) Awarding Contracts. A signed copy of the contracts awarded to initiate onsite construction, initiate onsite installation of emission control equipment, and incorporated process changes must be submitted to DEQ. Submit the copy of the contracts with the notification that the increment of progress has been achieved.

(6) Onsite Construction:

(a) Initiate onsite construction and installation of emission control equipment and initiate the process changes outlined in the final control plan.

(b) Complete onsite construction and installation of emission control equipment and complete process changes outlined in the final control plan.

(7) Final compliance:

(a) Complete all process changes and complete retrofit construction as specified in the final control plan.

(b) Connect the air pollution control equipment with the municipal waste combustion unit identified in the final control plan and complete process changes to the municipal waste combustion unit so that if the affected municipal waste combustion unit is brought online, all necessary process changes and air pollution control equipment are operating as designed.

(8) Closure of the combustion unit:

(a) If the municipal waste combustion unit is closed but must reopen before the final compliance date, the owner or operator must meet the increments of progress specified in OAR 340-230-0370(1). Additionally, the owner or operator must complete emission control retrofit and meet the emission limits and good combustion practices on the date the municipal waste combustion unit restarts operation.

(b) If the municipal waste combustion unit must be closed rather than comply, the owner or operator must submit a closure notification, including the date of closure, to DEQ by the date the final control plan is due. If the closure date is later than 1 year after the effective date of State plan approval, the owner or operator must enter into a legally binding closure agreement with DEQ by the date the final control plan is due. The agreement must specify the date by which operation must cease.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 4-2003, f. & cert. ef. 2-06-03

**340-230-0373**

**Operator Training**

(1) Who must complete the operator training course:

(a) Chief facility operators, shift supervisors, and control room operators must complete the EPA or State-approved operator training course. If a chief facility operator, shift supervisor, and control room operator have obtained full certification from the American Society of Mechanical Engineers by June 19, 2004, the training requirements do not apply.

(b) The employees must complete the operator training by December 19, 2004.

(c) The owner or operator may ask DEQ to waive the requirement contained in subsection (a) for chief facility operators, shift supervisors, and control room operators who have obtained provisional certification from the American Society of Mechanical Engineers by June 19, 2004.

(2) Who must complete the plant-specific training course All employees with responsibilities that affect how a municipal waste combustion unit operates must complete the plant-specific training course. Chief facility operators, shift supervisors, control room operators, ash handlers, maintenance personnel, and crane or load handlers must be included.

(3) Plant Specific Training:

(a) For training at a particular plant, develop a specific operating manual for that plant by June 19, 2004.

(b) Establish a program to review the plant-specific operating manual with people whose responsibilities affect the operation of the municipal waste combustion unit. Complete the review by June 19, 2004.

(c) Update the manual annually.

(d) Review the manual with staff annually.

(4) The following information must be included in the plant-specific operating manual:

(a) A summary of the applicable standards under OAR 340-230-0365 through 340-230-0395;

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

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

(d) Procedures to follow during periods of municipal waste combustion unit startup, shutdown, and malfunction procedures;

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

(f) Procedures for operating the municipal waste combustor unit within the standards established under OAR 340-230-0365 through 340-230-0395;

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

(h) Procedures for minimizing particulate matter carryover;

(i) Procedures for handling ash;

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

(k) Reporting and recordkeeping procedures.

(5) Where the plant specific training manual must be kept.

The operating manual must be kept in an easily accessible location at the plant. It must be available for review or inspection by all employees who must review it and by DEQ.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 4-2003, f. & cert. ef. 2-06-03

**340-230-0375**

**Operator Certification**

(1) Types of operator certification:

(a) Each chief facility operator and shift supervisor must obtain and keep a current provisional operator certification from the American Society of Mechanical Engineers or a current provisional operator certification from the State certification program.

(b) Each chief facility operator and shift supervisor must obtain a provisional certification by December 19, 2004.

(c) Each chief facility operator and shift supervisor must take one of three actions:

(A) Obtain a full certification from the American Society of Mechanical Engineers or a State certification program in the State;

(B) Schedule a full certification exam with the American Society of Mechanical Engineers; or

(C) Schedule a full certification exam with the State certification program.

(d) The chief facility operator and shift supervisor must obtain the full certification or be scheduled to take the certification exam by June 19, 2004 for Class I units and by December 19, 2004 for Class II units.

(2) Who is allowed to operate the municipal waste combustion unit. After the required date for full or provisional certification, no person may operate the municipal waste combustion unit unless one of the following four employees is on duty: a fully certified chief facility operator, a provisionally certified chief facility operator who is scheduled to take the full certification exam, a fully certified shift supervisor, or a provisionally certified shift supervisor who is scheduled to take the full certification exam.

(3) Who can temporarily operate the unit:

(a) If the certified chief facility operator and certified shift supervisor both are unavailable, a provisionally certified control room operator 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, one of the following criteria must be met:

(A) When the certified chief facility operator and certified shift supervisor are both offsite for 12 hours or less and no other certified operator is onsite, the provisionally certified control room operator may perform those duties without notice to, or approval by, DEQ.

(B) When the certified chief facility operator and certified shift supervisor are offsite for more than 12 hours, but for 2 weeks or less, and no other certified operator is onsite, the provisionally certified control room operator may perform those duties without notice to, or approval by, DEQ. However, the owner or operator must record the periods when the certified chief facility operator and certified shift supervisor are offsite and include the information in the annual report as specified under OAR 340-230-0395(4)(b)(L).

(C) When the certified chief facility operator and certified shift supervisor are offsite for more than 2 weeks, and no other certified operator is onsite, the provisionally certified control room operator may perform those duties without prior notice to, or approval by, DEQ. However, the owner or operator must take two subsequent actions:

(i) Notify DEQ in writing. In the notice, state what caused the absence and what is being done to ensure that a certified chief facility operator or certified shift supervisor is onsite.

(ii) Submit a status report and corrective action summary to DEQ every 4 weeks following the initial notification. If DEQ notifies the owner or operator 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 DEQ withdraws the disapproval, municipal waste combustion unit operation may continue.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 4-2003, f. & cert. ef. 2-06-03

**340-230-0377**

**Operating Requirements**

(1) No person may operate the municipal waste combustor unit at loads greater than 110 percent of the maximum demonstrated load of the municipal waste combustion unit (4-hour block average).

(2) No person may operate the municipal waste combustion unit so that the temperature at the inlet of the particulate matter control device exceeds 17O C above the maximum demonstrated temperature of the particulate matter control device (4-hour block average).

(3) If the municipal waste combustion unit uses activated carbon to control dioxins/furans or mercury emissions, an 8-hour block average carbon feed rate must be maintained at or above the highest average level established during the most recent dioxins/furans or mercury test.

(4) If the municipal waste combustion unit uses activated carbon to control dioxins/furans or mercury emissions, the total carbon usage for each calendar quarter must be evaluated. The total amount of carbon purchased and delivered to the municipal waste combustion plant must be at or above the required quarterly usage of carbon. The owner or operator may choose to evaluate required quarterly carbon usage on a municipal waste combustion unit basis for each individual municipal waste combustion unit at the plant. The calculation of the required quarterly usage of carbon must be made using either equation 4 or 5 for plant basis or unit basis.

