ORDINANCE NO. 22-886

BE IT ORDAINED by the City Council of the City of Huntsville, Alabama as follows:

Section 1. Article II ("Air Pollution") of Chapter 12 ("Environmental Management") of the Code of Ordinances of the City of Huntsville, Alabama, as adopted by the City Council of the City of Huntsville, Alabama on the 24th day of August, 2017, is hereby amended to read as follows:

Section 12-31. The air pollution rules and regulations as heretofore adopted by the City Council, pursuant to Ordinance No. 72-156 on July 27, 1972, and as amended by Ordinance Nos. 73-18, 75-180, 76-334, 78-150, 80-152, 82-297, 86-18, 86-523, 92-107, 93-709, 94-74, 95-839, 97-41, 98-153, 99-494, 00-811, 01-730, 03-143, 04-485, 07-568, 11-507, 16-009, and 17-486 as recommended by the air pollution control board of the city, are adopted by reference, with copies being kept on file permanently in the office of the clerk-treasurer.

(Code 1982, § 12-36; Ord. No. 00-811, § 1, 11-9-2000, Ord. No. 01-730, § 1, 9-13-2001, Ord. No. 03-143, § 1, 4-10-2003, 04-485, § 1, 8-12-2004; Ord. No. 07-568, § 1, 7-26-2007; Ord. No. 16-009, § 1, 3-10-2016; Ord. No. 17-486, § 1)

Section 12-32. There are hereby adopted as amendments to the rules and regulations to govern the control and abatement of air pollution within the city by reference, as the same were adopted pursuant to Ordinance No. 72-156 on the 27th day of July, 1972, and amended by Ordinance No. 73-18, Ordinance No. 75-180, Ordinance No. 76-334, Ordinance No. 78-150, Ordinance No. 80-152, Ordinance No. 82-297, Ordinance No. 86-18, Ordinance No. 86-523, Ordinance No. 92-107, Ordinance No. 93-709, Ordinance No. 94-74, Ordinance No. 95-839, Ordinance No. 97-41, Ordinance No. 98-153, Ordinance No. 99-494, Ordinance No. 00-811, Ordinance No. 01-730, Ordinance No. 03-143, Ordinance No. 04-485, Ordinance No. 07-568, Ordinance No. 11-507, Ordinance No. 16-009, and Ordinance No. 17-486 the proposed amendments to the rules and regulations as recommended by the air pollution control board of the city, entitled "Proposed Amendments to the Rules and Regulations for the Control of Air Pollution within the City of Huntsville, Alabama," and further identified by the signature of the city clerk-treasurer and the date of December 15th, 2022, appearing on the first page, with a copy being kept on file permanently in the office of the clerk-treasurer.

(Ord. No. 03-143, § 1, 4-10-2003; Ord. No. 07-568, § 1, 7-26-2007; Ord. No. 16-009, § 1, 3-10-2016; Ord. No. 17-486, § 1, 8-24-2017)

Section 2. That all ordinances or parts of ordinances in conflict with this ordinance or the Rules and Regulations as herein amended be and the same are hereby repealed.

ADOPTED this the 15th day of December, 2022

/s/ John Meredith
President of the City Council of
the City of Huntsville, Alabama

APPROVED this the 15th day of December, 2022

/s/ Tommy Battle
Mayor of the City of Huntsville,
Alabama

CHAPTER 1. GENERAL PROVISIONS

1.3 Definitions. As used in these rules and regulations, terms shall have the meanings ascribed in this part. (amended September 8, 2011)

"Volatile Organic Compound (VOC)" shall mean any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. This includes any such organic compound other than the following:
Methane;

Ethane;

Methyl Chloroform (1,1,1-Trichloroethane);

Methylene Chloride (Dichloromethane);

CFC-11 (Trichlorofluoromethane);

CFC-12 (Dichlorodifluoromethane);

HCFC-22 (Chlorodifluoromethane);

HFC-23 (Trifluoromethane);

CFC-114 (1,2-dichloro 1,1,2,2-Tetrafluoroethane);

CFC-115 (Chloropentafluoroethane);

HCFC-123 (1,1,1-Trifluoro-2,2-dichlororethane);

HCFC-124 (2-Chloro-1,1,1,2-tetrafluoroethane);

HFC-125 (Pentafluoroethane);

HFC-134 (1,1,2,2-Tetrafluoroethane);

HFC-134a (1,1,1,2-Tetrafluoroethane);

HCFC-141b (1,1-Dichloro-1-fluoroethane);

HCFC-142b (1-Chloro-1,1-difluoroethane);

HFC-143a (1,1,1-Trifluoroethane);

HFC-152a (1,1-Difluoroethane);

CFC-113 (1,1,2-Trichloro-1,2,2-Trifluoroethane);

Parachlorobenzotrifluoride (PCBTF);

Cyclic, branched, or linear completely methylated siloxanes;

Acetone;

Perchloroethylene (tetrachloroethylene);

HCFC-225ca (3,3-dichloro-1,1,1,2,2-pentafluoropropane);

HCFC-225cb (1,3-dichloro-1,1,2,2,3-pentafluoropropane);

HFC-43-10mee (1,1,1,2,3,4,4,5,5,5- decafluoropentane);

HFC-32 (Difluoromethane);

HFC-161 (Ethylfluoride);

HFC-236fa (1,1,1,3,3,3-Hexafluoropropane);

HFC-245ca (1,1,2,2,3-Pentafluoropropane);

HFC-245ea (1,1,2,3,3-Pentafluoropropane);

HFC-245eb (1,1,1,2,3-Pentafluoropropane);

HFC-245fa (1,1,1,3,3-Pentafluoropropane);

HFC-236ea (1,1,1,2,3,3-Hexafluoropropane);

HFC-365mfc (1,1,1,3,3-Pentaflurorobutane);

HCFC-31 (Chlorofluoromethane);

HCFC-123a (1,2-Dichloro-1,1,2-trifluoroethane);

HCFC-151a (1-Chloro-1-fluoroethane);

$C_4F_9OCH_3$ (1,1,1,2,2,3,3,4,4-Nonafluoro-4-methoxybutane);

$(CF_3)_2CFCF_2OCH_3$ (2-(Difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane);

$C_4F_9OC_2H_5$(1-Ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane);

$(CF_3)_2CFCF_2OC_2H_5$ (2-Ethoxydifluoromethyl) - 1,1,1,2,3,3,3-heptafluoropropane);

Methyl Acetate;

HFE-7000 ($n\text{-}C_3F_7OCH_3$, 1,1,1,2,2,3,3,-heptafluoro-3 methoxy-propane);

HFE-7500 (3-ethoxy-1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2-(trifluoromethyl) hexane);

HFC-227ea (1,1,1,2,3,3,3,-heptafluoropropane)

Methyl formate ($HCOOCH_3$)

1,1,1,2,2,3,4,5,5,5,- decafluoro-3-methoxy-4-trifluoromethyl- pentane (HFE- 7300);

propylene carbonate;

dimethyl carbonate;

trans-1,3,3,3-tetrafluoropropene;

HFE-134 (HCF_2OCF_2H);

HFE-236cal2 ($HCF_2OCF_2OCF_2H$);

HFE-338pcc13 ($HCF_2OCF_2CF_2OCF_2H$);

H-Galden 1040x or H-Galden ZT130 (or 150 or 180) ($HCF_2OCF_2OCF_2CF_2OCF_2H$);

Trans 1-chloro-3,3,3-trifluoroprop-1-ene (SolsticeTM 1233zd(E));

HFO-1234yf (2,3,3,3-tetrafluoropropene);

2-amino-2-methyl-1-propanol;

t-butyl acetate;

1,1,2,2-Tetrafluoro-1-(2,2,2-trifluoroethoxy) ethane;

cis- 1,1,1,4,4,4-hexafluorobut-2-ene (HFO-1336mzz-Z);

and

Perfluorocarbon compounds which fall into these four classes –

(1) Cyclic, branched, or linear completely fluorinated alkanes,

(2) Cyclic, branched, or linear completely fluorinated ethers with no unsaturations,

(3) Cyclic, branched, or linear completely fluorinated tertiary amines with no unsaturations,

(4) sulfur containing perfluorcarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

The heretofore mentioned excluded organic compounds have been determined to have negligible photochemical reactivity by the EPA Administrator. For purposes of determining compliance with emission limits under Chapter 8, VOC shall be measured by the approved test methods contained in Chapter 8. Where such a method also inadvertently measures the heretofore mentioned negligibly photochemical reactive organic compounds with the reactive organic compounds, an owner or operator may exclude these negligibly reactive compounds when determining compliance with an emission limit using EPA-approved test methods and procedures. (amended ~~August 24, 2017~~ _____, 2022).

CHAPTER 3. PERMITS
(Amended March 26, 1998)

3.5 Air Permits Authorizing Construction in Clean Air Areas. (Prevention of Significant Deterioration Permitting (PSD)) (amended September 8, 2011)

3.5.2 Definitions. For the purposes of this Part only, the following terms will have meanings ascribed in this Section. (amended September 8, 2011)

"Replacement unit" means an emissions unit for which all the criteria listed in subparagraphs (1) through (4) below are met. No creditable emission reductions shall be generated from shutting down the existing emissions unit that is replaced. A replacement unit is subject to all permitting requirements for modifications under this Part.

(1) The emissions unit is a reconstructed unit within the meaning of 40 CFR §60.15(b)(1), or the emissions unit completely takes the place of an existing emissions unit.

(2) The emissions unit is identical to or functionally equivalent to the replaced emissions unit. A functionally equivalent unit would be a unit that serves the same purpose as the replaced unit. The Director shall be the determiner of whether a unit is functionally equivalent to the replaced unit.

(3) The replacement does not alter the basic design parameters of the process unit. Basic design parameters shall include, but not be limited to, maximum hourly heat input, maximum hourly fuel utilization, or maximum hourly raw material feed, as appropriate. Basic design parameters of a replaced unit shall also include all source specific emission limits and/or monitoring requirements. The Director shall be the determiner of whether the basic design parameters of the replaced unit are altered.

(4) The replaced emissions unit is permanently removed from the major stationary source, otherwise permanently disabled, or permanently barred from operation by a permit that is enforceable as a practical matter. If the replaced emissions unit is brought back into operation, it shall constitute a new emissions unit. (Added March 10, 2016).

(5) A Replacement Unit as defined in this Part shall be subject to the applicability test in Paragraph 3.5.1(f) of this Part for any modification. (Added , 2022).

3.7 Major Source Operating Permit Annual Emissions Fees.

3.7.2 Definitions. (Amended , 2022) The words or phrases used in this part shall have the meanings provided in the rules and regulations applicable to the particular application involved unless the word or phrase is defined in this Section. For the purposes of this part, the following words or phrases shall have the following meanings:

(a) "Actual emissions" means the actual rate of emissions in tons per year of any regulated air pollutant emitted by a stationary source. Actual emissions shall be calculated using the stationary source's actual operating hours, production rates, and in-place control equipment, types of materials processed, stored, or combusted during the calendar year which precedes the year the fees are due by two years.

(b) "Affected pollutant" means any of the following pollutants: nitrogen oxides, sulfur oxides measured as sulfur dioxide, volatile organic compounds, or particulate matter.

(c) "Consumer price index or CPI" means the average of the Consumer Price Index for all urban consumers published

by the Department of Labor, as of the close of the 12-month period ending on August 31 of each year.

~~(d) "Regulated Air Pollutant" means the following:~~

~~(1) Nitrogen oxides or any volatile organic compounds;~~

~~(2) Any pollutant for which a national ambient air quality standard has been promulgated;~~

~~(3) Any pollutant that is subject to any standard promulgated under section 111 of the Federal Clean Air Act; or~~

~~(4) Any pollutant subject to a standard promulgated under section 112 or other requirements established under section 112 of the Federal Clean Air Act, including sections 112(g), and (j) of the Federal Clean Air Act, including the following:~~

~~(i) Any pollutant subject to requirements under section 112(j) of the Federal Clean Air Act. If the Administrator fails to promulgate a standard by the date established pursuant to section 112(e) of the Federal Clean Air Act, any pollutant for which a subject source would be major shall be considered to be regulated on the date 18 months after the applicable date established pursuant to section 112(e) of the Federal Clean Air Act; and~~

~~(ii) Any pollutant for which the requirements of section 112(g)(2) of the Federal Clean Air Act have been met, but only with respect to the individual source subject to that section 112(g)(2) requirement.~~

3.7.4 Fee Schedule. (amended March 24, 1994)

(a) Major sources which have actual emissions of 1000 tons or more per year of an affected pollutant in the calendar years 1991, 1992, and 1993 shall pay permit fees according to Schedule A of this Part for pollutants which are limited by regulation or by a permit condition developed pursuant to these requirements.

(b) Major sources which have actual emissions of 100 tons or more per year but less than 1000 tons per year of an affected pollutant in the calendar years 1992 and 1993 shall pay permit fees according to Schedule B of this Section for pollutants which are limited by regulation or by a permit condition developed pursuant to these requirements.

(c) Beginning in the calendar year 1995, fees will be due on May 1st for every source subject to this Part at the rate of $25 per ton plus the difference in the CPI of the year the fees were assessed and the CPI of 1989 for each regulated air pollutant, except carbon monoxide, and except greenhouse gases unless a specific greenhouse gas is otherwise included in the definition of "regulated air pollutant" ~~as defined~~ in ~~3.8.2(g)~~ Section 3.1.1 for the actual emissions during the calendar year 1994. Each subsequent year, fees will be due May 1st for the emissions of regulated air pollutants during the preceding calendar year.

(d) Emissions from a major source of any pollutant subject to fees in this part which are emitted at a rate greater than 4000 tons per year shall be defined as 4000 tons per year for the purposes of assessing fees for each said pollutant.

(e) Emissions of a regulated air pollutant shall not be counted more than once in determining fees.

(f) In the event the annual emissions fees which would be due from a source subject to this Part are less than $500 under the requirements of Paragraph 3.7.4(c) above, the fees which are actually due shall be $500, except those facilities which are covered only by a General Permit issued pursuant to Section 3.9.7 of this Part. For facilities which are subject only to such General Permitting requirements, and for which the annual emissions fees are less than $250 under the requirements of Paragraph

3.7.4(c) above, the fees which are actually due shall be $250.

(g) In the event there is a conflict between Alabama State law or the regulations promulgated thereto and the fee structure provided in this Part, the fee structure established under State law shall take precedence. (adopted November 9, 2000)

CHAPTER 5. CONTROL OF OPEN BURNING AND INCINERATION

(amended April 23, 1992)

5.1.2 Open Burning Permits (amended July 26, 2007)

(e) Permit Fees. Open Burning Permit fees in the amount of ~~one~~ two hundred and fifty dollars ~~$100.00~~ ($250.00) per permit shall be paid at the time of application. Fees shall be made payable to the City of Huntsville and shall be non-refundable. (amended ~~July 26, 2007~~ _____, 2022)

5.5 Incineration of Commercial and Industrial Solid Waste. (Amended ~~August 24, 2017~~ _____, 2022)

5.5.1 Terms used but not defined in this Part are defined in 40 CFR 60, Subparts A and B, and are incorporated by reference in Chapter 13. For the purposes of this Part only, the following definitions apply:

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

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

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

(d) "Agricultural waste" means vegetative agricultural materials such as nut and grain hulls and chaff (e.g., almond,

walnut, peanut, rice, and wheat), bagasse, orchard prunings, corn stalks, coffee bean hulls and grounds, and other vegetative waste materials generated as a result of agricultural operations.

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

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

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

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

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

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

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

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

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

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

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

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

or process heater no longer makes useful thermal energy (such as steam or heat) for heating, cooling, or process purposes and/or generates electricity, and no fuel is being combusted in less;

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

(o) "Chemical recovery unit" means combustion units burning materials to recover chemical constituents or to produce chemical compounds where there is an existing commercial market for such recovered chemical constituents or compounds. A chemical recovery unit is not an incinerator, a waste-burning kiln, an energy recovery unit or a small, remote incinerator under this Part. The following seven types of units are considered chemical recovery units:

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

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

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

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

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

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

(7) Units burning only photographic film to recover silver.

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

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

(r) "Commercial and industrial solid waste incineration unit (CISWI) ~~unit~~" means any distinct operating unit of any commercial or industrial facility that combusts, or has combusted in the preceding 6 months, any solid waste as that term is defined in 40 CFR part 241. If the operating unit burns material other than traditional fuels as defined in §241.2 that have been discarded, and the owner or operator does not keep and produce records as required by paragraph 5.5.11(u) of this Part, the operating unit is a CISWI ~~unit~~. While not all CISWIs ~~units~~ will include all of the following components, a CISWI ~~unit~~ includes, but is not limited to, the commercial or industrial solid waste feed system, grate system, flue gas system, waste heat recovery equipment, if any, and bottom ash system. The CISWI ~~unit~~ does not include air pollution control equipment or the stack. The CISWI ~~unit~~ boundary starts at the solid waste hopper (if applicable) and extends through two areas:

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

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

(3) A CISWI unit does not include any of the types of units described in paragraph 5.5.2(d) of this Part, nor does it include any combustion turbine or reciprocating internal combustion engine.

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

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

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

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

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

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

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

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

(y) "Discard" means, for purposes of this Part and 40 CFR 60, Subpart CCCC [Part 13.2 Subpart CCCC], only, burned in an incineration unit without energy recovery.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(pp) "Low-level radioactive waste" means waste material which contains radioactive nuclides emitting primarily beta or gamma radiation, or both, in concentrations or quantities that exceed applicable Federal or State standards for unrestricted release. Low-level radioactive waste is not high-level radioactive waste, spent nuclear fuel, or by-product material as defined by the Atomic Energy Act of 1954 (42 U.S.C. 2014(e)(2)). (bb) "Energy recovery" means the process of recovering thermal energy from combustion for useful purposes such as steam generation or process heating.

(qq) "Malfunction" means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused, in part, by poor maintenance or careless operation are not malfunctions.

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

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

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

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

(tt) "Municipal solid waste or municipal-type solid waste" means household, commercial/retail, or institutional waste. Household waste includes material discarded by residential dwellings, hotels, motels, and other similar permanent or temporary housing. Commercial/retail waste includes material discarded by stores, offices, restaurants, warehouses, nonmanufacturing activities at industrial facilities, and other similar establishments or facilities. Institutional waste includes materials discarded by schools, by hospitals (nonmedical), by nonmanufacturing activities at prisons and government facilities, and other similar establishments or facilities. Household, commercial/retail, and institutional waste does include yard waste and refuse- derived fuel. Household, commercial/retail, and institutional waste does not include used oil; sewage sludge; wood pallets; construction, renovation, and demolition wastes (which include railroad ties and telephone poles); clean wood; industrial process or manufacturing wastes; medical waste; or motor vehicles (including motor vehicle parts or vehicle fluff).