(a) Equation 4: Plant basis n C=\_fi \* hi i=1 Where C = required quarterly carbon usage for the plant in kilograms (or pounds); fi = required carbon feed rate for the municipal waste combustion unit in kilograms (or pounds) per hour. That is the average carbon feed rate during the most recent mercury or dioxins/furans stack tests (whichever has a higher feed rate); hi = number of hours the municipal waste combustion unit was in operation during the calendar quarter (hours); n = number of municipal waste combustion units, i, located at the plant.

(b) Equation 5: Unit basis C = f \* h Where C = required quarterly carbon usage for the unit in kilograms (or pounds); f = required carbon feed rate for the municipal waste combustion unit in kilograms (or pounds) per hour. That is the average carbon feed rate during the most recent mercury or dioxins/furans stack tests (whichever has a higher feed rate); h = number of hours the municipal waste combustion unit was in operation during the calendar quarter (hours);

(5) The municipal waste combustion unit is exempt from limits on load level, temperature at the inlet of the particulate matter control device, and carbon feed rate during any of the following five situations:

(a) During the annual tests for dioxins/furans.

(b) During the annual mercury tests (for carbon feed rate requirements only).

(c) During the 2 weeks preceding the annual tests for dioxins/furans.

(d) During the 2 weeks preceding the annual mercury tests (for carbon feed rate requirements only).

(e) Whenever DEQ permits any of the following five activities:

(A) Evaluate system performance

(B) Test new technology or control technologies

(C) Perform diagnostic testing

(D) Perform other activities to improve the performance of the municipal waste combustion unit

(E) Perform other activities to advance the state of the art for emission controls for the municipal waste combustion unit.

(6) Exception for periods of startup, shutdown, and malfunction.

(a) The operating requirements contained in this rule apply at all times except during periods of municipal waste combustion unit startup, shutdown, or malfunction.

(b) Each startup, shutdown, or malfunction must not last for longer than 3 hours.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 4-2003, f. & cert. ef. 2-06-03

**340-230-0380**

**Emission Limits**

No person may cause, allow, or permit the operation of any affected municipal waste combustion unit in a manner that violates the following emission limits and requirements.

(1) Class I units:

(a) Organics:

(A) Dioxins/Furans (total mass basis). The dioxins/furans emissions must not exceed 30 nanograms per dry standards cubic meter corrected to 7 percent oxygen for municipal waste combustion units that do not employ an electrostatic precipitator-based emission control system or must not exceed 60 nanograms per dry standard cubic meter corrected to 7 percent oxygen for municipal waste combustion units that employ an electrostatic precipitator-based emission control system. A 3-run average (minimum run is 4 hours) must be used. Compliance must be determined by a stack test.

(b) Metals:

(A) Cadmium. The cadmium emissions must not exceed 0.040 milligrams per dry standard cubic meter corrected to 7 percent oxygen, using a 3-run average (run duration specified in test method). Compliance must be determined by a stack test.

(B) Lead. The lead emissions must not exceed 0.490 milligrams per dry standard cubic meter corrected to 7 percent oxygen, using a 3-run average (run duration specified in test method). Compliance must be determined by a stack test.

(C) Mercury. The mercury emissions must not exceed 0.080 milligrams per dry standard cubic meter or an 85 percent reduction of potential mercury emissions, corrected to 7 percent oxygen and using a 3-run average (run duration specified in test method). Compliance must be determined by a stack test.

(D) Opacity. The opacity emissions must not exceed 10 percent opacity, using thirty 6-minute averages. Compliance must be determined by a stack test.

(E) Particulate Matter. The particulate matter emissions must not exceed 27 milligrams per dry standard cubic meter corrected to 7 percent oxygen, using a 3-run average (run duration specified in test method). Compliance must be determined by a stack test.

(c) Acid Gases:

(A) Hydrogen Chloride. The hydrogen chloride emissions must not exceed 31 parts per million by dry volume or 95 percent reduction of potential hydrogen chloride emissions, corrected to 7 percent oxygen, using a 3-run average (minimum run duration is 1 hour). Compliance must be determined by a stack test.

(B) Sulfur Dioxide. The sulfur dioxide emissions must not exceed 31 parts per million by dry volume or 75 percent reduction of potential sulfur dioxide emissions, corrected to 7 percent oxygen, using 24-hour daily block geometric average concentration percent reduction. Compliance must be determined by a continuous emission monitoring system.

(d) Other:

(A) Fugitive Ash. No owner or operator may cause or allow visible emissions in excess of 5 percent of the hourly observation period, using three 1-hour observation periods. Compliance must be determined by visible emission test.

(B) Nitrogen Oxide. The nitrogen oxide emissions must not exceed 380 parts per million by dry volume corrected to 7 percent oxygen, with a 24-hour daily block arithmetic average concentration. Compliance is determined by continuous emission monitoring systems.

(C) Carbon Monoxide. The carbon monoxide emissions must not exceed 50 parts per million by dry volume corrected to 7 percent oxygen, with a 4-hour averaging time. Compliance must be determined by continuous emission monitoring system.

(2) Class II units:

(a) Organics: Dioxins/Furans (total mass basis). The dioxins/furans emissions must not exceed 125 nanograms per dry standards cubic meter corrected to 7 percent oxygen. A 3-run average (minimum run is 4 hours) must be used. Compliance must be determined by a stack test.

(b) Metals:

(A) Cadmium. The cadmium emissions must not exceed 0.10 milligrams per dry standard cubic meter corrected to 7 percent oxygen, using a 3-run average (run duration specified in test method). Compliance must be determined by a stack test.

(B) Lead. The lead emissions must not exceed 1.6 milligrams per dry standard cubic meter corrected to 7 percent oxygen, using a 3-run average (run duration specified in test method). Compliance must be determined by a stack test.

(C) Mercury. The mercury emissions must not exceed 0.080 milligrams per dry standard cubic meter or an 85 percent reduction of potential mercury emissions, corrected to 7 percent oxygen and using a 3-run average (run duration specified in test method). Compliance must be determined by a stack test.

(D) Opacity. The opacity emissions must not exceed 10 percent opacity, using thirty 6-minute averages. Compliance must be determined by a stack test.

(E) Particulate Matter. The particulate matter emissions must not exceed 70 milligrams per dry standard cubic meter corrected to 7 percent oxygen, using a 3-run average (run duration specified in test method). Compliance must be determined by a stack test.

(c) Acid Gases:

(A) Hydrogen Chloride. The hydrogen chloride emissions must not exceed 250 parts per million by volume or 50 percent reduction of potential hydrogen chloride emissions, corrected to 7 percent oxygen, using a 3-run average (minimum run duration is 1 hour). Compliance must be determined by a stack test.

(B) Sulfur Dioxide. The sulfur dioxide emissions must not exceed 77 parts per million by dry volume or 50 percent reduction of potential sulfur dioxide emissions, corrected to 7 percent oxygen, using 24-hour daily block geometric average concentration percent reduction. Compliance must be determined by a continuous emission monitoring system.

(d) Other:

(A) Fugitive Ash. No owner or operator may cause or allow visible emissions in excess of 5 percent of the hourly observation period, using three 1-hour observation periods. Compliance must be determined by visible emission test.