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

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

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

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

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

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

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

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

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

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

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

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

(3) A physical change (maintenance activities excluded) to the air pollution control devices used to comply with the emission limits for the CISWI ~~unit~~ (e.g.,

replacing an electrostatic precipitator with a fabric filter);

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

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

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

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

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

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

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

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

(2) Pelletized refuse-derived fuel.

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

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

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

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

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

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

(4) For affected facilities:

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

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

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

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

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

(mmm) "Solid waste" (as defined in 40 CFR 241.2) means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, agricultural operations, and from community activities, but solid or dissolved materials in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject to permits under 33 U.S.C. 1342, or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923).

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

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

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

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

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

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

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

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

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

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

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

(2) Construction, renovation or demolition wastes.

(3) Clean lumber.

5.5.2 Applicability.

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

(b) If the owner or operator of a CISWI or ACI ~~unit~~ makes changes that meet the definition of modification or reconstruction ~~on or~~ after August 7, 2013, the CISWI or ACI ~~unit~~ becomes subject to 40 CFR 60, Subpart CCCC [Part 13.2 Subpart CCCC] and this Part no longer applies to that unit.

(c) If the owner or operator of a CISWI or ACI ~~unit~~ makes physical or operational changes to an existing CISWI unit primarily to comply with this Part, then 40 CFR 60, Subpart CCCC [Part 13.2 Subpart CCCC] does not apply to that unit. Such changes do not qualify as modifications or reconstructions under Subpart CCCC.

(d) The following types of units are exempt from this Part, but some units are required to provide notification. ~~Air curtain incinerators are exempt from the requirements in this Part except for the provisions in Section 5.5.12, paragraphs 5.5.13(j) and 5.5.13(l) of this Part:~~

(1) Pathological waste incineration units. Incineration units burning 90 percent or more by weight (on a calendar quarter basis and excluding the weight of auxiliary fuel and combustion air) of pathological waste, low-level radioactive waste, and/or chemotherapeutic waste as defined in Section 5.5.1 are not subject to this Part if the two requirements specified in subdivisions (d)(1)(i) and (ii) of this subparagraph below are met.

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

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

~~(2) Reserved.~~

~~(3)~~ (2) Municipal waste combustion units. Incineration units that are subject to 40 CFR 60, Subpart Ea (Standards of Performance for Municipal Waste Combustors); 40 CFR 60, Subpart Eb (Standards of Performance for Large

Municipal Waste Combustors); 40 CFR 60, Subpart Cb (Emission Guidelines and Compliance Time for Large Municipal Combustors); 40 CFR 60, Subpart AAAA (Standards of Performance for Small Municipal Waste Combustion Units); or 40 CFR 60, Subpart BBBB (Emission Guidelines for Small Municipal Waste Combustion Units).

~~(4)~~ (3) Medical waste incineration units. Incineration units regulated under 40 CFR 60, Subpart Ec incorporated by reference in Part 13.2 Subpart Ec (Standards of Performance for Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996) or Part 5.4 [Incineration of Hospital/Medical/Infectious Waste].

~~(5)~~ (4) Small power production facilities. Units that meet the ~~three~~ four requirements specified in subdivisions (d)~~(5)~~ (4)(i) through (~~iii~~ iv) of this subparagraph below.

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

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

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

(iv) The owner or operator maintains records specified in paragraph 5.5.11(v) of this Part

~~(6)~~ (5) Cogeneration facilities. Units that meet the ~~three~~ four requirements specified in subdivisions (d)(~~6~~ 5)(i) through (~~iii~~ iv) of this subparagraph below.

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

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

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

(iv) The owner or operator maintains records specified in paragraph 5.5.11(w) of this Part.

~~(7)~~ (6) Hazardous waste combustion units. Units that are required to get a permit under section 3005 of the Solid Waste Disposal Act.

~~(8)~~ (7) Materials recovery units. Units that combust waste for the primary purpose of recovering metals, such as primary and secondary smelters.

~~(9) Air curtain incinerators. Air curtain incinerators that burn only the materials listed in subdivisions (d)(9)(i) through (iii) of this subparagraph below are only required to meet the requirements under "Air Curtain Incinerators" (Section 5.5.13 of this Part).~~

~~(i) 100 percent wood waste.~~

~~(ii) 100 percent clean lumber.~~

~~(iii) 100 percent mixture of only wood waste, clean lumber, and/or yard waste.~~

~~(10) Reserved.~~

~~(11) Reserved.~~

~~(12) Reserved.~~

~~(13)~~ (8) Sewage treatment plants. Incineration units regulated under 40 CFR 60, Subpart O as incorporated in Part 13.2 Subpart O (Standards of Performance for Sewage Treatment Plants).

~~(14) Reserved.~~

~~(15) Reserved.~~

~~(16)~~ (9) Sewage sludge incineration units. Incineration units combusting sewage sludge for the purpose of reducing the volume of the sewage sludge by removing combustible matter that are subject to subpart LLLL of 40 CFR 60 as incorporated in Part 13.2 Subpart LLLL (Standards of Performance for New Sewage Sludge Incineration Units) or subpart MMMM of 40 CFR 60 (Emission Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units).

~~(17)~~ (10) Other solid waste incineration units. Incineration units that are subject to subpart EEEE of 40 CFR 60 (Standards of Performance for Other Solid Waste Incineration Units) or subpart FFFF of 40 CFR 60 (Emission Guidelines and Compliance Times for Other Solid Waste Incineration Units).

5.5.3 Increments of Progress.

(a) For owners or operators planning to achieve compliance more than one year following the effective date of EPA's approval of ADEM admin. Code R. 335-3-3-.05 the two increments of progress specified in subparagraphs (a)(1) and (2) of this paragraph below shall be met.

(1) Submit a final control plan to the Director no later than one year after the effective date of EPA's approval of ADEM admin. Code R. 335-3-3-.05.

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

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

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

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

(3) Signature of the owner or operator of the CISWI ~~unit~~.

(c) If an owner or operator fails to meet an increment of progress, a notification to the Director shall be submitted and postmarked within 10 business days after the date for that increment of progress in 5.5.3(a) above. The owner or operator shall inform the Director that the increment was not met, and reports shall be submitted each subsequent calendar month until the increment of progress is met.

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

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

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

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

(iii) The maximum design waste burning capacity.

(iv) The anticipated maximum charge rate.

(v) If applicable, the petition for site-specific operating limits under 5.5.6(c) of this Part.

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

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

(f) Closing and restarting a CISWI ~~unit~~.

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

(2) If the CISWI ~~unit~~ is closed but will be restarted after the final compliance date of December 1, 2005 for CISWI units that commenced construction on or before November 30, 1999, or February 7, 2018 for CISWI units that commenced construction on or before June 4, 2010, the owner or operator shall complete emission control retrofits and meet the emission limitations and operating limits on the date the unit restarts operation.

(g) Permanent closure of a CISWI ~~unit~~. If the owner or operator plans to close the CISWI ~~unit~~ rather than comply with this Part, submit a closure notification, including the

date of closure, to the Director within 90 days after EPA approval of ADEM admin. Code R. 335-3-3-.05.

5.5.4 Waste Management Plan.

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

(b) A waste management plan shall be submitted no later than the date specified in 5.5.3(a)(1) of this Part for submittal of the final control plan.

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

5.5.5 Operator Training and Qualification.

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

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

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

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

(i) Environmental concerns, including types of emissions.

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

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

(iv) Combustion controls and monitoring.

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

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

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

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

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

(x) Pollution prevention.

(xi) Waste management practices.

(2) An examination designed and administered by the instructor.

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

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

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

(2) Six months after CISWI ~~unit~~ startup.

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

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

(1) Update of regulations.

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

(3) Inspection and maintenance.

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

(5) Discussion of operating problems encountered by attendees.

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

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

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

(g) Requirements for site specific documentation.

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

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

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

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

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

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

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

(vii) Reporting and recordkeeping procedures.

(viii) The waste management plan required under section 5.5.4 of this Part.

(ix) Procedures for handling ash.

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

(2) The owner or operator shall establish a program for reviewing the information listed in subparagraph

(g)(1) of this paragraph above with each incinerator operator.

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

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

(B) Six months after CISWI ~~unit~~ startup.

(C) Six months after being assigned to operate the CISWI ~~unit~~.

(ii) Subsequent annual reviews of the information listed in subparagraph (g)(1) of this paragraph shall be conducted no later than 12 months following the previous review.

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

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

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

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

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

(1) When all qualified operators are not accessible for more than 8 hours, but less than 2 weeks, the CISWI ~~unit~~ may be operated by other plant personnel familiar with the operation of the CISWI ~~unit~~ who have completed a review of the information specified in subparagraph (g)(1) of this section within the past 12 months. However, the period when all qualified operators were not accessible shall be recorded and this deviation included in the annual report as specified under section 5.5.11 of this Part.

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

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

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

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

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

5.5.6 Emission Limitations and Operating Limits.

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

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

(b) Timelines for Operating Limits.

(1) If a wet scrubber(s) is used to comply with the emission limitations, the owner or operator shall establish operating limits for up to four operating parameters (as specified in Table 2 of this Part) as described in subdivisions (b)(1)(i) through (iv) of this subparagraph during the initial performance test.

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

(A) For continuous and intermittent units, maximum charge rate is 110 percent of the average charge rate measured during the most recent performance test

demonstrating compliance with all applicable emission limitations.

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

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

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

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

(2) The owner or operator shall meet the operating limits established on the date that the performance test report is submitted to the EPA's Central Data Exchange or postmarked per the requirements of Paragraph 5.5.11(hh). ~~during the initial performance test on the date the initial performance test is required or completed (whichever is earlier). The owner or operator shall conduct an initial performance evaluation of each continuous monitoring system and continuous parameter monitoring system within 60 days of installation of the monitoring system.~~

(3) If the owner or operator uses a fabric filter to comply with the emission limitations and does not use a particulate matter (PM) continuous parameter monitoring system (CPMS) for monitoring PM compliance, each fabric

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

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

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

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

measured during the most recent performance test demonstrating compliance with the nitrogen oxides emission limitations.

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

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

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

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

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

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

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

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

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

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

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

III. The zero point can also be obtained by performing manual reference method measurements when the flue gas is free of PM emissions or contains very low PM concentrations (e.g., when the process is not operating, but the fans are

operating or the source is combusting only natural gas) and plotting these with the compliance data to find the zero intercept.

IV. If none of the steps in subdivisions (b)(9)(ii)(A)(I) through (~~D~~ III) of this subparagraph are possible, the owner or operator shall use a zero output value provided by the manufacturer.

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

$$\text{(Eq. 1)} \qquad \bar{x} = \frac{1}{n}\sum_{i=1}^{n} X_1 \,, \quad \bar{y} = \frac{1}{n}\sum_{i=1}^{n} Y_1$$

Where:

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

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

n = the number of data points.

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

(Eq. 2) $R = Y_1/(X_1 - z)$

Where:

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

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

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

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

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

(Eq. 3) $O_1 = z + 0.75(L)/R$

Where:

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

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

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

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

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

$$\text{(Eq. 4)} \qquad O_h = 1/n \sum_{i=1}^{n} X_1$$

Where:

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

n = the number of data points; and

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

(iv) To determine continuous compliance, the owner or operator shall record the PM CPMS output data for all periods when the process is operating and the PM CPMS is not out-of-control. The owner or operator shall demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the

arithmetic average operating parameter in units of the operating limit (e.g., milliamps or digital signal bits, PM concentration, raw data signal) on a 30-day rolling average basis.

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

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

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

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

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

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

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

5.5.7 Performance Testing.

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

(b) The owner or operator shall document that the waste burned during the performance test is representative of the waste burned under normal operating conditions by maintaining a log of the quantity of waste burned (as required in section 5.5.11 of this Part) and the types of waste burned during the performance test.

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

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

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

(f) All pollutant concentrations, except for opacity, shall be adjusted to 7 percent oxygen using Equation 1 of this Part:

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

Where:

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

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

20.9 = oxygen concentration in air, percent; and

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

(g) The owner or operator shall determine dioxins/furans toxic equivalency by following the procedures in subparagraphs (g)(1) through (3) of this paragraph below.

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

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

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

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

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

(i) If the owner or operator has an applicable opacity operating limit, the owner or operator shall determine compliance with the opacity limit using Method 9 at 40 CFR part 60, appendix A-4, based on three 1-hour blocks consisting of ten 6-minute average opacity values, unless the owner or operator is required to install a continuous opacity monitoring system, consistent with Sections 5.5.9 and 5.5.10.

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

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

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

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

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

5.5.8 Initial Compliance Requirements.

(a) The owner or operator shall conduct an initial performance test, as required under Sections 5.5.6 and 5.5.7 of this Part, to determine compliance with the emission limitations in Table 1 and Tables 5 through 8 of this Part, to establish compliance with any opacity operating limits in paragraph 5.5.6(b) of this Part, to establish the kiln-specific emission limit in paragraph 5.5.9(y) of this Part, as applicable, and to establish operating limits using the procedures in paragraphs 5.5.6(b) or 5.5.6(c) of this Part. The performance test shall be conducted using the test methods listed in Table 1 and Tables 5 through 8 of this Part and the procedures in 5.5.7 of this Part. The use of the bypass stack during a performance test shall invalidate the performance test.

As an alternative to conducting a performance test, as required under Sections 5.5.6 and 5.5.7, the owner or operator shall use a 30-day rolling average of the one-hour arithmetic average CEMS data, including CEMS data during start-up and shut-down, as defined in this Part, to determine compliance with the emission limitations in Table 1 or Tables 5 through 8 of this Part. The owner or operator shall conduct a performance evaluation of each continuous monitoring system within ~~60~~ 180 days of installation of the monitoring system. **The initial performance evaluation shall be conducted prior to collecting CEMS data that will be used for the initial compliance determination.**

(b) The initial performance test shall be conducted no later than 180 days after the final compliance date. The final compliance date is specified in subparagraph 5.5.3(a)(2) of this Part.

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

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

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

(f) Within 10 operating days following an air pollution control device inspection, all necessary repairs shall be

completed unless the owner or operator obtains written approval from the Director establishing a date whereby all necessary repairs of the designated facility shall be completed.

(g) If the owner or operator of a waste-burning kiln chooses to comply with the equivalent production-based mercury emission limit in Table 7, initial compliance shall be demonstrated pursuant to 40 CFR § 63.1348(a)(5). The initial compliance test must begin on the first operating day following completion of the field testing and data collection that demonstrates that the continuous emissions monitoring system has satisfied the relevant performance acceptance criteria of Performance Specifications 12A or 12B of Appendix B of 40 CFR Part 60. The notification required by Paragraph 5.5.11(aa) of this Part shall also include the owner or operator's intention to comply with the equivalent production-based mercury emission limit in Table 7. For waste-burning kilns choosing to comply with the equivalent production-based mercury emission limit in Table 7, the term operating day in 40 CFR § 63.1348(a)(5), 40 CFR § 63.1348(b)(7), and 40 CFR § 63.1349(b)(5) means any 24-hour period beginning at 12:00 midnight during which the kiln produces any amount of clinker.

5.5.9 Continuous Compliance Requirements.

(a) Compliance with standards.

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

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

(3) If the combusting of solid waste is ceased the owner or operator shall be in compliance with any newly applicable standards on the effective date of the waste-to-fuel switch. The

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

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

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

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

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

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

(v) The date upon which combusting solid waste is ceased, and the date (if different) that any new requirements to become applicable (i.e., the effective date of the waste-to-fuel switch), consistent with subparagraphs 5.5.9(a)(2) and (3) of this paragraph.

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

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

(b) The owner or operator shall conduct an annual performance test for the pollutants listed in Table 1 or Tables 5 through 8 of this Part and opacity for each CISWI ~~unit~~ as required under Section 5.5.7 of this Part. The annual performance test shall be conducted using the test methods listed in Table 1 or Tables 5 through 8 of this Part and the procedures in Section 5.5.7 of this Part. Opacity shall be measured using EPA Reference Method 9 at 40 CFR part 60. Annual performance tests are not required if the owner or operator uses CEMS or continuous opacity monitoring systems to determine compliance.

(c) The owner or operator shall continuously monitor the operating parameters specified in paragraph 5.5.6(b) or established under paragraph 5.5.6(c) of this Part, and as specified in paragraph 5.5.10(d) of this Part. Operation above the established maximum or below the established minimum operating limits constitutes a deviation from the established operating limits. Three-hour block average values are used to determine compliance (except for baghouse leak detection system alarms) unless a different averaging period is established under paragraph 5.5.6(c) of this Part or, for energy recovery units, where the averaging time for each

operating parameter is a 30-day rolling, calculated each hour as the average of the previous 720 operating hours. Operation above the established maximum, below the established minimum, or outside the allowable range of the operating limits specified in paragraph 5.5.9(a) of this Section constitutes a deviation from the operating limits established under this Part, except during performance tests conducted to determine compliance with the emission and operating limits or to establish new operating limits. Operating limits are confirmed or re-established during performance tests.

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

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

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

(g) For facilities using a CEMS to demonstrate compliance with the carbon monoxide emission limit, compliance with the carbon monoxide emission limit may be demonstrated by using the CEMS, as described in Paragraph 5.5.10(o) of this Part. ~~according to the following requirements:~~

~~(1) The owner or operator shall measure emissions according to §60.13 to calculate 1-hour arithmetic averages corrected to 7 percent oxygen. CEMS data during startup and shutdown, as defined in this Part, are not corrected to 7 percent oxygen, and are measured at stack oxygen content. The owner or operator shall demonstrate initial compliance with the carbon monoxide emissions limit using a 30-day rolling average of the 1-hour arithmetic average emission concentrations, including CEMS data during startup and shutdown as defined in this Part, calculated using equation 19-19 in section 12.4.1 of EPA Reference Method 19 at 40 CFR part 60, appendix A-7.~~

~~(2) Operate the carbon monoxide continuous emissions monitoring system in accordance with the applicable requirements of performance specification 4A of appendix B and the quality assurance procedures of appendix F of 40 CFR part 60.~~

(h) Coal and liquid/gas energy recovery units with annual average heat input rates greater than 250 MMBtu/hr may elect to demonstrate continuous compliance with the particulate matter emissions limit using a particulate matter CEMS according to the procedures in ~~sub~~paragraph 5.5.10(n) of this Part, instead of the ~~continuous parameter monitoring system~~ CPMS specified in ~~sub~~paragraph 5.5.9(i) of this ~~paragraph~~ Section. Coal and liquid/gas energy recovery units with annual average heat input rates less than 250 MMBtu/hr, incinerators, and small remote incinerators may also elect to demonstrate compliance using a particulate matter CEMS according to the procedures in paragraph 5.5.10(n) of this Part, instead of particulate matter testing with EPA Method 5 at 40 CFR part 60, appendix A-3 and, if applicable, the continuous opacity monitoring requirements in paragraph 5.5.9(i) of this Section.

(i) For energy recovery units with annual average heat input rates greater than or equal to 10 MMB~~TU~~tu/hour but less than 250 MMBtu/hr that do not use a wet scrubber, fabric filter with bag leak detection system, an electronic precipitator, particulate matter CEMS or particulate matter CPMS, the owner or operator shall install, operate, certify and maintain a continuous opacity monitoring system (COMS) according to the procedures in ~~Section~~ Paragraph 5.5.10(m) of this Part.

(j) For waste-burning kilns, the owner or operator shall conduct an annual performance test for the pollutants (except mercury and particulate matter, and hydrogen chloride if no acid gas wet scrubber or dry scrubber is used) listed in Table 7 of this Part, unless the owner or operator demonstrate initial and continuous compliance using CEMS as allowed in 5.5.9(u) of this Section. If the waste-burning kiln is not equipped with an acid gas wet scrubber or dry scrubber, the owner or operator shall determine compliance with the hydrogen chloride emission limit using a HCl CEMS according to the requirements of subparagraph 5.5.9(j)(1) of this paragraph. The owner or operator shall determine compliance with the mercury emissions limit using a mercury CEMS or an integrated sorbent trap monitoring system

according to subparagraph 5.5.9 (j)(2) of this paragraph. The owner or operator shall determine compliance with particulate matter using CPMS:

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

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

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

(I) Include a second span that encompasses the HCl emission concentrations expected to be encountered during "mill off" conditions. This second

span may be rounded to a multiple of 5 ppm of total HCl. The requirements of the appropriate HCl monitor performance specification shall be followed for this second span with the exception that a RATA with the mill off is not required;

(II) Quality assure any data above the span value by proving instrument linearity beyond the span value established in subparagraph (j)1.(i) of this paragraph using the following procedure. Conduct a weekly "above span linearity" calibration challenge of the monitoring system using a reference gas with a certified value greater than the highest expected hourly concentration or greater than 75% of the highest measured hourly concentration. The "above span" reference gas must meet the requirements of the applicable performance specification and must be introduced to the measurement system at the probe. Record and report the results of this procedure as would be done for a daily calibration. The "above span linearity" challenge is successful if the value measured by the HCl CEMS falls within 10 percent of the certified value of the reference gas. If the value measured by the HCl CEMS during the above span linearity challenge exceeds 10 percent of the certified value of the reference gas, the monitoring system must be evaluated and repaired and a new "above span linearity" challenge met before returning the HCl CEMS to service, or data above span from the HCl CEMS must be subject to the quality assurance procedures established in (j)(1)(ii)(IV) of this subdivision. In this manner values measured by the HCl CEMS during the above span linearity challenge exceeding ±20 percent of the certified value of the reference gas must be normalized using equation 6;

(III) Quality assure any data above the span value established in subdivision (j)(1)(i) of this subparagraph using the following procedure. Any time two consecutive one-hour average measured concentration of HCl exceeds the span value the owner or operator shall, within 24 hours before or after, introduce a higher, "above span" HCl reference gas standard to the HCl CEMS. The "above span" reference gas shall meet the requirements of the applicable performance specification and target a concentration level between 50 and 150 percent of the highest expected hourly concentration

measured during the period of measurements above span, and shall be introduced at the probe. While this target represents a desired concentration range that is not always achievable in practice, it is expected that the intent to meet this range is demonstrated by the value of the reference gas. Expected values may include above span calibrations done before or after the above-span measurement period. Record and report the results of this procedure as would be done for a daily calibration. The "above span" calibration is successful if the value measured by the HCl CEMS is within 20 percent of the certified value of the reference gas. If the value measured by the HCl CEMS is not within 20 percent of the certified value of the reference gas, then the owner or operator shall normalize the stack gas values measured above span as described in paragraph (j)(1)(ii)(IV) of this subdivision. If the "above span" calibration is conducted during the period when measured emissions are above span and there is a failure to collect the one data point in an hour due to the calibration duration, then the owner or operator shall determine the emissions average for that missed hour as the average of hourly averages for the hour preceding the missed hour and the hour following the missed hour. In an hour where an "above span" calibration is being conducted and one or more data points are collected, the emissions average is represented by the average of all valid data points collected in that hour; and

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

(Eq. 6)

$$\frac{Certified\ reference\ gas\ value}{Measured\ value\ of\ reference\ gas} * Measured\ stack\ gas$$

$$= Normalized\ stack\ gas\ result$$

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

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

(ii) Owners or operators using a mercury ~~continuous emissions monitoring systems~~ CEMS or integrated sorbent trap monitoring system to determine mass emission rate shall install, operate, calibrate and maintain an instrument for continuously measuring and recording the mercury mass emissions rate to the atmosphere according to the requirements of performance specifications 6 and 12A at 40 CFR part 60, appendix B and conducting an annual relative accuracy test of the continuous emission rate monitoring system according to

section 8.2 of performance specification 6 ~~quality assurance procedure 5 at 40 CFR part 60, appendix F~~; and

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

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

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

(2) Develop a site-specific monitoring plan according to the requirements in paragraph 5.5.9(l) of this Section. This requirement also applies if the owner or operator petition the Administrator for alternative monitoring parameters under §60.13(i) of 40 CFR part 60.

(l) For each CMS required in this paragraph, the owner or operator shall develop and submit to the Administrator for approval a site-specific monitoring plan according to the requirements of this paragraph (l) that addresses subdivisions 5.5.9(l)(1)(i) through (vi) of this paragraph.

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

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

(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer and the data collection and reduction systems.

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

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

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

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

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

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

(m) If the owner or operator has an operating limit that requires the use of a flow monitoring system, the owner or operator shall meet the requirements in paragraph 5.5.9(l) and subparagraphs 5.5.9(m)(1) through (4) of this paragraph.

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

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

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

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

(n) If the owner or operator has an operating limit that requires the use of a pressure monitoring system, the owner or operator shall meet the requirements in paragraph 5.5.9(l) and subparagraphs 5.5.9(n)(1) through (6) of this paragraph.

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

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

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

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

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

(6) If at any time the measured pressure exceeds the manufacturer's specified maximum operating pressure range, conduct a performance evaluation of the pressure monitoring system in accordance with the monitoring plan and confirm that the pressure monitoring system continues to meet

the performance requirements in the monitoring plan. Alternatively, install and verify the operation of a new pressure sensor.

(o) If the owner or operator has an operating limit that requires a pH monitoring system, the owner or operator shall meet the requirements in paragraph 5.5.9(l) and subparagraphs 5.5.9(o)(1) through (4) of this paragraph.

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

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

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

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

(p) If the owner or operator has an operating limit that requires a secondary electric power monitoring system for an electrostatic precipitator, the owner or operator shall meet the requirements in paragraph 5.5.9(l) and subparagraphs 5.5.9(p)(1) through (2) of this paragraph.

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

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

(q) If the owner or operator has an operating limit that requires the use of a monitoring system to measure sorbent injection rate (e.g., weigh belt, weigh hopper, or hopper flow measurement device), the owner or operator shall meet the requirements in paragraph 5.5.9(l) and subparagraphs 5.5.9(q)(1) though (2) of this paragraph.

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

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

(r) If the owner or operator elect to use a fabric filter bag leak detection system to comply with the requirements of this Part, the owner or operator shall install, calibrate, maintain, and continuously operate a bag leak detection system as specified in paragraph 5.5.9(l) and subparagraphs 5.5.9(r)(1) though (5) of this paragraph.

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

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

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

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

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

(s) For facilities using a CEMS to demonstrate initial and continuous compliance with the sulfur dioxide emission limit, compliance with the sulfur dioxide emission limit may be demonstrated by using the CEMS specified in ~~Section~~ Paragraph 5.5.10(1) of this Part to measure sulfur dioxide. ~~CEMS data during startup and shutdown, as defined in this Part, are not corrected to 7 percent oxygen, and are measured at stack oxygen content. The owner or operator shall calculate a 30-day rolling average of the 1-hour arithmetic average emission concentrations, including CEMS data during startup and shutdown as defined in this Part, using Equation 19-19 in section 12.4.1 of EPA Reference Method 19 at 40 CFR part 60, appendix A-7.~~ The sulfur dioxide CEMS shall ~~be operated according to performance specification 2 in appendix B of 40 CFR part 60 and shall~~ follow the procedures and methods specified in this ~~sub~~paragraph. For sources that have actual inlet emissions less than 100 parts per million dry volume, the relative accuracy criterion for inlet sulfur dioxide CEMS should be no greater than 20 percent of the mean value of the reference method test data in terms of the units of the emission standard, or 5 parts per million dry volume absolute value of the mean difference between the reference method and the CEMS, whichever is greater.

(1) During each relative accuracy test run of the CEMS required by performance specification 2 in appendix B of 40 CFR part 60, collect sulfur dioxide and oxygen (or carbon dioxide) data concurrently (or within a 30- to 60- minute period) with both the CEMS and the test methods specified in subdivisions 5.5.9(s)(1)(i) and (ii) of this subparagraph.

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

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

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

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

(t) For facilities using a CEMS to demonstrate initial and continuous compliance with the nitrogen oxides emission limit, compliance with the nitrogen oxides emission limit may be demonstrated by using the CEMS specified in ~~Section~~ Paragraph 5.5.10(k) to measure nitrogen oxides. ~~CEMS data during startup and shutdown as defined in this Part, are not corrected to 7 percent oxygen, and are measured at stack oxygen content. The owner or operator shall calculate a 30-day rolling average of the 1-hour arithmetic average emission concentration using Equation 19-19 in section 12.4.1 of EPA Reference Method 19 at 40 CFR part 60, appendix A-7.~~ The nitrogen oxides CEMS shall ~~be operated according to performance specification 2 in appendix B of 40 CFR part 60 and shall~~ follow the procedures and methods specified in subparagraphs 5.5.9(t)(1) through (5) of this paragraph.

(1) During each relative accuracy test run of the CEMS required by performance specification 2 of appendix B of 40 CFR part 60, collect nitrogen oxides and oxygen (or carbon dioxide) data concurrently (or within a 30- to 60- minute period) with both the CEMS and the test methods specified in subdivisions 5.5.9(t)(1)(i) and (ii) of this subparagraph.

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

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

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

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

(4) The owner or operator of an affected facility may request that compliance with the nitrogen oxides emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. If carbon dioxide is selected for use in diluents corrections, the relationship between oxygen and carbon dioxide levels shall be established during the initial performance test according to the procedures and methods specified in subdivisions 5.5.9(t)(4)(i) though (iv) of this subparagraph below. This relationship may be reestablished during performance compliance tests.

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

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

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

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

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

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

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

(v) Use of the bypass stack at any time is an emissions standards deviation for particulate matter, HCl, Pb, Cd, Hg, NOx, SO_2, and dioxin/furans.

(w) For energy recovery units with a design heat input capacity of 100 MMBtu per hour or greater that do not use a carbon monoxide CEMS, the owner or operator shall install, operate, and maintain an oxygen analyzer system as defined in Section 5.5.1 of this Part according to the procedures in subparagraphs 5.5.9(w)(1) through (4) below.

(1) The oxygen analyzer system shall be installed by the initial performance test date specified in paragraph 5.5.6(b) of this Part.

(2) The owner or operator shall operate the oxygen trim system within compliance with subparagraph 5.5.9(w)(3) of this paragraph below at all times.

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

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

(x) For energy recovery units with annual average heat input rates greater than or equal to 250 MMBtu/hour and waste-burning kilns, the owner or operator shall install, calibrate, maintain, and operate a PM CPMS and record the output of the system as specified in subparagraphs 5.5.9(x)(1) through (8) of this paragraph below. For other energy recovery units, the owner or operator may elect to use PM CPMS operated in accordance with this paragraph. PM CPMS are suitable in lieu of using other CMS for monitoring PM compliance (e.g., bag leak detectors, ESP secondary power, PM scrubber pressure).

(1) Install, calibrate, operate, and maintain the PM CPMS according to the procedures in the approved site-specific monitoring plan developed in accordance with paragraph 5.5.9(l) and subdivisions 5.5.9(x)(1)(i) through (iii) of this paragraph.

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

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

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

(2) During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, the owner or operator shall adjust the site-specific operating limit in accordance with the results of the performance test according to the procedures specified in paragraph 5.5.6(b) of this Part.

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

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

(5) The owner or operator shall collect data using the PM CPMS at all times the energy recovery unit or waste-burning kiln is operating and at the intervals specified in subdivision 5.5.9(x)(1)(ii) of this paragraph, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments), and any scheduled maintenance as defined in the site- specific monitoring plan.

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

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

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

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

(7) The owner or operator shall record and make available upon request results of PM CPMS system performance audits, as well as the dates and duration of periods from when the PM CPMS is out of control until completion of the corrective actions necessary to return the PM CPMS to operation consistent with the site-specific monitoring plan.

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

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

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

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

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

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

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

(Eq. 7) $C_{ks} = ((Emission\ Limit\ X\ (Q_{ab} + Q_{cm} + Q_{ks})) - (Q_{ab}\ X\ C_{ab}) - (Q_{cm}\ X\ C_{cm}))/Q_{ks}$

Where:

C_{ks} = Kiln stack concentration (ppmvd, mg/dscm, ng/dscm, depending on pollutant. Each corrected to 7% O2.)

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

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

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

C_{cm} = In-line coal mill concentration (ppmvd, mg/dscm, ng/dscm, depending on pollutant. Each corrected to 7% O2.)

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

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

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

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

(aa) On an annual basis (no more than 12 months following the previous annual air pollution control device inspection), the owner or operator shall complete the air pollution control device inspection as described in paragraphs 5.5.8(e) and (f) of this Part.

(bb) The owner or operator shall conduct annual performance tests according to the schedule specified in paragraph 5.5.9(z) in this Section, with the following exceptions:

(1) The owner or operator may conduct a repeat performance test at any time to establish new values for the operating limits ~~to apply from that point forward~~, as specified in paragraphs 5.5.9(cc) and (dd) of this Section. New operating limits become effective on the date that the performance test report is submitted to the EPA's Central Data Exchange or postmarked, per the requirements of Paragraph 5.5.11(hh) of this Part. The Director may request a repeat performance test at any time.

(2) The owner or operator shall repeat the performance test within 60 days of a process change, as defined in Section 5.5.1 of this Part.

(3) Performance tests may be conducted less often if the owner or operator meet the following conditions: the performance tests for the pollutant for at least 2 consecutive performance tests ~~If the initial or any subsequent performance test for any pollutant in table 1 or tables 5 through 8 of this Part, as applicable,~~ demonstrates that the emission level for the pollutant is no greater than the emission level specified in subdivision 5.5.9(bb)(3)(i) or (bb)(3)(ii) of this paragraph, as applicable~~,~~ ; there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions; and the owner or operator is not required to conduct a performance test for the pollutant in response to a request by the Director in subparagraph 5.5.9(bb)(1) of this paragraph or a process change in subparagraph 5.5.9(bb)(2) of this paragraph~~,~~. In this case, the owner or operator do not have to conduct a performance test for that pollutant for the next 2 years. ~~the owner or operator may elect to skip conducting a performance test for the pollutant for the next 2 years.~~ The owner or operator shall conduct a performance test for the pollutant ~~during the third year and~~ no more than 37 months following the previous performance test for the pollutant. If the emission level for the CISWI continues to meet the emission level specified in subdivision 5.5.9(bb)(3)(i) or 5.5.9(bb)(3)(ii) of this Paragraph, as applicable, the owner or operator may choose to conduct performance tests for the pollutant every third year as long as there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions. Each such performance test shall be conducted no more than 37 months after the previous performance test. ~~For cadmium and lead, both cadmium and lead shall be emitted at emission levels no greater than their respective emission~~

~~levels specified in subdivision 5.5.9(bb)(3)(i) of this paragraph to qualify for less frequent testing under this paragraph.~~

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

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

(4) If the owner or operator is conducting less frequent testing for a pollutant as provided in subparagraph 5.5.9(bb)(3) of this paragraph and a subsequent performance test for the pollutant indicates that the CISWI ~~unit~~ does not meet the emission level specified in subdivision 5.5.9(bb)(3)(i) or 5.5.9(bb)(3)(ii) of this paragraph, as applicable, the owner or operator shall conduct annual performance tests for the pollutant according to the schedule specified in paragraph 5.5.9(bb) of this Section until qualification for less frequent testing for the pollutant as specified in subparagraph 5.5.9(bb)(3) of this paragraph.

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

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

(ee) If the owner or operator of a waste-burning kiln chooses to comply with the equivalent production-based mercury emission limit in Table 7, continuous compliance

shall be demonstrated pursuant to the procedures of 40 CFR § 63.1348(b)(7) and 40 CFR § 63.1349(b)(5).

5.5.10 Monitoring.

(a) If a wet scrubber is used to comply with the emission limitation under subparagraph 5.5.6(a) of this Part, the owner or operator shall install, calibrate (to manufacturers' specifications), maintain, and operate devices (or establish methods) for monitoring the value of the operating parameters used to determine compliance with the operating limits listed in Table 2 of this Part. These devices (or methods) must measure and record the values for these operating parameters at the frequencies indicated in Table 2 of this Part at all times except as specified in subdivision 5.5.10(t)(1)(i) of this section.

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

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

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

(3) The bag leak detection system shall be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligrams per actual cubic meter or less.

(4) The bag leak detection system sensor shall provide output of relative or absolute particulate matter loadings.

(5) The bag leak detection system shall be equipped with a device to continuously record the output signal from the sensor.

(6) The bag leak detection system shall be equipped with an alarm system that will sound automatically

when an increase in relative particulate matter emissions over a preset level is detected. The alarm shall be located where it is easily heard by plant operating personnel.

(7) For positive pressure fabric filter systems, a bag leak detection system shall be installed in each baghouse compartment or cell. For negative pressure or induced air fabric filters, the bag leak detector shall be installed downstream of the fabric filter.

(8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(c) If a device other than a wet scrubber, activated carbon, selective non-catalytic reduction, an electrostatic precipitator, or a dry scrubber is used to comply with the emission limitations under 5.5.6(a) of this Part, the owner or operator shall install, calibrate (to the manufacturers' specifications), maintain, and operate the equipment necessary to monitor compliance with the site-specific operating limits established using the procedures in paragraph 5.5.6(c) of this Part.

(d) If activated carbon injection is used to comply with the emission limitations in this Part, the owner or operator shall measure the minimum sorbent flow rate once per hour.

(e) If selective noncatalytic reduction is used to comply with the emission limitations, the owner or operator shall complete the following:

(1) Following the date on which the initial performance test is completed or is required to be completed under Section 5.5.7 of this Part, whichever date comes first, ensure that the affected facility does not operate above the maximum charge rate, or below the minimum secondary chamber temperature (if applicable to your CISWI ~~unit~~) or the minimum reagent flow rate measured as 3-hour block averages at all times.

(2) Operation of the affected facility above the maximum charge rate, below the minimum secondary chamber temperature and below the minimum reagent flow rate

simultaneously constitute a violation of the nitrogen oxides emissions limit.

(f) If an electrostatic precipitator is used to comply with the emission limits of this Part, the owner or operator shall monitor the secondary power to the electrostatic precipitator collection plates and maintain the 3-hour block averages at or above the operating limits established during the mercury or particulate matter performance test.