(B) Carbon Monoxide. The carbon monoxide emissions must not exceed 50 parts per million by dry volume corrected to 7 percent oxygen, with a 4-hour averaging time. Compliance must be determined by continuous emission monitoring system.

(3) Class I unit compliance dates. If the Class I municipal waste combustion unit began construction, reconstruction, or modification after June 26, 1987, then the owner or operator must comply with the applicable dioxins/furans and mercury emission limits specified in OAR 340-230-0380(1) by December 31, 2003. Final compliance with the dioxins/furans limits must be achieved no later than December 6, 2005, even if the date one year after the issuance of a revised construction or operation permit is later than December 6, 2005.

(4) Startup, shutdown, and malfunction:

(a) The emission limits apply at all times except during periods of municipal waste combustion unit startup, shutdown, or malfunction.

(b) Each startup, shutdown, or malfunction must not last for longer than 3 hours.

(c) A maximum of 3 hours of test data may be dismissed from compliance calculations during periods of startup, shutdown, or malfunction.

(d) During startup, shutdown, or malfunction periods longer than 3 hours, emissions data cannot be discarded from compliance calculations and all provisions under **40 CFR Part 60.11(d)** apply.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 4-2003, f. & cert. ef. 2-06-03

**340-230-0383**

**Continuous Emission Monitoring**

(1) Types of monitoring. To continuously monitor emissions, the owner or operator must perform the following four tasks:

(a) Install continuous emission monitoring systems for certain gaseous pollutants.

(b) Make sure the continuous emission monitoring systems are operating correctly.

(c) Make sure the minimum amount of monitoring data is obtained.

(d) Install a continuous opacity monitoring system.

(2) What continuous emission monitoring systems (CEMS) must be installed and its use:

(a) The owner or operator must install, calibrate, maintain, and operate continuous emission monitoring systems for oxygen or carbon dioxide, sulfur dioxide, and carbon monoxide. If it is a Class I municipal waste combustion unit, also install, calibrate, maintain, and operate a continuous emission monitoring system for nitrogen oxides. Install the continuous emission monitoring systems for sulfur dioxide, nitrogen oxides, and oxygen or carbon dioxide at the outlet of the air pollution control device.

(b) The owner or operator must install, evaluate, and operate each continuous emission monitoring system in accordance with 40 CFR Part 60.13.

(c) The owner or operator must monitor the oxygen or carbon dioxide concentration at each location where sulfur dioxide and carbon monoxide is monitored. Also, if there is a Class I municipal waste combustion unit, the owner or operator must monitor the oxygen or carbon dioxide concentration at the location where nitrogen oxides is monitored.

(d) The owner or operator may choose to monitor carbon dioxide instead of oxygen as a diluent gas. If the owner or operator chooses to monitor carbon dioxide, then an oxygen monitor is not required and the requirements in OAR 340-230-0383(6) must be met.

(e) If the owner or operator chooses to demonstrate compliance by monitoring the percent reduction of sulfur dioxide, continuous emission monitoring systems for sulfur dioxide and oxygen or carbon dioxide must be installed at the inlet of the air pollution control device.

(f) If the owner or operator prefers to use an alternative sulfur dioxide monitoring method, such as parametric monitoring, or cannot monitor emissions at the inlet of the air pollution control device to determine percent reduction, the owner or operator may apply to DEQ for approval to use an alternative monitoring method under 40 CFR 60.13(i).

(g) Use of data from continuous emission monitoring systems. The owner or operator must use data from the continuous emission monitoring systems for sulfur dioxide, nitrogen oxides, and carbon monoxide to demonstrate continuous compliance with the applicable emission limits specified in OAR 340-230-0380(1) and (2). To demonstrate compliance for dioxins/furans, cadmium, lead, mercury, particulate matter, opacity, hydrogen chloride, and fugitive ash, see OAR 340-230-0385(2).

(3) Continuous Emissions Monitoring Systems QA/QC. The owner or operator must:

(a) Conduct initial, daily, quarterly, and annual evaluations of the continuous emission monitoring systems that measure oxygen or carbon dioxide, sulfur dioxide, nitrogen oxides (Class I municipal waste combustion units only), and carbon monoxide.

(b) Complete the initial evaluation of the continuous emission monitoring systems within 180 days after the final compliance date.

(c) For initial and annual evaluations, collect data concurrently (or within 30 to 60 minutes) using the oxygen or carbon dioxide continuous emission monitoring system, the sulfur dioxide, nitrogen oxides, or carbon monoxide continuous emission monitoring systems, as appropriate, and the appropriate test methods specified.

(A) For nitrogen oxides (Class I units only) use Method 7, 7A, 7B, 7C, 7D, or 7E in Appendix A of 40 CFR Part 60 to validate pollutant concentration levels. Use Method 3 or 3A in Appendix A of 40 CFR Part 60 to measure oxygen (or carbon dioxide).

(B) For sulfur dioxide use Method 6 or 6C in Appendix A of 40 CFR Part 60 to validate pollutant concentration levels. Use Method 3 or 3A in Appendix A of 40 CFR Part 60 to measure oxygen (or carbon dioxide).

(C) For carbon monoxide use Method 10, 10A, or 10B in Appendix A of 40 CFR Part 60 to validate pollutant concentration levels. Use Method 3 or 3A in Appendix A of 40 CFR Part 60 to measure oxygen (or carbon dioxide).

(d) Collect the data during each initial and annual evaluation of the continuous emission monitoring systems following the applicable performance specifications in appendix B 40 CFR Part 60. Use the performance specifications that apply to each continuous emission monitoring system.

(A) Opacity. Use a span value of 100 percent opacity, and Performance Specification 1 in Appendix B of 40 CFR Part 60. Use Method 9 in Appendix A of 40 CFR Part 60 to collect data if needed to meet minimum data requirements.

(B) Nitrogen Oxides (Class I units only). Use a span value at the control device outlet: 125 percent of the maximum expected hourly potential nitrogen oxides emissions of the municipal waste combustion unit and Performance Specification 2 in Appendix B of 40 CFR Part 60. Use Method 7E in Appendix A of 40 CFR Part 60 to collect data if needed to meet minimum data requirements.

(C) Sulfur Dioxide. Use a span value at the inlet to control device: 125 percent of the maximum expected hourly potential sulfur dioxide emissions of the municipal waste combustion unit. At the control device outlet: 50 percent of the maximum expected hourly potential sulfur dioxide emissions of the municipal waste combustion unit. Use Performance Specification 2 in Appendix B of 40 CFR Part 60. Use Method 6C in Appendix A of 40 CFR Part 60 to collect data if needed to meet minimum data requirements.

(D) Carbon Monoxide. Use a span value of 125 percent of the maximum expected hourly potential carbon monoxide emissions of the municipal waste combustion unit and Performance Specification 4A in Appendix B of 40 CFR Part 60. Use Method 10 with alternative interference trap in Appendix A of 40 CFR Part 60 to collect data if needed to meet minimum data requirements.

(E) Oxygen or Carbon Dioxide. Use a span value of 25 percent oxygen or 25 percent carbon dioxide with Performance Specification 3 in Appendix B of 40 CFR Part 60. Use Method 3A or 3B in Appendix A of 40 CFR Part 60 to collect data if needed to meet minimum data requirements.

(e) Follow the quality assurance procedures in Procedure 1 of Appendix F 40 CFR Part 60 for each continuous emission monitoring system. The procedures include daily calibration drift and quarterly accuracy determinations.

(4) Exemptions. The accuracy tests for the sulfur dioxide continuous emission monitoring system requires the oxygen (or carbon dioxide) continuous emission monitoring system to be evaluated. Therefore, the oxygen (or carbon dioxide) continuous emission monitoring system is exempt from two requirements:

(a) Section 2.3 of Performance Specification 3 in Appendix B of 40 CFR Part 60 (relative accuracy requirement) and

(b) Section 5.1.1 of Appendix F of 40 CFR Part 60 (relative accuracy test audit).

(5) CEMS evaluation schedule. The owner or operator must:

(a) Conduct annual evaluations of the continuous emission monitoring systems no more than 13 months after the previous evaluation was conducted and

(b) Evaluate the continuous emission monitoring systems daily and quarterly as specified in Appendix F of 40 CFR Part 60.

(6) Using carbon dioxide instead of oxygen as a diluent gas. The owner or operator must establish the relationship between oxygen and carbon dioxide during the initial evaluation of the continuous emission monitoring systems. The owner or operator may reestablish the relationship during annual evaluations. To establish the relationship the owner or operator must use the following three procedures:

(a) EPA Reference Method 3A or 3B in Appendix A of 40 CFR Part 60 to determine oxygen concentration at the location of the carbon dioxide monitor.

(b) Conduct at least three test runs for oxygen. Make sure each test run represents a 1-hour average and that sampling continues for at least 30 minutes in each hour.

(c) The fuel-factor equation in EPA Reference Method 3B in appendix A of 40 CFR Part 60 to determine the relationship between oxygen and carbon dioxide.

(7) The owner or operator must obtain the minimum data requirements as follows:

(a) Where continuous emission monitoring systems are required, obtain 1-hour arithmetic averages. Make sure the averages for sulfur dioxide, nitrogen oxides (Class I municipal waste combustion units only), and carbon monoxide are in parts per million by dry volume at 7 percent oxygen (or the equivalent carbon dioxide level). Use the 1-hour averages of oxygen (or carbon dioxide) data from the continuous emission monitoring system to determine the actual oxygen (or carbon dioxide) level and to calculate emissions at 7 percent oxygen (or the equivalent carbon dioxide level).

(b) Obtain at least two data points per hour in order to calculate a valid 1-hour arithmetic average. 40 CFR 60.13(e)(2) requires the continuous emission monitoring systems to complete at least one cycle of operation (sampling, analyzing, and data recording) for each 15- minute period.

(c) Obtain valid 1-hour averages for 75 percent of the operating hours per day for 90 percent of the operating days per calendar quarter. An operating day is any day the unit combusts any municipal solid waste or refuse-derived fuel.

(d) If the minimum data required in (a) through (c) of this section is not obtained, the owner or operator is in violation of the data collection requirement regardless of the emission level monitored and must notify DEQ according to OAR 340-230-0395(4)(b)(E).

(e) If the owner or operator does not obtain the minimum data required in (a) through (c) of this section, all valid data from the continuous emission monitoring systems must be used in calculating emission concentrations and percent reductions in accordance with OAR 340-230-0383(8).

(8) Converting 1-hour arithmetic averages into averaging times. The owner or operator must:

(a) Use equation 1 to calculate emission levels at 7 percent oxygen (or an equivalent carbon dioxide basis), the percent reduction in potential hydrogen chloride emissions, and the reduction efficiency for mercury emissions.

Equation 1: C7%=Cunc\*(13.9)\*(1/(20.9-CO2)), where C7% = concentration corrected to 7 percent oxygen; Cunc = uncorrected pollutant concentration; and CO2 = concentration of oxygen (percent).

(b) Use EPA Reference Method 19 in Appendix A-7 of 40 CFR Part 60, to calculate the daily geometric average concentrations of sulfur dioxide emissions. If monitoring the percent reduction of sulfur dioxide, use EPA Reference Method 19 in appendix A-7 of 40 CFR Part 60, to determine the daily geometric average percent reduction of potential sulfur dioxide emissions.

(c) If operating a Class I municipal waste combustion unit, use EPA Reference Method 19 in Appendix A-7 of 40 CFR Part 60, to calculate the daily arithmetic average for concentrations of nitrogen oxides.

(d) Use EPA Reference Method 19 in Appendix A-7 of 40 CFR Part 60, to calculate the 4-hour or 24-hour daily block averages (as applicable) for concentrations of carbon monoxide.

(9) Continuous opacity monitoring system. If applicable, the owner or operator must:

(a) Install, calibrate, maintain, and operate a continuous opacity monitoring system.

(b) Install, evaluate, and operate each continuous opacity monitoring system according to 40 CFR 60.13.

(c) Complete an initial evaluation of the continuous opacity monitoring system according to Performance Specification 1 in appendix B of 40 CFR Part 60. Complete the evaluation by 180 days after the final compliance date.

(d) Complete each annual evaluation of the continuous opacity monitoring system no more than 13 months after the previous evaluation.

(e) Use tests conducted according to EPA Reference Method 9 in Appendix A of 40 CFR Part 60, to determine compliance with the opacity limit in OAR 340 230-0380(1) and (2). The data obtained from the continuous opacity monitoring system are not used for determining compliance with the opacity limit.

(f) Use the required span values and applicable performance specifications in OAR 340-230-0383(10).

(10) Missing data/alternate methods

(a) Dioxins/Furans. The owner or operator must use Method 1 in Appendix A of 40 CFR Part 60 to determine the sampling location and Method 23 in Appendix A of 40 CFR Part 60 to measure pollutant concentration. The owner or operator must simultaneously measure oxygen (or carbon dioxide) using Method 3A or 3B in Appendix A of 40 CFR Part 60. Also, the minimum sampling time must be 4 hours per test run while the municipal waste combustion unit is operating at full load.

(b) Cadmium. The owner or operator must use Method 1 in Appendix A of 40 CFR Part 60 to determine the sampling location and Method 29 in Appendix A of 40 CFR Part 60 to measure pollutant concentration. The owner or operator must simultaneously measure oxygen (or carbon dioxide) using Method 3A or 3B in Appendix A of 40 CFR Part 60. Compliance testing must be performed while the municipal waste combustion unit is operating at full load.

(c) Lead. The owner or operator must use Method 1 in Appendix A of 40 CFR Part 60 to determine the sampling location and Method 29 in Appendix A of 40 CFR Part 60 to measure pollutant concentration. The owner or operator must simultaneously measure oxygen (or carbon dioxide) using Method 3A or 3B in Appendix A of 40 CFR Part 60. Compliance testing must be performed while the municipal waste combustion unit is operating at full load.

(d) Mercury. The owner or operator must use Method 1 in Appendix A of 40 CFR Part 60 to determine the sampling location and Method 29 in Appendix A of 40 CFR Part 60 to measure pollutant concentration. The owner or operator must simultaneously measure oxygen (or carbon dioxide) using Method 3A or 3B in appendix A of 40 CFR Part 60. Compliance testing must be performed while the municipal waste combustion unit is operating at full load.