(g) For waste-burning kilns not equipped with a wet scrubber or dry scrubber, ~~in place of hydrogen chloride testing with EPA Method 321 at 40 CFR part 63, appendix A,~~ an owner or operator shall install, calibrate, maintain, and operate a CEMS for monitoring hydrogen chloride emissions discharged to the atmosphere, as specified in Paragraph 5.5.9(j) of this Part, and record the output of the system. The owner or operator may substitute use of a HCl CEMS for conducting the initial and annual testing with EPA Method 321 at 40 CFR part 63, appendix A. ~~To demonstrate continuous compliance with the hydrogen chloride emissions limit f~~ For units other than waste-burning kilns not equipped with a wet scrubber or dry scrubber, a facility may substitute use of a hydrogen chloride CEMS for conducting the hydrogen chloride initial and annual performance test~~,~~. For units equipped with a hydrogen chloride CEMS, the owner or operator is not required to monitor~~ing~~ the minimum hydrogen chloride sorbent flow rate, monitor~~ing~~ the minimum scrubber liquor pH, and monitor minimum injection rate.

(h) To demonstrate continuous compliance with the particulate matter emissions limit, a facility may substitute use of either a particulate matter CEMS or a particulate matter CPMS for conducting the particulate matter annual performance test. For units equipped with a particulate matter CEMS, ~~and~~ other CMS monitoring for PM compliance (e.g., bag leak detectors, ESP secondary power, PM scrubber pressure) is not required. A facility may also substitute use of a particulate matter CEMS for conducting the PM initial performance test.

(i) To demonstrate initial and continuous compliance with the dioxin/furan emissions limit, a facility may substitute use of a continuous automated sampling system for the dioxin/furan initial and annual performance test. The owner or operator shall record the output of the system and analyze the sample according to EPA Method 23 at 40 CFR part 60, appendix

A-7. This option to use a continuous automated sampling system takes effect on the date a final performance specification applicable to dioxin/furan from continuous monitors is published in the Federal Register. The owner or operator who elects to continuously sample dioxin/furan emissions instead of sampling and testing using EPA Method 23 at 40 CFR part 60, appendix A-7 shall install, calibrate, maintain and operate a continuous automated sampling system and shall comply with the requirements specified in § 60.58b(p) and (q). A facility may substitute continuous dioxin/furan monitoring for the minimum sorbent flow rate, if activated carbon sorbent injection is used solely for compliance with the dioxin/furan emission limit.

(j) To demonstrate initial and continuous compliance with the mercury emissions limit, a facility may substitute use of a mercury CEMS or an integrated sorbent trap monitoring ~~continuous automated sampling~~ system for the mercury initial and annual performance test. ~~The owner or operator shall record the output of the system and analyze the sample at set intervals using any suitable determinative technique that can meet performance specification 12B criteria. This option to use a continuous automated sampling system takes effect on the date a final performance specification applicable to mercury from monitors is published in the Federal Register.~~ The owner or operator who elects to continuously ~~sample~~ measure mercury emissions instead of sampling and testing using EPA Method 29 or 30B at 40 CFR part 60, appendix A-8, ASTM D6784-02 (Reapproved 2008) (incorporated by reference, see § 60.17), or an approved alternative method for measuring mercury emissions, shall install, calibrate, maintain and operate ~~a continuous automated sampling~~ the mercury CEMS or an integrated sorbent trap monitoring system and shall comply with performance specification 12A or performance specification 12B, respectively, and quality assurance procedure 5. For the purposes of emissions calculations when using an integrated sorbent trap monitoring system, the mercury concentration determined for each sampling period shall be assigned to each hour during the sampling period. ~~the requirements specified in § 60.58b(p) and (q).~~ For units equipped with a mercury CEMS or an integrated sorbent trap monitoring system, the owner or operator is not required to monitor ~~A facility may substitute continuous mercury monitoring for~~ the minimum sorbent flow rate, if activated carbon sorbent injection is used solely for compliance with the mercury emission limit. The owner or operators of waste-burning kilns shall install, calibrate, maintain, and operate a mercury CEMS or an integrated sorbent trap monitoring system as specified in paragraph 5.5.9(j) of this Part.

(k) To demonstrate initial and continuous compliance with the nitrogen oxides emissions limit, a facility may substitute use of a CEMS for the nitrogen oxides initial and annual performance test to demonstrate compliance with the nitrogen oxides emissions limits. For units equipped with a nitrogen oxides CEMS, monitoring of the charge rate, secondary chamber temperature and reagent flow for selective noncatalytic reduction is not required.

(1) Install, calibrate, maintain and operate a CEMS for measuring nitrogen oxides emissions discharged to the atmosphere and record the output of the system. The requirements under performance specification 2 of appendix B of 40 CFR part 60, the quality assurance procedure 1 of appendix F of 40 CFR part 60 and the procedures under § 60.13 shall be followed for installation, evaluation and operation of the CEMS.

(2) ~~Following the date that the initial performance test for nitrogen oxides is completed or is required to be completed under Section 5.5.7 of this Part, c~~ Compliance with the emission limit for nitrogen oxides ~~required under § 60.52b(d)~~ shall be determined based on the 30-day rolling average of the hourly emission concentrations using CEMS outlet data, as outlined in Paragraph 5.5.9(u) of this Part. ~~The 1-hour arithmetic averages shall be expressed in parts per million by volume corrected to 7 percent oxygen (dry basis) and used to calculate the 30-day rolling average concentrations. CEMS data during startup and shutdown, as defined in this Part, are not corrected to 7 percent oxygen, and are measured at stack oxygen content. The 1-hour arithmetic averages shall be calculated using the data points required under § 60.13(e)(2).~~

(l) To demonstrate initial and continuous compliance with the sulfur dioxide emissions limit, a facility may substitute use of a ~~continuous automated sampling system~~ CEMS for the sulfur dioxide initial and annual performance test to demonstrate compliance with the sulfur dioxide emissions limits.

(1) Install, calibrate, maintain and operate a CEMS for measuring sulfur dioxide emissions discharged to the atmosphere and record the output of the system. The requirements under performance specification 2 of appendix

B of 40 CFR part 60, the quality assurance requirements of procedure 1 of appendix F of 40 CFR part 60 and the procedures under § 60.13 must be followed for installation, evaluation and operation of the CEMS.

(2) ~~Following the date that the initial performance test for sulfur dioxide is completed or is required to be completed under Section 5.5.7 of this Part, c~~ Compliance with the sulfur dioxide emission limit ~~may~~ shall be determined based on the 30-day rolling average of the hourly arithmetic average emission concentrations using CEMS outlet data, as outlined in Paragraph 5.5.9(u) of this Part. ~~The 1-hour arithmetic averages shall be expressed in parts per million corrected to 7 percent oxygen (dry basis) and used to calculate the 30-day rolling average emission concentrations. CEMS data during startup and shutdown, as defined in this Part, are not corrected to 7 percent oxygen, and are measured at stack oxygen content. The 1-hour arithmetic averages shall be calculated using the data points required under § 60.13(e)(2).~~

(m) For energy recovery units 10 MMBtu/hr but less than 250 MMBtu/hr annual average heat input rates that do not use a wet scrubber, fabric filter with bag leak detection system, an electrostatic precipitator, ~~or~~ particulate matter CEMS, or particulate matter CPMS, the owner or operator shall install, operate, certify and maintain a continuous opacity monitoring system according to the procedures in subparagraphs 5.5.10(m)(1) through (5) of this paragraph by the compliance date specified in Section 5.5.6 of this Part. Energy recovery units that use a particulate matter CEMS to demonstrate initial and continuing compliance according to the procedures in paragraph 5.5.10(n) are not required to install a continuous opacity monitoring system and shall perform the annual performance tests for opacity consistent with paragraph 5.5.9(f) of this Part.

(1) Install, operate and maintain each continuous opacity monitoring system according to performance specification 1 at 40 CFR part 60, appendix B.

(2) Conduct a performance evaluation of each continuous opacity monitoring system according to the requirements in § 60.13 and according to performance specification 1 at 40 CFR part 60, appendix B.

(3) As specified in § 60.13(e)(1), each continuous opacity monitoring system shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(4) Reduce the continuous opacity monitoring system data as specified in § 60.13(h)(1).

(5) Determine and record all the 6-minute averages (and 1-hour block averages as applicable) collected.

(n) For coal and liquid/gas energy recovery units, incinerators, and small remote incinerators, an owner or operator may elect to install, calibrate, maintain and operate a CEMS for monitoring particulate matter emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who continuously monitors particulate matter emissions instead of conducting performance testing using EPA Method 5 at 40 CFR part 60, appendix A-3 or~~, as applicable,~~ monitor<u>ing</u> with a particulate matter CPMS according to paragraph 5.5.10(r) of this Section, shall install, calibrate, maintain and operate a <u>PM</u> CEMS and shall comply with the requirements specified in subparagraphs 5.5.10(n)(1) through ~~(13)~~ <u>(10)</u> of this paragraph below.

~~(1) Notify the Director 1 month before starting use of the system.~~

~~(2) Notify the Director 1 month before stopping use of the system.~~

~~(3)~~ <u>(1) PM CEMS</u> ~~The monitor~~ shall be installed, evaluated and operated in accordance with the requirements of performance specification 11 of appendix B of 40 CFR part 60 and quality assurance requirements of procedure 2 of appendix F of 40 CFR part 60 and § 60.13.

~~(4)~~ <u>(2)</u> The initial performance evaluation shall be completed no later than 180 days after the final compliance

date for meeting the amended emission limitations, as specified under Section 5.5.7 of this Part or within 180 days of notification to the Director of use of the continuous monitoring system if the owner or operator was previously determining compliance by Method 5 at 40 CFR part 60, appendix A-3 performance tests, whichever is later.

~~(5)~~ (3) The owner or operator of an affected facility may request that compliance with the particulate matter emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established according to the procedures and methods specified in subdivisions 5.5.9(s)(5)(i) through (iv).

~~(6)~~ (4) The owner or operator of an affected facility shall conduct an initial performance test for particulate matter emissions ~~as required under Section 5.5.7 of this Part~~. ~~Compliance with the particulate matter emission limit, if~~ If PM CEMS are elected for demonstrating compliance, and the initial performance test has not yet been conducted, then initial compliance shall be determined by using the CEMS specified in paragraph 5.5.10(n) of this Section to measure particulate matter. The owner or operator shall calculate a 30-day rolling average of 1-hour arithmetic average emission concentrations, including CEMS data during startup and shutdown, as defined in this Part, using Equation 19-19 in section 12.4.1 of EPA Reference Method 19 at 40 CFR part 60, appendix A-7.

~~(7)~~ (5) Continuous c~~C~~ompliance with the particulate matter emission limit shall be determined based on the 30-day rolling average calculated using Equation 19-19 in section 12.4.1 of EPA Reference Method 19 at 40 CFR part 60, Appendix A-7 from the 1-hour arithmetic average of the CEMS outlet data.

~~(8)~~ (6) At a minimum, valid continuous monitoring system hourly averages shall be obtained as specified in paragraph 5.5.10(t) of this Section.

~~(9)~~ (7) The 1-hour arithmetic averages required under subparagraph 5.5.10(n)~~(7)~~ (5) of this paragraph shall be expressed in milligrams per dry standard cubic meter corrected to 7 percent oxygen (or carbon dioxide)(dry basis) and shall be used to calculate the 30-day rolling average emission concentrations. CEMS data during startup and shutdown, as defined in this Part, are not corrected to 7 percent oxygen, and are measured at stack oxygen content. The 1-hour arithmetic averages shall be calculated using the data points required under § 60.13(e)(2).

~~(10)~~ (8) All valid CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of subparagraph 5.5.10(n)~~(8)~~ (6) of this paragraph are not met.

~~(11)~~ (9) The CEMS shall be operated according to performance specification 11 in appendix B of 40 CFR part 60~~.~~; and

~~(12) During each relative accuracy test run of the CEMS required by performance specification 11 in appendix B of 40 CFR part 60, particulate matter and oxygen (or carbon dioxide) data shall be collected concurrently (or within a 30-to 60-minute period) by both the CEMS and the following test methods.~~

~~(i) For particulate matter, EPA Reference Method 5 at 40 CFR part 60, appendix A-3 shall be used.~~

~~(ii) For oxygen (or carbon dioxide), EPA Reference Method 3A or 3B at 40 CFR part 60, appendix A-2, as applicable, shall be used.~~

~~(13)~~ (10) Quarterly and yearly accuracy ~~determinations~~ audits and daily ~~calibration~~ drift, system optics, and sample volume checks ~~tests~~ shall be performed in accordance with procedure 2 in appendix F of 40 CFR part 60.

(o) To demonstrate initial and continuous compliance with the carbon monoxide emissions limit, a facility may substitute use of a ~~continuous automated sampling system~~ CEMS for the carbon monoxide initial and annual performance test to demonstrate compliance with the carbon monoxide emissions limits.

(1) Install, calibrate, maintain, and operate a CEMS for measuring carbon monoxide emissions discharged to the atmosphere and record the output of the system. The requirements under performance specification 4A or 4B of appendix B of 40 CFR part 60, the quality assurance procedure 1 of appendix F of 40 CFR part 60 and the procedures under § 60.13 shall be followed for installation, evaluation, and operation of the CEMS.

(2) ~~Following the date that the initial performance test for carbon monoxide is completed or is required to be completed under Section 5.5.7 of this Part, c~~ Compliance with the carbon monoxide emission limit ~~may~~ shall be determined based on the 30-day rolling average of the hourly arithmetic average emission concentrations, including CEMS data during startup and shutdown as defined in this Part, using CEMS outlet data, as outlined in Paragraph 5.5.9(u) of this Part. ~~Except for CEMS data during startup and shutdown, as defined in this Part, the 1-hour arithmetic averages shall be expressed in parts per million corrected to 7 percent oxygen (dry basis) and used to calculate the 30-day rolling average emission concentrations. CEMS data collected during startup or shutdown, as defined in this Part, are not corrected to 7 percent oxygen, and are measured at stack oxygen content. The 1-hour arithmetic averages shall be calculated using the data points required under § 60.13(e)(2).~~

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

(q) For energy recovery units with a design heat input capacity of 100 MMBtu per hour or greater that do not use a carbon monoxide CEMS, the owner or operator shall install, operate and maintain an oxygen analyzer system as defined in Section 5.5.1 of this Part according to the procedures in subparagraphs 5.5.10(q)(1) through (4) of this paragraph below.

(1) The oxygen analyzer system shall be operated by the initial performance test date specified in paragraph 5.5.6(b) of this Part.

(2) The owner or operator shall operate the oxygen trim system within compliance with subparagraph (q)(3) below at all times.

(3) The owner or operator shall maintain the oxygen level such that the 30-day rolling average that is established as the operating limit for oxygen according to subparagraph (q)(4) below is not below the lowest hourly average oxygen concentration measured during the most recent CO performance test.

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

(r) For energy recovery units with annual average heat input rates greater than or equal to 250 MMBtu/hour and waste-burning kilns, the owner or operator shall install, calibrate, maintain, and operate a PM CPMS and record the output of the system as specified in subparagraphs 5.5.10(r)(1) through (8) of this paragraph below. For other energy recovery units, the owner or operator may elect to use PM CPMS operated in accordance with this paragraph. PM CPMS are suitable in lieu of using other CMS for monitoring PM compliance (e.g., bag leak detectors, ESP secondary power, PM scrubber pressure).

(1) Install, calibrate, operate, and maintain the PM CPMS according to the procedures in the approved site-specific monitoring plan developed in accordance with

paragraph 5.5.9(l) and subdivisions 5.5.10(r)(1)(i) through (iii) of this paragraph.

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

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

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

(2) During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, the owner or operator shall adjust the site-specific operating limit in accordance with the results of the performance test according to the procedures specified in paragraph 5.5.6(b) of this Part.

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

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

(5) The owner or operator shall collect data using the PM CPMS at all times the energy recovery unit or waste-burning kiln is operating and at the intervals specified in subdivision 5.5.10(r)(1)(ii) of this paragraph, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, required monitoring

system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments), and any scheduled maintenance as defined in the site- specific monitoring plan.

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

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

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

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

(7) The owner or operator shall record and make available upon request results of PM CPMS system performance audits, as well as the dates and duration of periods from when the PM CPMS is out of control until completion of the corrective actions necessary to return the PM CPMS to operation consistent with the site-specific monitoring plan.

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

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

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

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

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

(s) If a dry scrubber is used to comply with the emission limits of this Part, the owner or operator shall monitor the injection rate of each sorbent and maintain the 3-hour block averages at or above the operating limits established during the hydrogen chloride performance test.

(t) If required to monitor clinker production to comply with the production-rate based mercury limit for the waste-burning kiln, the owner or operator shall:

(1) Determine hourly clinker production by one of two methods:

(i) Install, calibrate, maintain and operate a permanent weigh scale system to measure and record

weight rates in tons-mass per hour of the amount of clinker produced. The system of measuring hourly clinker production shall be maintained within ± 5 percent accuracy, or

(ii) Install, calibrate, maintain and operate a permanent weigh scale system to measure and record weight rates in tons mass per hour of the amount of feed to the kiln. The system of measuring feed shall be maintained within ± 5 percent accuracy. Calculate the hourly clinker production rate using a kiln-specific feed to clinker ratio based on reconciled clinker production determined for accounting purposes and recorded feed rates. Update this ratio monthly. Note that if this ratio changes at clinker reconciliation, the owner or operator shall use the new ratio going forward, but do not have to retroactively change clinker production rates previously estimated.

(2) Determine the accuracy of the system of measuring hourly clinker production (or feed mass rate, if applicable) before the final compliance date of this Part and during each quarter of source operation.

(3) Conduct accuracy checks in accordance with the procedures outlined in the site-specific monitoring plan under Paragraph 5.5.9(l) of this Part.

~~(t)~~ (u) The minimum amount of monitoring data obtained is determined as follows:

(1) For each continuous monitoring system required or optionally allowed under Section 5.5.10 of this Part, the owner or operator shall monitor and collect data according to subdivisionss 5.5.10(t)(1)(i) through (iii) below:

(i) The owner or operator shall operate the monitoring system and collect data at all required intervals at all times compliance is required except for periods of monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods (as

specified in subparagraph 5.5.11(cc)(15) of this Part), and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks and required zero and span adjustments. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. The owner or operator is required to effect monitoring system repairs in response to monitoring system malfunctions or out-of-control periods and to return the monitoring system to operation as expeditiously as practicable.

(ii) The owner or operator may not use data recorded during the monitoring system malfunctions, repairs associated with monitoring system malfunctions or out-of control periods, or required monitoring system quality assurance or control activities in calculations used to report emissions or operating levels. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system.

(iii) Except for periods of monitoring system malfunctions or out-of- control periods, repairs associated with monitoring system malfunctions or out-of-control periods, and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks and required zero and span adjustments, failure to collect required data is a deviation of the monitoring requirements.

(v) If the owner or operator of a waste-burning kiln chooses to comply with the equivalent production-based mercury emission limit in Table 7, it must also monitor mercury pursuant to 40 CFR § 63.1350(k), the clinker production rate pursuant to 40 CFR § 63.1350(d), and the flow rate pursuant to 40 CFR § 63.1350(n). An owner or operator of a waste-burning kiln is not required to develop an emission monitoring plan pursuant to 40 CFR § 63.1350(p)(1) through (p)(4) if the owner or operator prepares the

emissions monitoring plan required pursuant to paragraphs 5.5.9(k) and 5.5.9(l) of this Part.

5.5.11 Recordkeeping and Reporting. The following ~~13~~ items shall be maintained (as applicable) as specified in paragraphs (a), (b) and (e) through (w) of this section for a period of at least 5 years:

(a) Calendar date of each record.

(b) Records of the data described in subparagraphs (b)(1) through (~~6~~ 7) of this paragraph:

(1) The CISWI ~~unit~~ charge dates, times, weights, and hourly charge rates.

(2) Liquor flow rate to the wet scrubber inlet every 15 minutes of operation, as applicable.

(3) Pressure drop across the wet scrubber system every 15 minutes of operation or amperage to the wet scrubber every 15 minutes of operation, as applicable.

(4) Liquor pH as introduced to the wet scrubber every 15 minutes of operation, as applicable.

(5) For affected CISWIs ~~units~~ that establish operating limits for controls other than wet scrubbers under subparagraphs 5.5.6 (b)(4) through (7) or paragraph 5.5.6(c) of this Part, the owner or operator shall maintain data collected for all operating parameters used to determine compliance with the operating limits. For energy recovery units using activated carbon injection or a dry scrubber, the owner or operator shall also maintain records of the load fraction and corresponding sorbent injection rate records.

(6) If a fabric filter is used to comply with the emission limitations, the owner or operator shall record the date, time, and duration of each alarm and the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken. The owner or operator shall also record the percent of operating time during each 6-month period that the alarm sounds, calculated as specified in subparagraph 5.5.6(b)(3) of this Part.

(7) If monitoring of clinker production is in accordance with Paragraph 5.5.10(t) of this Part:

(i) Hourly clinker rate produced if clinker production is measured directly;

(ii) Hourly measured kiln feed rates and calculated clinker production rates if clinker production is not measured directly;

(iii) 30-day rolling averages for mercury in pounds per million tons of clinker produced;

(iv) The initial and quarterly accuracy of the system of measuring clinker production (or feed mass flow).

(c) Reserved.

(d) Reserved.

(e) Identification of calendar dates and times for which data show a deviation from the operating limits in Table 2 of this Part or a deviation from other operating limits established under paragraph 5.5.6(c) or subparagraphs 5.5.6(b)(4) through (7) of this Part with a description of the deviations, reasons for such deviations, and a description of corrective actions taken.

(f) The results of the initial, annual, and any subsequent performance tests conducted to determine compliance with the emission limits and/or to establish operating limits, as applicable. Retain a copy of the complete test report including calculations.

(g) Records showing the names of CISWI ~~unit~~ operators who have completed review of the information in subparagraph 5.5.5(g)(1) as required by subparagraph 5.5.5(g)(2) of this Part, including the date of the initial review and all subsequent annual reviews.

(h) Records showing the names of the CISWI operators who have completed the operator training requirements, met the criteria for qualification, and maintained or renewed their qualification under section 5.5.5 of this Part. Records shall include documentation of training, the dates of the initial and refresher training, and the dates of their

qualification and all subsequent renewals of such qualifications.

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

(j) Records of calibration of any monitoring devices as required under section 5.5.10 of this Part.

(k) Equipment vendor specifications and related operation and maintenance requirements for the incinerator, emission controls, and monitoring equipment.

(l) The information listed in paragraph 5.5.5(g) of this Part.

(m) On a daily basis, keep a log of the quantity of waste burned and the types of waste burned (always required).

(n) Maintain records of the annual air pollution control device inspections that are required for each CISWI ~~unit~~ subject to the emissions limits in table 1 of this Part or tables 5 through 8 of this Part, any required maintenance and any repairs not completed within 10 days of an inspection or the timeframe established by the Director.

(o) For continuously monitored pollutants or parameters, the owner or operator shall document and keep a record of the following parameters measured using continuous monitoring systems. If monitoring emissions with a CEMS, data that are CEMS data during startup and shutdown shall be indicated.

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

(2) All 1-hour average concentrations of sulfur dioxide emissions. ~~The owner or operator shall indicate which data are CEMS data during startup and shutdown.~~

(3) All 1-hour average concentrations of nitrogen oxides emissions. ~~The owner or operator shall indicate which data are CEMS data during startup and shutdown.~~

(4) All 1-hour average concentrations of carbon monoxide emissions. ~~The owner or operator shall indicate which data are CEMS data during startup and shutdown.~~

(5) All 1-hour average concentrations of particulate matter emissions. ~~The owner or operator shall indicate which data are CEMS data during startup and shutdown.~~

(6) All 1-hour average concentrations of mercury emissions. ~~The owner or operator shall indicate which data are CEMS data during startup and shutdown.~~

(7) All 1-hour average concentrations of HCl CEMS outputs. ~~hydrogen chloride emissions. The owner or operator shall indicate which data are CEMS data during startup and shutdown.~~

(8) All 1-hour average percent oxygen concentrations.

(9) All 1-hour average PM CPMS readings or particulate matter CEMS outputs.

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

(q) If choosing to stack test less frequently than annually, consistent with paragraph 5.5.9(bb) of this Part, the owner or operator shall keep annual records that document that the emissions in the previous stack test(s) were less than 75 percent of the applicable emission limit and document that there was no change in source operations including fuel composition and operation of air pollution control equipment that would cause emissions of the relevant pollutant to increase within the past year.

(r) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment.

(s) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(t) Records of actions taken during periods of malfunction to minimize emissions in accordance with § 60.11(d) of 40 CFR part 60, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(u) For operating units that combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to § 241.3(b)(1), the owner or operator shall keep a record which documents how the secondary material meets each of the legitimacy criteria under § 241.3(d)(1). If the owner or operator combusts a fuel that has been processed from a discarded non- hazardous secondary material pursuant to § 241.3(b)(4), the owner or operator shall keep records as to how the operations that produced the fuel satisfies the definition of processing in § 241.2 and each of the legitimacy criteria in § 241.3(d)(1). If the fuel received a non-waste determination pursuant to the petition process submitted under § 241.3(c), the owner or operator shall keep a record that documents how the fuel satisfies the requirements of the petition process. For operating units that combust non-hazardous secondary materials as fuel per § 241.4, the owner or operator shall keep records documenting that the material is a listed non-waste under § 241.4(a).

(v) Records of the criteria used to establish that the unit qualifies as a small power production facility under section 3(17)(C) of the Federal Power Act (16 U.S.C. 796(17)(C)) and that the waste material the unit is proposed to burn is homogeneous.

(w) Records of the criteria used to establish that the unit qualifies as a cogeneration facility under section 3(18)(B) of the Federal Power Act (16 U.S.C. 796(18)(B)) and that the waste material the unit is proposed to burn is homogeneous.

(x) All records shall be available onsite in either paper copy or computer-readable format that can be printed upon request, unless an alternative format is approved by the Director.

(y) A summary of the reporting requirements can be found in Table 4 of this Part.

(z) The waste management plan shall be submitted no later than the date specified in subparagraph 5.5.3(a)(1) of this Part for submittal of the final control plan.

(aa) The information specified in subparagraphs (aa)(1) through (3) of this paragraph below shall be submitted no later than 60 days following the initial performance test. All reports shall be signed by the responsible official.

(1) The complete test report for the initial performance test results obtained under section 5.5.8 of this Part, as applicable.

(2) The values for the site-specific operating limits established in paragraphs 5.5.6(b) or (c) of this Part.

(3) If a fabric filter is being used to comply with the emission limitations, documentation that a bag leak detection system has been installed and is being operated, calibrated, and maintained as required by paragraph 5.5.10(b) of this Part.

(bb) An annual report shall be submitted no later than 12 months following the submission of the information in paragraph (aa) of this section above. Subsequent reports shall be submitted no more than 12 months following the previous report. (If the unit is subject to permitting requirements under Title V of the Clean Air Act, the owner or operator may be required by the permit to submit these reports more frequently).

(cc) The annual report required under paragraph (bb) of this section above shall include the ten items listed in subparagraphs (cc)(1) through (10) of this paragraph below. If there is a deviation from the operating limits or the emission limitations, deviation reports shall also be submitted as specified in paragraph (dd) of this section below.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the truth and accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) The values for the operating limits established pursuant to paragraphs 5.5.6(b) or 5.5.6(c) of this Part.

(5) If no deviation from any emission limitation or operating limit that applies has been reported, a statement that there was no deviation from the emission limitations or operating limits during the reporting period.

(6) The highest recorded 3-hour average and the lowest recorded 3-hour average (30-day averages for energy recovery units), as applicable, for each operating parameter recorded for the calendar year being reported.

(7) Information recorded under subparagraphs (b)(6) and (e) of this section for the calendar year being reported.

(8) If a performance test was conducted during the reporting period, the results of that test.

(9) If the requirements of paragraphs 5.5.9(aa) were met, and the owner or operator did not conduct a performance test during the reporting period, the owner or operator shall state that the requirements of paragraphs 5.5.9(aa) were met, and, therefore, they were not required to conduct a performance test during the reporting period.

(10) Documentation of periods when all qualified CISWI ~~unit~~ operators were unavailable for more than 8 hours, but less than 2 weeks.

(11) If there was a malfunction during the reporting period, the compliance report shall include the number, duration, and a brief description for each type of malfunction that occurred during the reporting period and that caused or may have caused any applicable emission limitation to be exceeded. The report shall also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with § 60.11(d), including actions taken to correct a malfunction.

(12) For each deviation from an emission or operating limitation that occurs for a CISWI ~~unit~~ for which a CMS is not being used to comply with the emission or operating limitations in this Part, the annual report shall contain the following information.

(i) The total operating time of the CISWI ~~unit~~ at which the deviation occurred during the reporting period.

(ii) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(13) If there were periods during which the continuous monitoring system, including the CEMS, was out of control as specified in subparagraph 5.5.11(cc)(15) of this Section, the annual report shall contain the following information for each deviation from an emission or operating limitation occurring for a CISWI ~~unit~~ for which a continuous monitoring system is being used to comply with the emission and operating limitations in this Part.

(i) The date and time that each malfunction started and stopped.

(ii) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(iii) The date, time, and duration that each continuous monitoring system was out-of-control, including start and end dates and hours and descriptions of corrective actions taken.

(iv) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(v) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(vi) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(vii) A summary of the total duration of continuous monitoring system downtime during the reporting period, and the total duration of continuous monitoring system downtime as a percent of the total operating time of the CISWI ~~unit~~ at which the continuous monitoring system downtime occurred during that reporting period.

(viii) An identification of each parameter and pollutant that was monitored at the CISWI ~~unit~~.

(ix) A brief description of the CISWI ~~unit~~.

(x) A brief description of the continuous monitoring system.

(xi) The date of the latest continuous monitoring system certification or audit~~.~~; and

(xii) A description of any changes in continuous monitoring system, processes, or controls since the last reporting period.

(14) If there were periods during which the continuous monitoring system, including the CEMS, was not out of control as specified in subparagraph 5.5.11(cc)(15) of this Section, a statement that there were not periods during which the continuous monitoring system was out of control during the reporting period.

(15) A continuous monitoring system is out of control if any of the following occur.

(i) The zero (low-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.

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

(iii) The continuous opacity monitoring system calibration drift exceeds two times the limit in the applicable performance specification in the relevant standard.

(16) For energy recovery units, include the annual heat input and average annual heat input rate of all fuels being burned in the unit to verify which subcategory of energy recovery unit applies.

(dd) Reporting of deviations from the operating limits or the emission limitations.

(1) A deviation report shall be submitted if any recorded 3-hour average (30-day average for energy recovery units or for PM CPMS) parameter level is above the maximum operating limit or below the minimum operating limit established under this Part, if the bag leak detection system alarm sounds for more than 5 percent of the operating time for the 6-month reporting period, ~~or~~ if a performance test was conducted that deviated from any emission limitation, or if a 30-day average measured using a CEMS deviated from any emission limitation.

(2) The deviation report shall be submitted by August 1 of that year for data collected during the first half of the calendar year (January 1 to June 30), and by February 1 of the following year for data collected

during the second half of the calendar year (July 1 to December 31).

(3) In each report required under this paragraph, for any pollutant or parameter that deviated from the emission limitations or operating limits specified in this Part, include the items described in subdivisions (dd)(3)(i) through (iv) of this subparagraph below.

(i) The calendar dates and times the CISWI unit deviated from the emission limitations or operating limit requirements.

(ii) The averaged and recorded data for those dates.

(iii) Duration and causes of the following:

(A) Each deviation from the emission limitations or operating limits and corrective actions taken~~.~~: and

(B) Bypass events and corrective actions taken.

(iv) A copy of the operating limit monitoring data during each deviation and any test report that documents the emission levels.

(4) If all qualified operators are not accessible for 2 weeks or more, the two actions in subdivisions (dd)(4)(i) and (ii) of this subparagraph below shall be taken.

(i) Submit a notification of the deviation within 10 days that includes the three items in subdivisions (dd)(4)(i)(A) through (C) of this subparagraph below.

(A) A statement of what caused the deviation.

(B) A description of what actions are being taken to ensure that a qualified operator is accessible.

(C) The date when it is anticipated that a qualified operator will be available.

(ii) Submit a status report to the Director every 4 weeks that includes the three items in subdivisions (dd)(4)(ii)(A) through (C) of this subparagraph below.

(A) A description of what actions are being taken to ensure that a qualified operator is accessible.

(B) The date when it is anticipated that a qualified operator will be accessible.

(C) Request approval from the Director to continue operation of the CISWI ~~unit~~.

(iii) If the CISWI ~~unit~~ was shut down by the Administrator, under the provisions of subdivision 5.5.5(h)(2)(ii) of this Part, due to a failure to provide an accessible qualified operator, the owner or operator shall notify the Administrator that operations will resume once a qualified operator is accessible.

(ee) Notifications provided by 40 CFR, § 60.7 [as incorporated by reference under Part 13.2 Subpart A] shall be submitted.

(ff) If the owner or operator cease combusting solid waste but continue to operate, the owner or operator shall provide 30 days prior notice of the effective date of the waste-to-fuel switch, consistent with paragraph 5.5.9(a) of this Part. The notification must identify:

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

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

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

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

(5) The date upon which the unit will cease combusting solid waste, and the date (if different) that the owner or operator intend for any new requirements to become applicable (i.e., the effective date of the waste-to-fuel switch), consistent with subparagraphs (ff)(2) and (3) of this paragraph.

(gg) Initial, annual, and deviation reports shall be submitted electronically or in paper format, postmarked on or before the submittal due dates. Beginning on April 16, 2021, or once the reporting form has been available in CEDRI for 1 year, whichever is later, subsequent reports shall be submitted on or before the submittal dates ~~Submit the reports~~ to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/*).) Use the appropriate electronic report in CEDRI for this rule or an alternate electronic file format consistent with the extensible markup language (XML) schema listed on the CEDRI Web site (*https://www3.epa.gov/ttn/chief/cedri/index.html*)~~, once the XML schema is available~~. The date when forms become available in CEDRI will be posted on the CEDRI Web site. ~~If the reporting form specific to this rule is not available in CEDRI at the time that the report is due, submit the report to the Administrator at the appropriate address listed in 40 CFR, §60.4. Once the form has been available in CEDRI for 90 calendar days, the owner or operator shall begin submitting all subsequent reports via CEDRI.~~ The reports shall be submitted by the deadlines specified in this rule, regardless of the method in which the report is submitted.

(hh) Submit results of performance tests and CEMS performance evaluation tests as follows.

(1) Within 60 days after the date of completing each performance test following the procedure specified in either subdivision (hh)(1)(i) or (hh)(1)(ii) of this paragraph:

(i) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site

(*https://www3.epa.gov/ttn/chief/ert/ert_info.html*) at the time of the test, the owner or operator shall submit the results of the performance test to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX (*https://cdx.epa.gov/*).) Performance test data shall be submitted in a file format generated through the use of the EPA's ERT or an alternate electronic file format consistent with the XML schema listed on the EPA's ERT Web site. If the owner or operator claim that some of the performance test information being submitted is confidential business information (CBI), the owner or operator shall submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media shall be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted shall be submitted to the EPA via the EPA's CDX as described earlier in this subparagraph; and

(ii) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, the owner or operator shall submit the results of the performance test to the Administrator at the appropriate address listed in 40 CFR, §60.4.

(2) Within 60 days after the date of completing each CEMS performance evaluation the owner or operator shall submit the results of the performance evaluation following the procedure specified in either subparagraph (hh)(1) or (hh)(2) of this paragraph:

(i) For performance evaluations of continuous monitoring systems measuring relative accuracy test audit (RATA) pollutants that are supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the evaluation, the owner or operator shall submit the results of the performance evaluation to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) Performance evaluation data shall be submitted in a file format generated through the use of the EPA's ERT or an

alternate file format consistent with the XML schema listed on the EPA's ERT Web site. If the owner or operator claim that some of the performance evaluation information being submitted is CBI, the owner or operator shall submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic storage media shall be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930_Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted shall be submitted to the EPA via the EPA's CDX as described earlier in this subparagraph; and

(ii) For any performance evaluations of continuous monitoring systems measuring RATA pollutants that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the evaluation, the owner or operator shall submit the results of the performance evaluation to the Administrator at the appropriate address listed in 40 CFR, §60.4.