(e) Opacity. The owner or operator must use Method 9 in Appendix A of 40 CFR Part 60 to determine the sampling location and Method 9 in Appendix A of 40 CFR Part 60 to measure pollutant concentration. Use Method 9 to determine compliance with opacity limits. 3-hour observation period (thirty 6-minute averages).

(f) Particulate Matter. The owner or operator must use Method 1 in Appendix A of 40 CFR Part 60 to determine the sampling location and Method 5 or 29 in Appendix A of 40 CFR Part 60 to measure pollutant concentration. The minimum sample volume must be 1.0 cubic meters. The probe and filter holder heating systems in the sample train must be set to provide a gas temperature no greater than 160 +14 oC. The minimum sampling time is 1 hour.

(g) Hydrogen Chloride. The owner or operator must use Method 1 in Appendix A of 40 CFR Part 60 to determine the sampling location and Method 26 or 26A in Appendix A of 40 CFR Part 60 to measure pollutant concentration. The owner or operator must simultaneously measure oxygen (or carbon dioxide) using Method 3A or 3B in appendix A of 40 CFR Part 60. Test runs must be at least 1 hour long while the municipal waste combustion unit is operating at full load.

(h) Fugitive Ash. The owner or operator must use Method 22 (visible emissions) of Appendix A of 40 CFR Part 60 to measure pollutant concentrations. The three 1-hour observation period must include periods when the facility transfers fugitive ash from the municipal waste combustion unit to the area where the fugitive ash is stored or loaded into containers or trucks.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 4-2003, f. & cert. ef. 2-06-03

**340-230-0385**

**Stack Testing**

(1) Test Requirements. The owner or operator must conduct initial and annual stack tests to measure the emission levels of dioxins/furans, cadmium, lead, mercury, particulate matter, opacity, hydrogen chloride, and fugitive ash.

(2) Use of stack test data. The owner or operator must use results of stack tests for dioxins/furans, cadmium, lead, mercury, particulate matter, opacity, hydrogen chloride, and fugitive ash to demonstrate compliance with the applicable emission limits in OAR 340-230-0380(1) and (2). To demonstrate compliance for carbon monoxide, nitrogen oxides, and sulfur dioxide, see 340-230-0383(2)(g).

(3) Schedule. The owner or operator must:

(a) Conduct initial stack tests for the pollutants listed in (1) of this rule by June 19, 2004.

(b) Conduct annual stack tests for the same pollutants after the initial stack test. Conduct each annual stack test no later than 13 months after the previous stack test, and

(c) Conduct each annual stack test no later than 13 months after the previous stack test.

(4) Test methods. The owner or operator must:

(a) Follow OAR 340-230-0383(10) to establish the sampling location and to determine pollutant concentrations, number of traverse points, individual test methods, and other specific testing requirements for the different pollutants.

(b) Make sure that stack tests for all the pollutants consist of at least three test runs, as specified in **40 CFR 60.8**. Use the average of the pollutant emission concentrations from the three test runs to determine compliance with the applicable emission limits in OAR 340-230-0380(1) and (2).

(c) Use the average of the pollutant emission concentrations from the three test runs to determine compliance with the applicable emission limits in OAR 340-230-0380(1) and (2).

(d) Obtain an oxygen (or carbon dioxide) measurement at the same time as the pollutant measurements to determine diluent gas levels, as specified in OAR 340-230-0383(2).

(e) Use the equations in OAR 340-230-0383(8)(a) to calculate emission levels at 7 percent oxygen (or an equivalent carbon dioxide basis), the percent reduction in potential hydrogen chloride emissions, and the reduction efficiency for mercury emissions. See the individual test methods in 340-230-0383(3)(c) for other required equations.

(f) The owner or operator may apply to DEQ for approval under **40 CFR Part 60.8(b)** to use a reference method with minor changes in methodology, use an equivalent method, use an alternative method the results of which DEQ has determined are adequate for demonstrating compliance, waive the requirement for a performance test because the owner or operator has demonstrated by other means that they are in compliance, or use a shorter sampling time or smaller sampling volume.

(5) Reduced testing frequency:

(a) The owner or operator may test less often if it owns or operates a Class II municipal waste combustion unit and if all stack tests for a given pollutant over 3 consecutive years show that it complies with the emission limit. In that case, the owner or operator is not required to conduct a stack test for that pollutant for the next 2 years. However, another stack test must be conducted within 36 months of the anniversary date of the third consecutive stack test that shows compliance with the emission limit. Thereafter, stack tests must be performed every 3rd year but no later than 36 months following the previous stack tests. If a stack test shows noncompliance with an emission limit, annual stack tests for that pollutant must be conducted until all stack tests over 3 consecutive years show compliance with the emission limit for that pollutant. The provision applies to all pollutants subject to stack testing requirements: dioxins/furans, cadmium, lead, mercury, particulate matter, opacity, hydrogen chloride, and fugitive ash.

(b) The owner or operator may test less often for dioxins/furans emissions, as described in paragraphs (A) through (C), if it owns or operates a municipal waste combustion plant that meets two conditions. First, the owner or operator must have multiple municipal waste combustion units onsite that are subject to this rule. Second, all those municipal waste combustion units have demonstrated levels of dioxins/furans emissions less than or equal to 15 nanograms per dry standard cubic meter (total mass) for Class I units, or 30 nanograms per dry standard cubic meter (total mass) for Class II units, for 2 consecutive years. In that case, the owner or operator may choose to conduct annual stack tests on only one municipal waste combustion unit per year at the plant. This provision applies only to stack testing for dioxins/furans emissions.

(A) The owner or operator must conduct the stack test no more than 13 months following a stack test on any municipal waste combustion unit at the plant. Each year, the owner or operator must test a different municipal waste combustion unit subject to this rule and test all municipal waste combustion units subject to this rule in a sequence determined by the owner or operator. Once a testing sequence is determined, it must not be changed without DEQ's approval.

(B) If each annual stack test shows levels of dioxins/furans emissions less than or equal to 15 nanograms per dry standard cubic meter (total mass) for Class I units, or 30 nanograms per dry standard cubic meter (total mass) for Class II units, the owner or operator may continue stack tests on only one municipal waste combustion unit per year.

(C) If any annual stack test indicates levels of dioxins/furans emissions greater than 15 nanograms per dry standard cubic meter (total mass) for Class I units, or 30 nanograms per dry standard cubic meter (total mass) for Class II units, the owner or operator must conduct subsequent annual stack tests on all municipal waste combustion units subject to this subpart at the plant. The owner or operator may return to testing one municipal waste combustion unit per year if the owner or operator can demonstrate dioxins/furans emissions levels less than or equal to 15 nanograms per dry standard cubic meter (total mass) for Class I units, or 30 nanograms per dry standard cubic meter (total mass) for Class II units, for all municipal waste combustion units at the plant subject to this subpart for 2 consecutive years.

(6) Alternative schedules. The owner or operator may not deviate from the 13-month testing schedules specified in OAR 340-230-0385(3)(b) and 340-230-0385(5)(b)(A) unless the owner or operator applies to DEQ for an alternative schedule, and DEQ approves the request for alternate scheduling before the date on which the owner or operator would otherwise have been required to conduct the next stack test.

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 4-2003, f. & cert. ef. 2-06-03

**340-230-0387**

**Other Monitoring Requirements**

(1) Operating parameters. The owner or operator must monitor the following operating parameters:

(a) Load level of each municipal waste combustion unit.

(b) Temperature of flue gases at the inlet of the particulate matter air pollution control device.

(c) Carbon feed rate if activated carbon is used to control dioxins/furans or mercury emissions.

(2) Unit load:

(a) If the municipal waste combustion unit generates steam, the owner or operator must install, calibrate, maintain, and operate a steam flowmeter or a feed water flowmeter and meet five requirements:

(A) Continuously measure and record the measurements of steam (or feed water) in kilograms (or pounds) per hour.

(B) Calculate thesteam (or feed water) flow in 4-hour block averages.

(C) Calculate the steam (or feed water) flow rate using the method in "American Society of Mechanical Engineers Power Test Codes: Test Code for Steam Generating Units, Power Test Code 4.1--1964 (R1991)," section 4.

(D) Design, construct, install, calibrate, and use nozzles or orifices for flow rate measurements, using 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**.

(E) Before each dioxins/furans stack test, or at least once a year, calibrate all signal conversion elements associated with steam (or feed water) flow measurements according to the manufacturer instructions.

(b) If the municipal waste combustion units do not generate steam, or, if the municipal waste combustion units have shared steam systems and steam load cannot be estimated per unit, the owner or operator must determine, to DEQ's satisfaction, one or more operating parameters that can be used to continuously estimate load level (for example, the feed rate of municipal solid waste or refuse-derived fuel). The owner or operator must continuously monitor the selected parameters.

(3) Pollution control device inlet temperature. The owner or operator must install, calibrate, maintain, and operate a device to continuously measure the temperature of the flue gas stream at the inlet of each particulate matter control device.

(4) Carbon injection rate. If the municipal waste combustion unit uses activated carbon to control dioxins/furans or mercury emissions, the owner or operator must meet three requirements:

(a) Select a carbon injection system operating parameter that can be used to calculate carbon feed rate (for example, screw feeder speed).

(b) During each dioxins/furans and mercury stack test, determine the average carbon feed rate in kilograms (or pounds) per hour. Also, determine the average operating parameter level that correlates to the carbon feed rate. Establish a relationship between the operating parameter and the carbon feed rate in order to calculate the carbon feed rate based on the operating parameter level.

(c) Continuously monitor the selected operating parameter during all periods when the municipal waste combustion unit is operating and combusting waste and calculate the 8-hour block average carbon feed rate in kilograms (or pounds) per hour, based on the selected operating parameter. When calculating the 8-hour block average, the owner or operator must do two things: (1) Exclude hours when the municipal waste combustion unit is not operating. (2) Include hours when the municipal waste combustion unit is operating but the carbon feed system is not working correctly.

(5) Minimum data. The owner or operator must obtain the minimum data as prescribed in subsections (a)-(c) below:

(a) Where continuous parameter monitoring systems are used, obtain 1-hour arithmetic averages for the following three parameters:

(A) Load level of the municipal waste combustion unit.

(B) Temperature of the flue gases at the inlet of the particulate matter control device; and

(C) Carbon feed rate if activated carbon is used to control dioxins/furans or mercury emissions.

(b) Obtain at least two data points per hour in order to calculate a valid 1-hour arithmetic average.

(c) Obtain valid 1-hour averages for at least 75 percent of the operating hours per day for 90 percent of the operating days per calendar quarter. An operating day is any day the unit combusts any municipal solid waste or refuse-derived fuel.

(d) If the owner or operator does not obtain the minimum data required in subsections (a) through (c), the owner or operator is in violation of the data collection requirement and must notify DEQ according to OAR 340-230-0395(4)(b)(E)

[Publications: Publications referenced are available from the agency.]

Stat. Auth.: ORS 468.020
Stats. Implemented: ORS 468A.025
Hist.: DEQ 4-2003, f. & cert. ef. 2-06-03

**340-230-0390**

**Recordkeeping**

(1) The owner or operator must keep records of the following:

(a) Operator training and certification;

(b) Stack tests;

(c) Continuously monitored pollutants and parameters;

(d) Carbon feed rate.

(2) Records retention. The owner or operator must retain the required records as follows:

(a) All records must be onsite in paper copy or electronic format unless DEQ approves another format;

(b) Retain all records on each municipal waste combustion unit for at least 5 years;

(c) Make all records available for submittal to DEQ, or for onsite review by an inspector.

(3) Operator training/certification records. The owner or operator must retain the following records:

(a) Records of provisional certifications. Include three items:

(A) For the municipal waste combustion plant, names of the chief facility operator, shift supervisors, and control room operators who are provisionally certified by the American Society of Mechanical Engineers or an equivalent State-approved certification program.

(B) Dates of the initial provisional certifications.

(C) Documentation showing current provisional certifications.

(b) Records of full certifications. Include three items:

(A) For the municipal waste combustion plant, names of the chief facility operator, shift supervisors, and control room operators who are fully certified by the American Society of Mechanical Engineers or an equivalent State-approved certification program.

(B) Dates of initial and renewal full certifications.

(C) Documentation showing current full certifications.

(c) Records showing completion of the operator training course. Include three items:

(A) For the municipal waste combustion plant, names of the chief facility operator, shift supervisors, and control room operators who have completed the EPA or State municipal waste combustion operator training course.

(B) Dates of completion of the operator training course.

(C) Documentation showing completion of operator training course.

(d) Records of reviews for plant-specific operating manuals. Include three items:

(A) Names of persons who have reviewed the operating manual.

(B) Date of the initial review.

(C) Dates of subsequent annual reviews.

(e) Records of when a certified operator is temporarily offsite. Include two main items:

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

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

(i) The notice that all certified persons are offsite.

(ii) The conditions that cause those people to be offsite.

(iii) The corrective actions being taken to ensure a certified chief facility operator or certified shift supervisor is onsite.

(iv) Copies of the written reports submitted every 4 weeks that summarize the actions taken to ensure that a certified chief facility operator or certified shift supervisor was onsite.

(v) Records of calendar dates. Include the calendar date on each record.

(4) Stack test records. The owner or operator must keep stack test records as follows:

(a) The results of the stack tests for eight pollutants or parameters recorded in the appropriate units of measure specified in OAR 340-230-0380(1) and (2): Dioxins/furans, cadmium, lead, mercury, opacity, particulate matter, hydrogen chloride, and fugitive ash.

(b) Test reports, including supporting calculations that document the results of all stack tests.

(c) The maximum demonstrated load of the municipal waste combustion units and maximum temperature at the inlet of the particulate matter control device during all stack tests for dioxins/furans emissions.

(d) The calendar date of each record.

(5) Continuous Emissions Monitoring System Records Keep records of eight items:

(a) Records of monitoring data. The owner or operator must document six parameters measured using continuous monitoring systems as follows:

(A) All 6-minute average levels of opacity.

(B) All 1-hour average concentrations of sulfur dioxide emissions.

(C) For Class I municipal waste combustion units only, all 1-hour average concentrations of nitrogen oxides emissions.

(D) All 1-hour average concentrations of carbon monoxide emissions.

(E) All 1-hour average load levels of the municipal waste combustion unit.