(ii) If required to electronically submit a report through the Compliance and Emissions Data Reporting Interface (CEDRI) in the EPA's Central Data Exchange (CDX), and due to a planned or actual outage of either the EPA's CEDRI or CDX systems within the period of time beginning 5 business days prior to the date that the submission is due, the owner or operator shall be or are precluded from accessing CEDRI or CDX and submitting a required report within the time prescribed, the owner or operator may submit a claim of EPA system outage for failure to timely comply with the reporting requirement. Notification shall be submitted to the Administrator in writing as soon as possible following the date known, or through due diligence should have been known, that the event may cause or caused a delay in reporting. A written description shall be provided to the Administrator identifying the date, time and length for the outage, a rationale for attributing the delay in reporting beyond the regulatory deadline to the EPA system outage; describe the measures taken or to be taken to minimize the delay in reporting; and identify a date by which the owner or operator will propose to report, or if already met the reporting requirement at the time of the notification, the date

reported. In any circumstance, the report shall be submitted electronically as soon as possible after the outage is resolved. The decision to accept the claim of EPA system outage and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

(jj) If required to electronically submit a report through CEDRI in the EPA's CDX and a force majeure event is about to occur, occurs, or has occurred or there are lingering effects from such an event within the period of time beginning 5 business days prior to the date the submission is due, the owner or operator may assert a claim of force majeure for failure to timely comply with the reporting requirement. For the purposes of this Paragraph, a force majeure event is defined as an event that will be or has been caused by circumstances beyond the control of the affected facility, its contractors, or any entity controlled by the affected facility that prevents compliance with the requirement to submit a report electronically within the time period prescribed. Examples of such events are acts of nature (e.g. hurricanes, earthquakes, or floods), acts of war or terrorism, equipment failure or safety hazard beyond the control of the affected facility (e.g. large scale power outage). If intended to assert a claim of force majeure, a notification shall be submitted to the Administrator in writing as soon as possible following the date first known, or through due diligence should have been known, that the event may cause or caused a delay in reporting. The owner or operator shall provide to the Administrator a written description of the force majeure event and a rationale for attributing the delay in reporting beyond the regulatory deadline to the force majeure event; describe the measures taken or to be taken to minimize the delay in reporting; and identify a date by which the owner or operator will propose to report, or if already met the reporting requirement at the time of the notification, the date reported. In any circumstance, the reporting shall occur as soon as possible after the force majeure event occurs. The decision to accept the claim of force majeure and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

~~(ii)~~ (kk) The Director may change the semiannual or annual reporting dates. Procedures for seeking approval to change

reporting dates are found in 40 CFR, § 60.19(c) [as incorporated by reference under Part 13.2 Subpart A].

(ll) If the owner or operator of a waste-burning kiln chooses to comply with the equivalent production-based mercury emission limit in Table 7, it shall also keep records of all data collected from the continuous flow rate monitoring system required by 40 CFR § 63.1350(n), all data collected from the clinker production monitoring system required by 40 CFR § 63.1350(d), and all calculated 30-operating day rolling average values derived from the mercury monitoring system. Units in the waste-burning kiln subcategory complying with the equivalent production-based mercury emission limit in Table 7 must also report all deviations from the equivalent production-based mercury emission limit in accordance with Paragraphs 5.5.11(a) through 5.5.11(dd) of this Section.

5.5.12 Major Source Operating Permits. Each CISWI and ~~air curtain incinerator~~ ACI subject to standards under this Part (excluding rules in Section 5.5.13 below) ~~unit~~ shall operate pursuant to the requirements of Part 3.9 by December 1, 2003.

5.5.13 Air Curtain Incinerators (ACIs).

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

(b) Air curtain incinerators that burn only the materials listed in subparagraphs (b)(1) through (3) of this paragraph below are only required to meet the requirements under this section.

(1) 100 percent wood waste.

(2) 100 percent clean lumber.

(3) 100 percent mixture of only wood waste, clean lumber, and/or yard waste.

(c) For owners or operators planning to achieve compliance more than one year following the effective date of EPA's approval of ADEM Admin. Code R. 335-3-3-.05, the two increments of progress specified in subparagraphs (c)(1) and (2) of this paragraph below shall be met.

(1) Submit a final control plan no later than one year following the effective date of EPA's approval of ADEM Admin. Code R. 335-3-3-.05.

(2) Achieve final compliance no later than December 1, 2005.

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

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

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

(3) Signature of the owner or operator of the incinerator unit.

(e) If an owner or operator fails to meet an increment of progress, a notification to the Director shall be submitted and postmarked within 10 business days after the date for that increment of progress in paragraph (c) of this section above. The owner or operator shall inform the Director that the increment was not met, and reports shall be submitted each subsequent calendar month until the increment of progress is met.

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

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

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

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

(h) Closing and restarting an air curtain incinerator.

(1) If the incinerator is closed but will be restarted prior to the final compliance date of December 1, 2005, the increments of progress specified in paragraph (c) of this section shall be met.

(2) If the incinerator is to restart after the final compliance date, the owner or operator shall complete emission control retrofits and meet the emission limitations on the date the incinerator restarts operation.

(i) Permanent closure of an air curtain incinerator. If the owner or operator plans to close the incinerator rather than comply with this Part, submit a closure notification, including the date of closure, to the Director within 90 days after EPA approval of ADEM Admin. Code R. 335-3-3-.05.

(j) Emission limitations for air curtain incinerators.

(1) After the date the initial stack test is required or completed (whichever is earlier), the owner or operator shall meet the limitations in subdivisions (j)(1)(i) and (ii) of this subparagraph below.

> **(i) Maintain opacity to less than or equal to 10 percent opacity (as determined by the average of three 1-hour blocks consisting of ten 6-minute average opacity values), except as described in subparagraph (j)(1)(ii) of this paragraph below.**

(ii) Maintain opacity to less than or equal to 35 percent opacity (as determined by the average of three 1-hour blocks consisting of ten 6-minute average opacity values) during the startup period that is within the first 30 minutes of operation.

(k) Monitoring opacity for air curtain incinerators.

(1) Use Method 9 of 40 CFR 60, Appendix A to determine compliance with the opacity limitation.

(2) Conduct an initial test for opacity as specified in 40 CFR, § 60.8 no later than 180 days after the final compliance date.

(3) After the initial test for opacity, conduct annual tests no more than 12 calendar months following the date of the previous test.

(l) Recordkeeping and reporting requirements for air curtain incinerators.

(1) Keep records of results of all initial and annual opacity tests onsite in either paper copy or electronic format, unless the Director approves another format, for at least 5 years.

(2) Make all records available for submittal to the Director or for an inspector's onsite review.

(3) Submit an initial report no later than 60 days following the initial opacity test that includes the information specified in subdivisions (l)(3)(i) and (ii) of this subparagraph below.

(i) The types of materials planned to be combusted in the air curtain incinerator.

(ii) The results (as determined by the average of three 1-hour blocks consisting of ten 6-minute average opacity values) of the initial opacity tests.

(4) Submit annual opacity test results within 12 months following the previous report.

(5) Submit initial and annual opacity test reports as electronic or paper copy on or before the applicable submittal date and keep a copy onsite for a period of 5 years.

TABLE 1. EMISSION LIMITS FOR INCINERATORS THAT COMMENCED CONSTRUCTION ON OR BEFORE NOVEMBER 30, 1999, AND WERE NOT MODIFIED OR RECONSTRUCTED AFTER JUNE 1, 2001

Pollutant	Units (7 percent oxygen, dry basis, except opacity)	Averaging Time	Compliance Method 40 CFR 60 Appendix A
Cadmium	0.004 Milligrams per dry standard cubic meter	3-run average (1 hour minimum sample time per run)	Method 29
Carbon Monoxide	157 Parts per million by dry volume	3-run average (1 hour minimum sample time per run)	Methods 10, 10A, or 10B
Dioxins/furans (toxic equivalency	0.41 Nanograms per dry standard cubic meter.	3-run average (1 hour minimum sample time per run)	Method 23
Hydrogen Chloride	62 Parts per million by dry volume	3-run average (For Method 26, collect a minimum volume of 120 liters per run. For Method 26A, collect a minimum volume of 1 dry standard cubic meter per run).	Method 26 OR 26A
Lead	0.04 Milligrams per dry standard cubic meter	3-run average (1 hour minimum sample time per run)	Method 29
Mercury	0.47 Milligrams per dry standard cubic meter	3-run average (1 hour minimum sample time per run)	Method 29 or 30B or ASTM D6784-02 (Reapproved 2008)
Nitrogen Oxides	388 Parts per million by dry volume	3-run average (1 hour minimum sample time per run)	Methods 7 or 7E
Particulate Matter	70 Milligrams per dry standard cubic meter	3-run average (1 hour minimum sample time per run)	Method 5 or 29

Sulfur Dioxide	20 Parts per million by dry volume	3-run average (1 hour minimum sample time per run)	Method 6 or 6c
Opacity	10 Percent	Three 1-hour blocks consisting of ten 6-minute averages—opacity values	Method 9

TABLE 2. OPERATING LIMITS FOR WET SCRUBBERS

For these operating parameters	Establish these operating limits	And Monitor Using These Minimum Frequencies		
		Data Measurement	Data Recording	Averaging Time (Calculated each hour as the average of the previous 3 operating hours.)
Charge rate.	Maximum charge rate.	Continuous	Every hour	Daily (batch units). 3-hour rolling (continuous and intermittent units).
Pressure drop across the wet scrubber or amperage to wet scrubber.	Minimum pressure drop or amperage.	Continuous	Every 15 minutes	3-hour rolling.
Scrubber liquor flow rate.	Minimum flow rate.	Continuous	Every 15 minutes	3-hour rolling.
Scrubber liquor pH.	Minimum pH.	Continuous	Every 15 minutes	3-hour rolling.

TABLE 3. TOXIC EQUIVALENCY FACTORS

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

TABLE 4. REPORTING REQUIREMENTS

Report	Due Date	Contents	Reference Part 5.5
Waste Management Plan	No later than the date specified for submittal of the	• Waste Management Plan.	5.5.11(z)
Initial Test Report	No later than 60 days following the initial performance test.	• Complete test report for the initial performance test. • The values for the site-specific operating limits. • Installation of bag leak detection systems for fabric filters.	5.5.11(aa)

Annual Report	**No later than 12 months following the submission of the initial test report.** **Subsequent reports are to be submitted no more than 12 months following the previous report.**	• **Name and address.** • **Statement and signature by responsible official.** • **Date of report.** • **Values for the operating limits.** • **Highest recorded 3-hour average and the lowest recorded 3-hour average as applicable, (or 30-day average, if applicable), for each operating parameter recorded for the calendar year being reported.** • **If a performance test was conducted during the reporting period, the results of the test.** • **If a performance test was not conducted during the reporting period, a statement that the requirements of (9)(aa) were met.** • **Documentation of periods when all qualified CISWI ~~unit~~ operators were unavailable for more than 8 hours but less than 2 weeks.** • **If performance tests are being conducted once every 3 years consistent with 5.5.9(aa), the date of the last 2 performance tests, a comparison of the emission level achieved in the last 2 performance tests to the 75 percent emission limit threshold required in 5.5.9(aa) and a statement as to whether there have been any operational changes since the last performance test that could increase emissions.**	**5.5.11(bb)& (cc)**

TABLE 4. REPORTING REQUIREMENTS CONT'D

Report	Due Date	Contents	Reference 335-3-.05
Emission Limitation or Operating Limit Deviation Report	By August 1 of that year for data collected during the first half of the calendar year. By February 1 of the following year for data collected during the second half of the calendar year.	• Dates and times of deviations. • Averaged and recorded data for these dates. • Duration and causes for each deviation and the corrective actions taken. • Copy of operating limit monitoring data and any test reports. • Dates, times, and causes for monitor downtime incidents.	5.5.11(t)(1)-(3)
Qualified Operator Deviation Notification.	Within 10 days of deviation.	• Statement of cause of deviation. • Description of efforts to have an accessible qualified operator. • The date a qualified operator will be accessible.	5.5.11(dd)(4)(i)
Qualified Operator Deviation Status Report.	Every 4 weeks following deviation.	• Description of efforts to have an accessible qualified operator. • The date a qualified operator will be accessible. • Request for approval to continue operation.	5.5.11(dd)(4)(ii)
Qualified operator Deviation Notification of Resumed Operation.	Prior to resuming operation.	•Notification that operation will resume.	5.5.11(dd)(4)(iii)

TABLE 5. EMISSION LIMITS FOR INCINERATORS THAT COMMENCED CONSTRUCTION AFTER NOVEMBER 30, 1999, BUT NO LATER THAN JUNE

4, 2010, OR COMMENCED MODIFICATION OR RECONSTRUCTION AFTER JUNE 1, 2001 BUT NO LATER THAN AUGUST 7, 2013

Pollutant	**Emission Limitation**	**Averaging Time**	**Compliance Method 40 CFR 60 Appendix A**
Cadmium	0.0026 Milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 2 dry standard cubic meters)	Method 29 (Use ICPMS for the analytical finish.
Carbon Monoxide	17 Parts per million dry volume	3-run average (1 hour minimum sample time per run)	Methods 10
Dioxins/furans (toxic mass basis)	4.6 Nanograms per dry standard cubic meter	3-run average (collect a minimum volume of 2 dry standard cubic meters)	Method 23
Dioxins/furans (toxic equivalency basis)	0.13 Nanograms per dry standard cubic meter	3-run average (collect a minimum volume of 2 dry standard cubic meters)	Method 23
Hydrogen Chloride	29 Parts per million dry volume	3-run average (For Method 26, collect a minimum volume of 60 liters per run. For Method 26A, collect a minimum volume of 1 dry standard cubic meter per run)	Method 26 or 26A

Lead	0.015 Milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 2 dry standard cubic meters)	Method 29 (Use ICPMS for the analytical finish.
Mercury	0.0048 Milligrams per dry standard cubic meter	3-run average (For Method 29 an ASTM D6784-02 (Reapproved 2008), collect a minimum volume of 2 dry standard cubic meters. For Method 30B, collect a minimum sample as specified in Method 30B)	Method 29 or 30B or ASTM D6784-02 (Reapproved 2008)
Nitrogen Oxides	53 Parts per million dry volume	3-run average (for Method 7E, 1 hour minimum sample time per run)	Methods 7 or 7E
Particulate Matter	34 Milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 1 dry standard cubic meter)	Method 5 or 29
Sulfur Dioxide	11 Parts per million by dry volume	3-run average (1 hour minimum sample time per run)	Method 6 or 6c
Fugitive ash	Visible emissions for no more than 5% of the hourly observation period	Three 1-hour observation periods	Method 22 (Visible emission test)

TABLE 6. EMISSION LIMITS FOR ENERGY RECOVERY UNITS THAT COMMENCED CONSTRUCTION ON OR BEFORE JUNE 4, 2010, OR THAT COMMENCED RECONSTRUCTION OR MODIFICATION AFTER JUNE 4, 2010 BUT NO LATER THAN AUGUST 7, 2013

Pollutant	**Emission Limit (Liquid/Gas)**	**Emission Limit (Solids)**	**Averaging Time**	**Compliance Method 40 CFR 60 Appendix A**
Cadmium	0.023 Milligrams per dry standard cubic meter	Biomass—0.0014 milligrams per dry standard cubic meter. Coal—0. 0017 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 2 dry standard cubic meters)	Method 29 (Use ICPMS for the analytical finish.)
Carbon Monoxide	35 Parts per million dry volume	Biomass—260 parts per million dry volume Coal—95 parts per million dry volume	3-run average (1 hour minimum sample time per run)	Methods 10
Dioxins/furans (total mass basis)	2.9 nanograms per dry standard cubic meter	Biomass—0.52 nanograms per dry standard cubic meter. Coal—5.1 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 4 dry standard cubic meter)	Method 23
Dioxins/furans (toxic equivalency basis)	0.32 Nanograms per dry standard cubic meter	Biomass—0.12 nanograms per dry standard cubic meter Coal—0.075 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 4 dry standard cubic meters	Method 23

Hydrogen Chloride	14 Parts per million by dry volume	Biomass—0.20 parts per million dry volume Coal—58 parts per million dry volume	3-run average (for Method 26, collect a minimum of 120 liters; for Method 26A, collect a minimum volume of 1 dry standard cubic meter)	Method 26 or 26A

Lead	0.096 Milligrams per dry standard cubic meter	Biomass—0.014 milligrams per dry standard cubic meter. Coal—0.057 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 2 dry standard cubic meters)	Method 29 (Use ICPMS for the analytical finish.
Mercury	0.0024 Milligrams per dry standard cubic meter	Biomass—0.0022 milligrams per dry standard cubic meter Coal—0.013 milligrams per dry standard cubic meter	3-run average (For Method 29 and ASTM D6784-02 (Reapproved 2008) d, collect a minimum volume of 2 dry standard cubic meters per run. For Method 30B, collect a minimum sample as specified in Method 30B.	Method 29 or 30B or ASTM D6784-02 (Reapproved 2008)
Nitrogen Oxides	76 Parts per million dry volume	Biomass—290 parts per million dry volume Coal 460 parts per million dry volume	3-run average (for Method 7E, 1 hour minimum sample time per run)	Methods 7 or 7E

Particulate Matter Filterable	110 milligrams per dry standard cubic meter	Biomass—11 milligrams per dry standard cubic meter Coal - 130 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 1 dry standard cubic meter)	Method 5 or 29 if the unit has an annual average heat input rate less than or equal to 250 MMBtu/hr; or PM CPMS (as specified in § 60.2710(x)) if the unit has an annual average heat input rate greater than 250 MMBtu/hr.
Sulfur Dioxide	720 Parts per million dry volume	Biomass—7.3 parts per million dry volume Coal 850 parts per million dry volume	3-run average (1 hour minimum sample time per run)	Method 6 or 6c

Fugitive ash	Visible emissions for no more than 5 percent of the hourly observation period	Visible emissions for no more than 5 percent of the hourly observation period	Three 1-hour observation periods	Method 22 (Visible emission test)

TABLE 7. EMISSION LIMITS FOR WASTE-BURNING KILNS THAT COMMENCED CONSTRUCTION ON OR BEFORE JUNE 4, 2010, OR THAT COMMENCED RECONSTRUCTION OR MODIFICATION AFTER JUNE 4,

2010 BUT NO LATER THAN AUGUST 7, 2013

Pollutant	**Emission Limitation**	**Averaging Time**	**Compliance Method 40 CFR 60 Appendix A**
Cadmium	0.0014 Milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 2 dry standard cubic meters)	Method 29

Carbon Monoxide	110 (long kilns)/790 (preheater/precalciner) parts per million dry volume	3-run average (1 hour minimum sample time per run)	Method 10
Dioxins/furans (total mass basis)	1.3 Nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 4 dry standard cubic meters)	Method 23
Dioxins/furans (toxic equivalency basis)	0.075 Nanograms per dry standard cubic meter	3-run average (collect a minimum volume of 4 dry standard cubic meters)	Method 23
Hydrogen Chloride	3.0 Parts per million by dry volume	3-run average (collect a minimum volume of 1 dry standard cubic meter) or 30-day rolling average if HCl CEMS is being used	If a wet scrubber or dry scrubber is used, ~~P~~ performance test (Method 321 at 40 CFR part 63, appendix A of this part). ~~or HCl CEMS i~~If a wet scrubber or dry scrubber is not used, HCl CEMS, as specified in ~~§60.2710(j)~~ 5.5.9(j)
Lead	0.014 Milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 2 dry standard cubic meters)	Method 29

Mercury	0.011 Milligrams per dry standard cubic meter OR 58 Pounds per Million Tons of Clinker *	30-day rolling average	Mercury CEMS or sorbent trap integrated monitoring system (performance specification 12A or 12B, respectively, of appendix B and procedure 5 of appendix F of 40 CFR 60.)