(F) All 1-hour average flue gas temperatures at the inlet of the particulate matter control device.

(b) Records of average concentrations and percent reductions. The owner or operator must document five parameters:

(A) All 24-hour daily block geometric average concentrations of sulfur dioxide emissions or average percent reductions of sulfur dioxide emissions.

(B) For Class I municipal waste combustion units only, all 24-hour daily arithmetic average concentrations of nitrogen oxides emissions.

(C) All 4-hour block or 24-hour daily block arithmetic average concentrations of carbon monoxide emissions.

(D) All 4-hour block arithmetic average load levels of the municipal waste combustion unit.

(E) All 4-hour block arithmetic average flue gas temperatures at the inlet of the particulate matter control device.

(c) Records of exceedances. The owner or operator must document three items as follows:

(A) Calendar dates whenever any of the five pollutant or parameter levels recorded in subsection (b) of this section or the opacity level recorded in (a)(1) of this section did not meet the emission limits or operating levels specified in this rule.

(B) Reasons the applicable emission limits or operating levels were exceeded.

(C) Corrective actions undertaken, or are taking, to meet the emission limits or operating levels.

(d) Records of minimum data. The owner or operator must document three items as follows:

(A) Calendar dates for which the owner or operator did not collect the minimum amount of data required under OAR 340-230-0383(7) and 340-230-0387(5). Record those dates for five types of pollutants and parameters:

(i) Sulfur dioxide emissions.

(ii) For Class I municipal waste combustion units only, nitrogen oxides emissions.

(iii) Carbon monoxide emissions.

(iv) Load levels of the municipal waste combustion unit.

(v) Temperatures of the flue gases at the inlet of the particulate matter control device.

(B) Reasons the minimum data was not collected.

(C) Corrective actions the owner or operator took or is taking to obtain the required amount of data.

(e) Records of exclusions. The owner or operator must document each time there is excluded data from the calculation of averages for any of the following five pollutants or parameters and the reasons the data were excluded:

(A) Sulfur dioxide emissions.

(B) For Class I municipal waste combustion units only, nitrogen oxides emissions.

(C) Carbon monoxide emissions.

(D) Load levels of the municipal waste combustion unit.

(E) Temperatures of the flue gases at the inlet of the particulate matter control device.

(f) Records of drift and accuracy. The owner or operator must document the results of the daily drift tests and quarterly accuracy determinations according to Procedure 1 of appendix F of 40 CFR Part 60. Keep those records for the sulfur dioxide, nitrogen oxides (Class I municipal waste combustion units only), and carbon monoxide continuous emissions monitoring systems.

(g) Records of the relationship between oxygen and carbon dioxide. If the owner or operator chooses to monitor carbon dioxide instead of oxygen as a diluent gas, document the relationship between oxygen and carbon dioxide, as specified in OAR 340-230-0383(6).

(h) Records of calendar dates. The owner or operator must include the calendar date on each record.

(6) Activated carbon records

For municipal waste combustion units that use activated carbon to control dioxins/furans or mercury emissions, the owner or operator must keep records of the following five items:

(a) Records of average carbon feed rate as follows.

(A) Average carbon feed rate in kilograms (or pounds) per hour during all stack tests for dioxins/furans and mercury emissions. Include supporting calculations in the records.

(B) For the operating parameter chosen to monitor carbon feed rate, average operating level during all stack tests for dioxins/furans and mercury emissions. Include supporting data that document the relationship between the operating parameter and the carbon feed rate.

(C) All 8-hour block average carbon feed rates in kilograms (or pounds) per hour calculated from the monitored operating parameter.

(D) Total carbon purchased and delivered to the municipal waste combustion plant for each calendar quarter. If the owner or operator chooses to evaluate total carbon purchased and delivered on a municipal waste combustion unit basis, record the total carbon purchased and delivered for each individual municipal waste combustion unit at the plant. Include supporting documentation.

(E) Required quarterly usage of carbon for the municipal waste combustion plant, calculated using equation 4 or 5 in OAR 340-230-0377(4)(a) and (b). If the owner or operator chooses to evaluate required quarterly usage for carbon on a municipal waste combustion unit basis, record the required quarterly usage for each municipal waste combustion unit at the plant. Include supporting calculations.

(b) Records of low carbon feed rates as follows:

(A) The calendar dates when the average carbon feed rate over an 8- hour block was less than the average carbon feed rates determined during the most recent stack test for dioxins/furans or mercury emissions (whichever has a higher feed rate).

(B) Reasons for the low carbon feed rates.

(C) Corrective actions undertaken or are taking to meet the 8-hour average carbon feed rate requirement.

(c) Records of minimum carbon feed rate data as follows:

(A) Calendar dates for which the owner or operator did not collect the minimum amount of carbon feed rate data required under OAR 340-230-0387(5).

(B) Reasons the owner or operator did not collect the minimum data.

(C) Corrective actions the owner or operator took or are taking to get the required amount of data.

(d) Records of exclusions. Document each time data from the calculation of average carbon feed rates was excluded and the reasons the data were excluded.

(e) Records of calendar dates. Include the calendar date on each record.

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Stats. Implemented: ORS 468A.025
Hist.: DEQ 4-2003, f. & cert. ef. 2-06-03

**340-230-0395**

**Reporting**

(1) Reports. The owner or operator must:

(a) Submit to DEQ an initial report, semiannual reports, and annual reports, for any emission or parameter level that does not meet the limits specified in this division.

(b) Submit all reports on paper, postmarked on or before the submittal dates in OAR 340-230-0395(3)(a), (4)(a), and (6)(a). If DEQ agrees, the owner or operator may submit electronic reports.

(2) The owner or operator must use OAR 340-230-0380(1) and (2) for the appropriate units of measurement for reporting data.

(3) Initial Report. The owner or operator must:

(a) Submit the initial report to DEQ by June 19, 2004. The owner or operator must include the following items in the initial report.

(b) The emission levels measured on the date of the initial evaluation of the continuous emission monitoring systems for all of the following five pollutants or parameters as recorded in accordance with OAR 340-230-0390(5)(b).

(A) The 24-hour daily geometric average concentration of sulfur dioxide emissions or the 24-hour daily geometric percent reduction of sulfur dioxide emissions.

(B) For Class I municipal waste combustion units only, the 24-hour daily arithmetic average concentration of nitrogen oxides emissions.

(C) The 4-hour block or 24-hour daily arithmetic average concentration of carbon monoxide emissions.

(D) The 4-hour block arithmetic average load level of the municipal waste combustion unit.

(E) The 4-hour block arithmetic average flue gas temperature at the inlet of the particulate matter control device.

(c) The results of the initial stack tests for eight pollutants or parameters (use appropriate units as specified in OAR 340-230-0380(1) and (2)): Dioxins/furans, cadmium, lead, mercury, opacity, particulate matter, hydrogen chloride, and fugitive ash.

(d) The test report that documents the initial stack tests including supporting calculations.

(e) The initial performance evaluation of the continuous emissions monitoring systems. Use the applicable performance specifications in appendix B of 40 CFR Part 60 in conducting the evaluation.

(f) The maximum demonstrated load of the municipal waste combustion unit and the maximum demonstrated temperature of the flue gases at the inlet of the particulate matter control device. Use values established during the initial stack test for dioxins/furans emissions and include supporting calculations.

(g) If the municipal waste combustion unit uses activated carbon to control dioxins/furans or mercury emissions, the average carbon feed rates that were recorded during the initial stack tests for dioxins/ furans and mercury emissions. Include supporting calculations as specified in OAR 340-230-0390(6)(a)(A) and (B).

(h) If the owner or operator chooses to monitor carbon dioxide instead of oxygen as a diluent gas, document the relationship between oxygen and carbon dioxide, as specified in OAR 340-230-0383(6).

(4) Annual Report:

(a) Submission of the annual report. The owner or operator must submit the annual report to DEQ by no later than February 1 of each year that follows the calendar year in which the data was collected. This annual report is in addition to any reporting requirement contained in a Title V Operating Permit.

(b) The owner or operator must summarize data collected for all pollutants and parameters and must include the following items:

(A) The results of the annual stack test, using appropriate units, for the following pollutants: Dioxins/furans, cadmium, lead, mercury, opacity, particulate matter, hydrogen chloride, and fugitive ash.

(B) A list of the highest average levels recorded, in the appropriate units. List those values for five pollutants or parameters:

(i) Sulfur dioxide emissions.

(ii) For Class I municipal waste combustion units only, nitrogen oxides emissions.

(iii) Carbon monoxide emissions.

(iv) Load level of the municipal waste combustion unit.

(v) Temperature of the flue gases at the inlet of the particulate matter air pollution control device (4-hour block average).

(C) The highest 6-minute opacity level measured. Base the value on all 6-minute average opacity levels recorded by the continuous opacity monitoring system

(D) For municipal waste combustion units that use activated carbon for controlling dioxins/furans or mercury emissions, include four records:

(i) The average carbon feed rates recorded during the most recent dioxins/furans and mercury stack tests.

(ii) The lowest 8-hour block average carbon feed rate recorded during the year.

(iii) The total carbon purchased and delivered to the municipal waste combustion plant for each calendar quarter. If the owner or operator chooses to evaluate total carbon purchased and delivered on a municipal waste combustion unit basis, record the total carbon purchased and delivered for each individual municipal waste combustion unit at the plant.

(iv) The required quarterly carbon usage of the municipal waste combustion plant calculated using equation 4 or 5 in OAR 340-230-0377(4)(a) and (b). If the owner or operator chooses to evaluate required quarterly usage for carbon on a municipal waste combustion unit basis, record the required quarterly usage for each municipal waste combustion unit at the plant.

(E) The total number of days that the owner or operator did not obtain the minimum number of hours of data for six pollutants or parameters. Include the reasons the data was not obtained and corrective actions taken to obtain the data in the future. Include data on:

(i) Sulfur dioxide emissions.

(ii) For Class I municipal waste combustion units only, nitrogen oxides emissions.

(iii) Carbon monoxide emissions.

(iv) Load level of the municipal waste combustion unit.

(v) Temperature of the flue gases at the inlet of the particulate matter air pollution control device.

(vi) Carbon feed rate.

(F) The number of hours the owner or operator has excluded data from the calculation of average levels (include the reasons for excluding it). Include data for six pollutants or parameters:

(i) Sulfur dioxide emissions.

(ii) For Class I municipal waste combustion units only, nitrogen oxides emissions.

(iii) Carbon monoxide emissions.

(iv) Load level of the municipal waste combustion unit.

(v) Temperature of the flue gases at the inlet of the particulate matter air pollution control device.

(vi) Carbon feed rate.

(G) A notice of the intent to begin a reduced stack testing schedule for dioxins/furans emissions during the following calendar year if eligible for alternative scheduling under OAR 340-230-0385(5)(a) and (b).

(H) A notice of the intent to begin a reduced stack testing schedule for other pollutants during the following calendar year if eligible for alternative scheduling under OAR 340-230-0385(5)(a).

(I) A summary of any emission or parameter level that did not meet the limits specified in this subpart.

(J) A summary of the data in (a) through (d) of this section from the year preceding the reporting year that gives DEQ a summary of the performance of the municipal waste combustion unit over a 2-year period.

(K) If the owner or operator chooses to monitor carbon dioxide instead of oxygen as a diluent gas, documentation of the relationship between oxygen and carbon dioxide, as specified in OAR 340-230-0383(6).

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

(5) Non-compliance. The owner or operator must submit a semiannual report to DEQ on any recorded emission or parameter level that does not meet the requirements specified in OAR 340-230-0375 To 0395

(6) Semi-annual report (if it is required)

(a) Submission of the semi-annual report.

(A) For data collected during the first half of a calendar year, the owner or operator must submit the semiannual report to DEQ by August 1 of that year.

(B) For data collected during the second half of the calendar year, the owner or operator must submit the semiannual report to DEQ by February 1 of the following year.

(b) For any of the following six pollutants or parameters that exceeded the limits specified in OAR 340-230-0375 to 0395, the owner or operator must include the calendar date they exceeded the limits, the averaged and recorded data for that date, the reasons for exceeding the limits, and the corrective actions:

(A) Concentration or percent reduction of sulfur dioxide emissions.

(B) For Class I municipal waste combustion units only, concentration of nitrogen oxides emissions.

(C) Concentration of carbon monoxide emissions.

(D) Load level of the municipal waste combustion unit.

(E) Temperature of the flue gases at the inlet of the particulate matter air pollution control device.

(F) Average 6-minute opacity level. The data obtained from the continuous opacity monitoring system are not used to determine compliance with the limit on opacity emissions.

(c) If the results of the annual stack tests show emissions above the limits specified in OAR 340-230-0380(1) and (2) for dioxins/furans, cadmium, lead, mercury, particulate matter, opacity, hydrogen chloride, and fugitive ash, the owner or operator must include a copy of the test report that documents the emission levels and the corrective actions.

(d) For municipal waste combustion units that apply activated carbon to control dioxins/furans or mercury emissions, the owner or operator must include the following two items:

(A) Documentation of all dates when the 8-hour block average carbon feed rate (calculated from the carbon injection system operating parameter) is less than the highest carbon feed rate established during the most recent mercury and dioxins/furans stack test. Include four items:

(i) Eight-hour average carbon feed rate.

(ii) Reasons for occurrences of low carbon feed rates.

(iii) The corrective actions taken to meet the carbon feed rate requirement.

(iv) The calendar date.

(B) Documentation of each quarter when total carbon purchased and delivered to the municipal waste combustion plant is less than the total required quarterly usage of carbon. If choosing to evaluate total carbon purchased and delivered on a municipal waste combustion unit basis, record the total carbon purchased and delivered for each individual municipal waste combustion unit at the plant. Include five items:

(i) Amount of carbon purchased and delivered to the plant.

(ii) Required quarterly usage of carbon.

(iii) Reasons for not meeting the required quarterly usage of carbon.

(iv) The corrective actions taken to meet the required quarterly usage of carbon.

(v) The calendar date.

(7) Changing reporting dates.

(a) If DEQ agrees, the owner or operator may change the semiannual or annual reporting dates.

(b) See **40 CFR Part 60.19(c)** for procedures to seek approval to change the reporting date.

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Stats. Implemented: ORS 468A.025
Hist.: DEQ 4-2003, f. & cert. ef. 2-06-03