Nitrogen Oxides	630 Parts per million by dry volume	3-run average (for Method	Methods 7 or 7E
Particulate Matter Filterable	13.5 Milligrams per dry standard cubic meter	30-day rolling average	PM CPMS (as specified in 60.2710(x))
Sulfur Dioxide	600 Parts per million by dry volume	3-run average (for Method 6, collect a minimum of 20 liters; for Method 6C, 1 hour minimum sample time per run)	Method 6 or 6c

*** Equivalent Production Based Limit – See Paragraphs 5.5.8(g), 5.5.9(ee), 5.5.10(~~u~~ v), and 5.5.11(~~jj~~ ll) for additional requirements.**

TABLE 8. EMISSION LIMITS FOR SMALL, REMOTE INCINERATORS THAT COMMENCED CONSTRUCTION ON OR BEFORE JUNE 4, 2010, OR THAT COMMENCED RECONSTRUCTION OR MODIFICATION AFTER JUNE 4, 2010 BUT NO LATER THAN AUGUST 7, 2013

Pollutant	**Units (7 percent oxygen, dry basis, except opacity)**	**Averaging Time**	**Compliance Method 40 CFR 60**
Cadmium	0.95 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 1 dry standard cubic meters per run)	Method 29
Carbon Monoxide	64 parts per million dry volume	3-run average (1 hour minimum sample time per run)	Methods 10
Dioxins/furans (total mass basis)	4,400 nanograms per dry standard cubic meter b	3-run average (collect a minimum volume of 1 dry standard cubic meters per run)	Method 23

Dioxins/furans (toxic equivalency basis)	180 nanograms per dry standard cubic meter b	3-run average (collect a minimum volume of 1 dry standard cubic meters)	Method 23

Hydrogen Chloride	300 parts per million dry volume	3-run average (For Method 26, collect a minimum volume of 120 liters per run. For Method 26A, collect a minimum volume of 1 dry standard cubic meter per run)	Method 26 or 26A
Lead	2.1 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 1 dry standard cubic meters)	Method 29 (Use ICPMS for the analytical finish.
Mercury	0.0053 milligrams per dry standard cubic meter	3-run average (For Method 29 and ASTM D6784-02 (Reapproved 2008), collect a minimum volume of 2 dry standard cubic meters per run. For Method 30B, collect a minimum sample as specified in Method 30B at 40 CFR part 60, appendix A)	Method 29 or 30B or ASTM D6784-02 (Reapproved 2008)
Nitrogen Oxides	190 parts per million dry volume	3-run average (for Method 7E, 1 hour minimum sample time per run)	Methods 7 or 7E
Particulate Matter (Filterable)	270 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 1 dry standard cubic meters)	Method 5 or 29
Sulfur Dioxide	150 parts per million dry volume	3-run average (for Method 6, collect a minimum of 20 liters per run; for Method 6C, 1 hour minimum sample time per run)	Method 6 or 6c

Fugitive Ash	Visible emissions for no more than 5 percent of the hourly observation period	Three 1-hour observation periods	Method 22 (Visible emissions test)

CHAPTER 13. STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES (Amended August 24, 2017)

13.1 General.

13.1.1 The Environmental Protection Agency Regulations, and the appendices applicable thereto, governing Standards of Performance for New Stationary Sources (40 CFR Part 60, and Appendices) designated in Part 13.2 are incorporated by reference as they exist in 40 CFR 60 (July 1, ~~2016~~ 2021),~~and 81 FR 44212 [07/07/2016, amendments to Subpart IIII], 81 FR 45232 [07/13/2016, amendments to Subpart Ja], 81 FR 59332 [08/29/2016, amendments to Subpart XXX], and 81 FR 59800 [08/30/2016, amendments to Subparts A, JJJJ, and Appendix A]~~ as amended by the word or phrase substitutions given in Part 13.3. References for specific documents containing the complete text of subject regulations are given in Appendix A to these regulations. (Amended , 2022)

[NOTE: The standards pertaining to the Consolidated Federal Air Rule are located in Chapter 15.]

CHAPTER 14. EMISSIONS STANDARDS FOR HAZARDOUS AIR POLLUTANTS (Amended August 24, 2017)

14.1 General.

14.1.1 The Environmental Protection Agency Regulations, and the Appendices applicable thereto, governing Hazardous Air Pollutants, 40 CFR, Part 61 and Appendices designated in Part 14.2 and 40 CFR Part 63, and Appendices designated in Part 14.5 are incorporated by reference as they exist in 40 CFR Part 61 (July 1, ~~2016~~ 2021), ~~and 81 FR 59800 [08/30/2016, amendments to Subparts A and Appendix B],~~ and 40 CFR Part 63 (July 1, ~~2016~~ 2021), ~~and 81 FR 45232 [07/13/2016, amendments to Subparts CC and UUU], 81 FR 48356 [07/25/2016, amendments to Subpart LLL], 81 FR 51114 [08/03/2016, amendments to Subpart GG], 81 FR 52348 [08/08/2016, amendments to Appendix B], and 81 FR 59800 [08/30/2016, amendments to Subpart A and Appendix A],~~ as amended by the word or phrase substitutions given in Part 14.3. References for specific documents containing the complete text of subject regulations are given in Appendix A to these Regulations. (Amended _____, 2022)

[NOTE: The standards pertaining to the Consolidated Federal Air Rule are located in Chapter 15.]

CHAPTER 18. CONTROL OF MUNICIPAL SOLID WASTE LANDFILL GAS EMISSIONS (Amended August 24, 2017)

18.1 Definitions. For the purposes of this Chapter and Part 13.2 Subpart WWW and Subpart XXX only, the following words and phrases, unless a different meaning is plainly required by the content, shall have the following meanings.

"Controlled landfill" means any landfill at which collection and control systems are required under this Chapter as a result of the nonmethane organic compounds emission rate. The landfill is considered controlled at the time a collection and control system design plan is submitted in compliance with Subdivision 18.3.1(~~b~~ d)(2)(i).(Amended ,2022)

18.3.2 Operational Standards for Collection and Control Systems. (Amended , 2022)

~~Each owner or operator with an~~ For an MSW landfill with a gas collection and control system used to comply with the provisions of Paragraphs 18.3.1 (a) and (b) of this Part ~~shall:~~ , the owner or operator of an MSW landfill shall operate the gas collection and control system in accordance with the operational standards in this Section (as well as the provisions in Sections 18.3.4 and 18.3.5), or the operational standards in 40 CFR § 63.1958, as incorporated by reference under Part 14.5 Subpart AAAA (as well as the provisions in 40 CFR §§ 63.1960 and 63.1961, as incorporated by reference under Part 14.5 Subpart AAAA), or both as alternative means of compliance. Once the owner or operator begins to comply with the provisions of 40 CFR § 63.1958, as incorporated by reference under Part 14.5 Subpart AAAA, the owner or operator shall continue to operate the collection and control device according to those provisions and cannot return to the provisions of this Part. Each owner or operator of an MSW landfill with a gas collection

and control system used to comply with Paragraphs 18.3.1 (a) and (b) of this Part shall:

(a) Operate the collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for:

(1) 5 years or more if active; or

(2) 2 years or more if closed or at final grade;

(b) Operate the collection system with negative pressure at each wellhead except under the following conditions:

(1) a fire or increased well temperature. The owner or operator shall record instances when positive pressure occurs in efforts to avoid a fire. These records shall be submitted with the annual reports as provided in Paragraph 18.3.6(g) of this Part;

(2) use of a geomembrane or synthetic cover. The owner or operator shall develop acceptable pressure limits in the design plan;

(3) a decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the Director as specified in Paragraph 18.3.6(c) of this Part.

(c) Operate each interior wellhead in the collection system with a landfill gas temperature less

than 55°C (131°F). The owner or operator may establish a higher operating temperature value at a particular well. A higher operating value demonstration shall be submitted to the Director for approval and shall include supporting data demonstrating that the elevated parameter neither causes fires nor significantly inhibits anaerobic decomposition by killing methanogens. The demonstration shall satisfy both criteria in order to be approved (i.e., neither causing fires nor killing methanogens is acceptable).

(d) Operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the owner or operator shall conduct surface testing using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in Paragraph 18.3.4(d) of this Part. The owner or operator shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at no more than 30 meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover and all cover penetrations. Thus the owner or operator shall monitor any openings that are within an area of the landfill where waste has been placed and a gas collection system is required. The owner or operator shall establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing.

(e) Operate the system such that all collected gases are vented to a control system designed and operated in compliance with Paragraph 18.3.1(b) of this Part. In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of

the gas to the atmosphere shall be closed within 1 hour of the collection or control system not operating.

(f) Operate the control system at all times when the collected gas is routed to the system.

(g) If monitoring demonstrates that the operational requirement in Paragraphs (b),(c), or (d) of this section are not met, corrective action shall be taken as specified in Subparagraphs 18.3.4(a)(3) and (5) or Paragraph 18.3.4(c) of this Part. If corrective actions are taken as specified in Section 18.3.4 of this Part, the monitored exceedance is not a violation of the operational requirements in this Paragraph.

18.3.4 Compliance Provisions. (Amended , 2022)

For an MSW landfill with a gas collection and control system used to comply with the provisions of Paragraphs 18.3.1 (a) and (b) of this Part, the owner or operator shall operate the gas collection and control system in accordance with the compliance provisions in this Section (as well as the provisions in Sections 18.3.2 and 18.3.5 of this Part), or the compliance provisions in 40 CFR § 63.1960, as incorporated by reference under Part 14.5 Subpart AAAA (as well as the provisions in 40 CFR §§ 63.1958 and 63.1961, as incorporated by reference under Part 14.5 Subpart AAAA), or both as alternative means of compliance. For a MSW landfill with a gas collection and control system used to comply with Paragraphs 18.3.1(a) and 18.3.1(b) of this Part, once the owner or operator begins to comply with the provisions of 40 CFR § 63.1960, as incorporated by reference under Part 14.5 Subpart AAAA, the owner or operator shall continue to operate the collection and control device according to those provisions and cannot return to the provisions of this Section.

(a) Except as provided in Subparagraph 18.3.6(c)(2) of this Part, the specified methods in Subparagraphs (a)(1)

through (a)(6) of this Paragraph shall be used to determine whether the gas collection system is in compliance with Subdivision 18.3.1(b)(2)(ii) of this Part.

(1) For the purposes of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with Subdivision 18.3.1(a)(2)(i) of this Part, one of the following equations shall be used. The k and L_o kinetic factors should be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42) or other site specific values demonstrated to be appropriate and approved by the Director. If k has been determined as specified in Subparagraph 18.3.3(a)(4) of this Part, the value of k determined from the test shall be used. A value of no more than 15 years shall be used for the intended use period of the gas mover equipment. The active life of the landfill is the age of the landfill plus the estimated number of years until closure.

(i) For sites with unknown year-to-year solid waste acceptance rate:

$$Q_m = 2L_oR(e^{-kc} - e^{-kt})$$

where,

Q_m = **maximum expected gas generation flow rate, cubic meters per year**

L_o = **methane generation potential, cubic meters per megagram solid waste**

R = **average annual acceptance rate, megagrams per year**

k = methane generation rate constant, $year^{-1}$

t = age of the landfill at equipment installation plus the time the owner or operator intends to use the gas mover equipment or active life of the landfill, whichever is less. If the equipment is installed after closure, t is the age of the landfill at installation, years

c = time since closure, years (for an active landfill c = 0 and e^{-kc} = 1)

(ii) For sites with known year-to-year solid waste acceptance rate:

$$Q_m = \sum_{i=1}^{n} 2kL_oM_i(e^{-kti})$$

where,

Q_m = maximum expected gas generation flow rate, cubic meters per year

k = methane generation rate constant, $year^{-1}$

L_o = methane generation potential, cubic meters per megagram solid waste

M_i = mass of solid waste in the i^{th} section, megagrams

t_i = age of the i^{th} section, years

(iii) If a collection and control system has been installed, actual flow data may be used to project the maximum expected gas generation flow rate instead of, or in conjunction with, the equations in Subdivisions (a)(1)(i) and (ii) of this Paragraph. If the landfill is still accepting waste, the actual measured flow data will not equal the maximum expected gas generation rate, so calculations using the equations in Subdivisions (a)(1)(i) or (ii) or other methods shall be used to predict the maximum expected gas generation rate over the intended period of use of the gas control system equipment.

(2) For the purposes of determining sufficient density of gas collectors for compliance with Subdivision 18.3.1(a)(2)(ii) of this Part, the owner or operator shall design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the Director, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards.

(3) For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with Subdivision 18.3.1(a)(2)(iii) of this Part, the owner or operator shall measure gauge pressure in the gas collection header at each individual well, monthly. If a positive pressure exists, action shall be initiated to correct the exceedance within 5 calendar days, except for the three conditions allowed under Paragraph 18.3.2(b) of this Part. Any attempted corrective measure shall not cause exceedances of other operational or performance standards.

(i) If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement of positive pressure, the owner or operator shall conduct a root

cause analysis and correct the exceedance as soon as practicable, but not later than 60 days after positive pressure was first measured. The owner or operator shall keep records according to Subparagraph 18.3.7(e)(3) of this Part.

(ii) If corrective actions cannot be fully implemented within 60 days following the positive pressure measurement for which the root cause analysis was required, the owner or operator shall also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the positive pressure measurement. The owner or operator shall submit the items listed in subparagraph 18.3.6(g)(7) of this Part as part of the next annual report. The owner or operator shall keep records according to Subparagraph 18.3.7(e)(4) of this Part.

(iii) If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the owner or operator shall submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Director, according to Subparagraph 18.3.6(g)(7) and Paragraph 18.3.6(j) of this Part. The owner or operator shall keep records according to Subparagraph 18.3.7(e)(5) of this Part.

(4) Reserved.

(5) For the purpose of identifying whether excess air infiltration into the landfill is occurring, the owner or operator shall monitor each well monthly for temperature as provided in Paragraph 18.3.2(c) of this Part. If a well exceeds the operating parameters for temperature, action shall be initiated to correct the exceedance within 5 calendar days. Any attempted corrective measure shall not

cause exceedances of other operational or performance standards.

(i) If a landfill gas temperature less than 55 degrees Celsius (131 degrees Fahrenheit) cannot be achieved within 15 calendar days of the first measurement of landfill gas temperature greater than 55 degrees Celsius (131 degrees Fahrenheit), the owner or operator shall conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after a landfill gas temperature greater than 55 degrees Celsius (131 degrees Fahrenheit) was first measured. The owner or operator shall keep records according to Subparagraph 18.3.7(e)(3) of this Part.

(ii) If corrective actions cannot be fully implemented within 60 days following the positive pressure measurement for which the root cause analysis was required, the owner or operator shall also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the measurement of landfill gas temperature greater than 55 degrees Celsius (131 degrees Fahrenheit). The owner or operator shall submit the items listed in Subparagraph 18.3.6(g)(7) of this Part, as part of the next annual report. The owner or operator shall keep records according to Subparagraph 18.3.7(e)(4) of this Part.

(iii) If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the owner or operator shall submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Director, according to Subparagraph 18.3.6(g)(7) and Paragraph 18.3.6(j) of this Part. The owner or operator shall keep records according to Subparagraph 18.3.7(e)(5) of this Part.

(6) An owner or operator seeking to demonstrate compliance with Subdivision 18.3.1(a)(2)(iv) of this Part through the use of a collection system not conforming to the specifications provided in Section 18.3.8 of this Part shall provide information satisfactory to the Director as specified in Subparagraph 18.3.6(c)(3) of this Part demonstrating that off-site migration is being controlled.

(b) For purposes of compliance with Paragraph 18.3.2(a) of this Part, each owner or operator of a controlled landfill shall place each well or design component as specified in the approved design plan as provided in Paragraph 18.3.6(c). Each well shall be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of:

(1) 5 years or more if active; or

(2) 2 years or more if closed or at final grade.

(c) The following procedures shall be used for compliance with the surface methane operational standard as provided in Paragraph 18.3.2(d) of this Part.

(1) After installation and start-up of the gas collection system, the owner or operator shall monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at no more than 30 meter intervals (or a site-specific established spacing) for each collection area on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in Paragraph (d) of this Section.

(2) The background concentration shall be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells.

(3) Surface emission monitoring shall be performed in accordance with Section 8.3.1 of Method 21 of Appendix A of 40 CFR Part 60, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions.

(4) Any reading of 500 parts per million or more above background at any location shall be recorded as a monitored exceedance and the actions specified in Subdivisions (c)(4)(i) through (v) below shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of Paragraph 18.3.2(d) of this Part.

(i) The location of each monitored exceedance shall be marked and the location and concentration recorded. For location, the owner or operator shall determine the latitude and longitude coordinates using an instrument with an accuracy of at least 4 meters. The coordinates shall be in decimal degrees with at least five decimal places.

(ii) Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance shall be made and the location shall be re-monitored within 10 calendar days of detecting the exceedance.

(iii) If the re-monitoring of the location shows a second exceedance, additional corrective action shall be taken and the location shall be monitored again

within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location, the action specified in Subdivision (c)(4)(v) shall be taken, and no further monitoring of that location is required until the action specified in Subdivision (c)(4)(v) has been taken.

(iv) Any location that initially showed an exceedance but has a methane concentration less than 500 ppm methane above background at the 10-day re-monitoring specified in Subdivision (c)(4)(ii) or (iii) shall be re-monitored 1 month from the initial exceedance. If the 1-month remonitoring shows a concentration less than 500 parts per million above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month remonitoring shows an exceedance, the actions specified in Subdivision (c)(4)(iii) or (v) shall be taken.

(v) For any location where monitored methane concentration equals or exceeds 500 parts per million above background three times within a quarterly period, a new well or other collection device shall be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding time line for installation may be submitted to the Director for approval.

(5) The owner or operator shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.

(d) Each owner or operator seeking to comply with the provisions in paragraph (c) of this Section shall comply with the following instrumentation specifications and procedures for surface emission monitoring devices:

(1) The portable analyzer shall meet the instrument specifications provided in Section 6 of Method 21 of Appendix A (40 CFR Part 60), except that "methane" shall replace all references to VOC.

(2) The calibration gas shall be methane, diluted to a nominal concentration of 500 parts per million in air.

(3) To meet the performance evaluation requirements in Section 8.1 of Method 21 of Appendix A (40 CFR Part 60), the instrument evaluation procedures of Section 8.1 of Method 21 of Appendix A shall be used.

(4) The calibration procedures provided in Sections 8 and 10 of Method 21 of Appendix A (40 CFR Part 60) shall be followed immediately before commencing a surface monitoring survey.

(e) The provisions of this Section apply at all times, including periods of startup, shutdown, or malfunction. During periods of startup, shutdown, and malfunction, the owner or operator shall comply with the work practice specified in Paragraph 18.3.2(e) of this Part, in lieu of the compliance provisions in Section 18.3.4 of this Part.

18.3.5 Monitoring of Operations. (Amended , 2022)

For an MSW landfill with a gas collection and control system used to comply with the provisions of Paragraphs 18.3.1 (a) and (b) of this Part, the owner or operator shall operate the gas collection and control system in accordance with the monitoring provisions in this Section (as well as the provisions in Sections 18.3.2 and 18.3.4 of this Part, except as provided in subparagraph 18.3.6(d)(2)), or the monitoring provisions in 40 CFR § 63.1961, as incorporated

by reference under Part 14.5 Subpart AAAA (as well as the provisions in 40 CFR §§ 63.1958 and 63.1960, as incorporated by reference under Part 14.5 Subpart AAAA), or both as alternative means of compliance. Once the owner or operator begins to comply with the provisions of 40 CFR § 63.1961, as incorporated by reference under Part 14.5 Subpart AAAA, the owner or operator shall continue to operate the collection and control device according to those provisions and cannot return to the provisions of this Section. Except as provided in Subparagraph 18.2.6(c)(2) of this Part,

(a) Each owner or operator seeking to comply with Subparagraph 18.3.1(a)(2) of this Part for an active gas collection system shall install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead and:

(1) Measure the gauge pressure in the gas collection header on a monthly basis as provided in Subparagraph 18.3.4(a)(3) of this Part; and

(2) Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as follows:

(i) The nitrogen level shall be determined using Method 3C, unless an alternative test method is established as allowed by Subparagraph 18.3.6(c)(2) of this Part.

(ii) Unless an alternative test method is established as allowed by Subparagraph 18.3.6(c)(2) of this Part, the oxygen level shall be determined by an oxygen meter using Method 3A, 3C, or ASTM D6522-11 (incorporated by reference, see 40 CFR §60.17). Determine the oxygen level by an oxygen meter using Method 3A, 3C,

or ASTM D6522-11 (if sample location is prior to combustion) except that:

(A) The span shall be set between 10 and 12 percent oxygen;

(B) A data recorder is not required;

(C) Only two calibration gases are required, a zero and span;

(D) A calibration error check is not required; and

(E) The allowable sample bias, zero drift, and calibration drift are ±10 percent.

(iii) A portable gas composition analyzer may be used to monitor the oxygen levels provided:

(A) The analyzer is calibrated; and

(B) The analyzer meets all quality assurance and quality control requirements for Method 3A or ASTM D6522-11 (incorporated by reference, see 40 CFR §60.17).

(3) Monitor temperature of the landfill gas on a monthly basis as provided in Subparagraph 18.3.4(a)(5) of this Part. The temperature measuring device shall be calibrated annually using the procedure in 40 CFR Part 60, Appendix A-1, Method 2, Section 10.3.

(b) Each owner or operator seeking to comply with Subdivision 18.3.1(b)(2)(iii) of this Part using an enclosed combustor shall calibrate, maintain, and operate according to the manufacturer's specifications, the following equipment.

(1) A temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ±1 percent of the temperature being measured expressed in °Celsius or ±0.5°C, whichever is greater. A temperature monitoring device is not required for boilers or process heaters with design heat input capacity equal to or greater than 44 megawatts.

(2) A device that records flow to the control device and bypass of the control device (if applicable). The owner or operator shall:

(i) Install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least every 15 minutes; or

(ii) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

(c) Each owner or operator seeking to comply with Paragraph 18.3.1(b) of this Part using an open flare shall

install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:

(1) A heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame.

(2) A device that records flow to the flare and ~~or~~ bypass of the flare (if applicable). The owner or operator shall:

(i) Install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least every 15 minutes; and

(ii) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

(d) Each owner or operator seeking to demonstrate compliance with Subdivision 18.3.1(b)(2)(iii) of this Part using a device other than an open flare or an enclosed combustor or a treatment system shall provide information satisfactory to the Director as provided in Subparagraph 18.3.6(c)(2) of this Part describing the operation of the control device, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Director shall review the information and either approve it, or request that additional information be submitted. The Director may specify additional appropriate monitoring procedures.

(e) Each owner or operator seeking to install a collection system that does not meet the specifications in Section 18.3.8 of this Part or seeking to monitor alternative parameters to those required by Sections 18.3.2 through 18.3.5 of this Part shall provide information satisfactory to the Director as provided in Subparagraphs 18.3.6(c)(2) and (3) of this Part describing the design and operation of the collection system, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Director may specify additional appropriate monitoring procedures.

(f) Each owner or operator seeking to demonstrate compliance with the 500 parts per million surface methane operational standard in Paragraph 18.3.2(d) of this Part, shall monitor surface concentrations of methane according to the procedures provided in paragraph 18.3.4(c) of this Part, and the instrument specifications in Paragraph 18.3.4(d) of this Part. Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring.

(g) Each owner or operator seeking to demonstrate compliance with the control system requirements in Paragraph 18.3.1(b) of this Part, using a landfill gas treatment system shall maintain and operate all monitoring systems associated with the treatment system in accordance with the site-specific treatment system monitoring plan required in subdivision 18.3.7(b)(5)(ii) of this Part, and shall calibrate, maintain, and operate according to the manufacturer's specifications a device that records flow to the treatment system and bypass of the treatment system (if applicable). The owner or operator shall:

(1) Install, calibrate, and maintain a gas flow rate measuring device that records the flow to the treatment system at least every 15 minutes; and

(2) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

(h) The monitoring requirements of Paragraphs (b), (c) (d) and (g) of this Section apply at all times the affected source is operating, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. The owner or operator shall complete monitoring system repairs in response to monitoring system malfunctions and return the monitoring system to operation as expeditiously as practicable.

18.3.6 Reporting Requirements. (Amended , 2022)

Except as provided in 40 CFR §60.24 and Subparagraph 18.3.6(c)(2) of this Part,

(a) *Design Capacity Report.* Each owner or operator subject to the requirements of this Chapter shall submit an initial design capacity report to the Director.

(1) The initial design capacity report shall fulfill the requirements of the notification of the date construction is commenced as required under §60.7(a)(1), 40 CFR and shall be submitted no later than 90 days from the effective date of the Alabama Department of Environmental Management regulations which correspond to these Rules (Note: The effective date of the ADEM regulations State-wide is January 15, 1988).

(2) The initial design capacity report shall contain the following information:

(i) A map or plot of the landfill, providing the size and location of the landfill, and identifying all areas where solid waste may be landfilled according to the provisions of the State permit;

(ii) The maximum design capacity of the landfill. Where the maximum design capacity is specified in the State permit, a copy of the permit specifying the maximum design capacity may be submitted as part of the report. If the maximum design capacity of the landfill is not specified in the permit, the maximum design capacity shall be calculated using good engineering practices. The calculations shall be provided, along with the relevant parameters as part of the report. The landfill may calculate design capacity in either megagrams or cubic meters for comparison with the exemption values. If the owner or operator chooses to convert the design capacity from volume to mass or from mass to volume to demonstrate its design capacity is less than 2.5 million megagrams or 2.5 million cubic meters, the calculation shall include a site-specific density, which shall be recalculated annually. Any density conversions shall be documented and submitted with the design capacity report. The Director may request other reasonable information as may be necessary to verify the maximum design capacity of the landfill.

(3) If a facility has submitted an initial design capacity report and an initial NMOC emission rate report to the EPA as required by 40 CFR Part 62, Subpart OOO, a copy of that report may be submitted to the Department in lieu of the initial reports required in Paragraphs 18.3.6(a) and (b) of this Section.

~~(3)~~ (4) ***Amended design capacity report.*** **An amended design capacity report shall be submitted to the Director providing notification of any increase in the design capacity of the landfill, within 90 days of an increase in the maximum design capacity of the landfill to meet or exceed 2.5 million megagrams and 2.5 million cubic meters. This increase in design capacity may result from an increase in the permitted volume of the landfill or an increase in the density as documented in the annual recalculation required in Paragraph 18.3.7(f) of this Chapter.**

(b) ***NMOC emission rate report.*** **Each owner or operator of an existing MSW landfill subject to the requirements of this Chapter with a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters, shall submit an NMOC emission rate report to the Director annually following the procedure specified in Subparagraph (i)(2) of this Section, except as provided for in Subparagraph (b)(3). The Director may request such additional information as may be necessary to verify the reported NMOC emission rate.**

(1) The NMOC emission rate report shall contain an annual or 5-year estimate of the NMOC emission rate calculated using the formula and procedures provided in Paragraphs 18.3.3(a) or (b) of this Part, as applicable.

(i) The NMOC emission rate report shall be submitted following the procedure specified in Subparagraph (i)(2) of this Section no later than 90 days from the effective date of the Alabama Department of Environmental Management regulations corresponding to these Rules (Note: The ADEM regulations became effective State-wide on January 15, 1998).

(2) The NMOC emission rate report shall include all the data, calculations, sample reports and measurements used to estimate the annual or 5-year emissions.

(3) If the estimated NMOC emission rate as reported in the annual report to the Director is less than 34 megagrams per year in each of the next 5 consecutive years, the owner or operator may elect to submit, following the procedure specified in Subparagraph (i)(2) of this Section, an estimate of the NMOC emission rate for the next 5-year period in lieu of the annual report. This estimate shall include the current amount of solid waste-in-place and the estimated waste acceptance rate for each year of the 5 years for which an NMOC emission rate is estimated. All data and calculations upon which this estimate is based shall be provided to the Director. This estimate shall be revised at least once every 5 years. If the actual waste acceptance rate exceeds the estimated waste acceptance rate in any year reported in the 5-year estimate, a revised 5-year estimate shall be submitted to the Director. The revised estimate shall cover the 5-year period beginning with the year in which the actual waste acceptance rate exceeded the estimated waste acceptance rate.

(4) Each owner or operator subject to the requirements of this Chapter is exempted to submit an NMOC emission rate report after the installation of a collection and control system in compliance with Paragraphs 18.3.1(a) and (b) of this Part, during such time as the collection and control system is in operation and in compliance with Sections 18.3.2 and 18.3.4 of this Part.

(5) If a facility has submitted an initial design capacity report and an initial NMOC emission rate report to the EPA as required by 40 CFR Part 62, Subpart OOO, a copy of that report may be submitted to the Department in lieu of the initial reports required in Paragraphs 18.3.6(a) and (b) of this Section.

(c) *Collection and control system design plan.* A design plan for each gas collection and control system shall be prepared and approved by a professional engineer and shall meet the following requirements:

(1) The collection and control system as described in the design plan shall meet the design requirements in Paragraphs 18.3.1(a) and (b) of this Part.

(2) The collection and control system design plan shall include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping, or reporting provisions of Sections 18.3.4 through 18.3.7 of this Part, proposed by the owner or operator.

(3) The collection and control system design plan shall either conform to specifications for active collection systems in Section 18.3.8 of this Part, or include a demonstration to the Director's satisfaction of

the sufficiency of the alternative provisions to Section 18.3.8 of this Part.

(4) Each owner or operator of an MSW landfill having a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters shall submit a copy of the collection and control system design plan cover page that contains the engineer's seal to the Director within 1 year of the first NMOC emission rate report in which the NMOC emission rate equals or exceeds 34 megagrams per year, except as follows:

(i) If the owner or operator elects to recalculate the NMOC emission rate after Tier 2 NMOC sampling and analysis as provided in Subparagraph 18.3.3(a)(3) of this Part and the resulting rate is less than 34 megagrams per year, annual periodic reporting shall be resumed, using the Tier 2 determined site-specific NMOC concentration, until the calculated NMOC emission rate is equal to or greater than 34 megagrams per year or the landfill is closed. The revised NMOC emission rate report, with the recalculated emission rate based on NMOC sampling and analysis, shall be submitted, following the procedures in Subparagraph 8.3.6(i)(2) of this Part, within 180 days of the first calculated exceedance of 34 megagrams per year.

(ii) If the owner or operator elects to recalculate the NMOC emission rate after determining a site-specific methane generation rate constant (k), as provided in Tier 3 in Subparagraph 18.3.3(a)(4) of this Part, and the resulting NMOC emission rate is less than 34 Mg/yr, annual periodic reporting shall be resumed. The resulting site-specific methane generation rate constant (k) shall be used in the NMOC emission rate calculation until such time as the emissions rate calculation results in an exceedance. The revised NMOC emission rate report based on the provisions of Subparagraph 18.3.3(a)(4) of this Part and the resulting site-specific methane generation rate constant (k) shall be submitted to the

Director within 1 year of the first calculated emission rate equaling or exceeding 34 megagrams per year.

(iii) If the owner or operator elects to demonstrate that site-specific surface methane emissions are below 500 parts per million methane, based on the provisions of Subparagraph 18.3.3(a)(6) of this Part, then the owner or operator shall submit annually a Tier 4 surface emissions report as specified in this Subdivision (d)(4)(iii) following the procedure specified in Subparagraph 18.3.6(i)(2) of this Section until a surface emissions readings of 500 parts per million methane or greater is found. If the Tier 4 surface emissions report shows no surface emissions readings of 500 parts per million methane or greater for four consecutive quarters at a closed landfill, then the landfill owner or operator may reduce Tier 4 monitoring from a quarterly to an annual frequency. The Director may request such additional information as may be necessary to verify the reported instantaneous surface emission readings. The Tier 4 surface emissions report shall clearly identify the location, date and time (to the nearest second), average wind speeds including wind gusts, and reading (in parts per million) of any value 500 parts per million methane or greater, other than non-repeatable, momentary readings. For location, the owner or operator shall determine the latitude and longitude coordinates using an instrument with an accuracy of at least 4 meters. The coordinates shall be in decimal degrees with at least five decimal places. The Tier 4 surface emission report should also include the results of the most recent Tier 1 and Tier 2 results in order to verify that the landfill does not exceed 50 Mg/yr of NMOC.

(A) The initial Tier 4 surface emissions report shall be submitted annually, starting within 30 days of completing the fourth quarter of Tier 4 surface emissions monitoring that demonstrates that site-specific surface methane emissions are below 500 parts per million methane, and following the procedure specified in Subparagraph 18.3.6(i)(2) of this Section.

(B) The Tier 4 surface emissions rate report shall be submitted within 1 year of the first measured surface exceedance of 500 parts per million methane, following the procedure specified in Subparagraph 18.3.6(i)(2) of this Section.

(iv) If the landfill is in the closed landfill subcategory, the owner or operator shall submit a collection and control system design plan to the Director within 1 year of the first NMOC emission rate report in which the NMOC emission rate equals or exceeds 50 megagrams per year, except as follows:

(A) If the owner or operator elects to recalculate the NMOC emission rate after Tier 2 NMOC sampling and analysis as provided in Subparagraph 18.3.3(a)(3) of this Part, and the resulting rate is less than 50 megagrams per year, annual periodic reporting shall be resumed, using the Tier 2 determined site-specific NMOC concentration, until the calculated NMOC emission rate is equal to or greater than 50 megagrams per year or the landfill is closed. The revised NMOC emission rate report, with the recalculated NMOC emission rate based on NMOC sampling and analysis, shall be submitted, following the procedure specified in Subparagraph 18.3.6(i)(2) of this Section, within 180 days of the first calculated exceedance of 50 megagrams per year.

(B) If the owner or operator elects to recalculate the NMOC emission rate after determining a site-specific methane generation rate constant k, as provided in Tier 3 in Subparagraph 18.3.3(a)(4) of this Part, and the resulting NMOC emission rate is less than 50 megagrams per year, annual periodic reporting shall be resumed. The resulting site-specific methane generation rate constant k shall be used in the NMOC emission rate calculation until such time as the emissions rate

calculation results in an exceedance. The revised NMOC emission rate report based on the provisions of Subparagraph 18.3.3(a)(4) of this Part, and the resulting site-specific methane generation rate constant k shall be submitted, following the procedure specified in Subparagraph 18.3.6(i)(2) of this Section, to the Director within 1 year of the first calculated NMOC emission rate equaling or exceeding 50 megagrams per year.

(C) The landfill owner or operator elects to demonstrate surface emissions are low, consistent with the provisions in Subdivision (d)(4)(iii) of this Paragraph.

(D) The landfill has already submitted a gas collection and control system design plan consistent with the provisions of Subpart WWW of 40 CFR part 60 or any other requirements of this Chapter.

(5) The landfill owner or operator shall notify the Director that the design plan is completed and submit a copy of the plan's signature page. The Director has 90 days to decide whether the design plan should be submitted for review. If the Director chooses to review the plan, the approval process continues as described in Subparagraph (c)(6) of this Section. However, if the Director indicates that submission is not required or does not respond within 90 days, the landfill owner or operator can continue to implement the plan with the recognition that the owner or operator is proceeding at their own risk. In the event that the design plan is required to be modified to obtain approval, the owner or operator shall take any steps necessary to conform any prior actions to the approved design plan and any failure to do so could result in an enforcement action.

(6) Upon receipt of an initial or revised design plan, the Director shall review the information submitted under Subparagraphs 18.3.6(c)(1) through (3) of this Section, and either approve it, disapprove it, or request that additional information be submitted. Because of the many site-specific factors involved with landfill gas system design, alternative systems may be necessary. A wide variety of system designs are possible, such as vertical wells, combination horizontal and vertical collection systems, or horizontal trenches only, leachate collection components, and passive systems. If the Director does not approve or disapprove the design plan, or does not request that additional information be submitted within 90 days of receipt, then the owner or operator may continue with implementation of the design plan, recognizing they would be proceeding at their own risk.

(7) If the owner or operator chooses to demonstrate compliance with the emission control requirements of this Chapter using a treatment system as defined in this Chapter, then the owner or operator shall prepare a site-specific treatment system monitoring plan as specified in Subparagraph 18.3.7(b)(5) of this Part.

(d) *Revised design plan.* The owner or operator who has already been required to submit a design plan under paragraph (c) of this Section, or under Subpart WWW of 40 CFR part 60; or any other requirements of this Chapter shall submit a revised design plan to the Director for approval as follows:

(1) At least 90 days before expanding operations to an area not covered by the previously approved design plan.

(2) Prior to installing or expanding the gas collection system in a way that is not consistent with

the design plan that was submitted to the Director according to Paragraph (c) of this Section.

(e) *Closure Report.* Each owner or operator of a controlled landfill shall submit a closure report to the Director within 30 days of waste acceptance cessation. The Director may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of ADEM Admin. Code Chapter 335-13-4. If a closure report has been submitted to the Director, no additional wastes may be placed into the landfill without filing a notification of modification as described under §60.7(a)(4), 40 CFR.

(f) *Equipment Removal Report.* Each owner or operator of a controlled landfill shall submit an equipment removal report to the Director 30 days prior to removal or cessation of operation of the control equipment.

(1) The equipment removal report shall contain all of the following items:

(i) A copy of the closure report submitted in accordance with Paragraph (e) of this Section;

(ii) A copy of the initial performance test report demonstrating that the 15 year minimum control period has expired, unless the report of the results of the performance test has been submitted to the EPA via the EPA's CDX, or information that demonstrates that the GCCS will be unable to operate for 15 years due to declining gas flows. In the equipment removal report, the process unit(s) tested, the pollutant(s) tested, and the date that such performance test was conducted may be submitted in lieu of the performance test report if the report has been previously submitted to the EPA's CDX; and

(iii) Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 34 megagrams or greater of NMOC per year, unless the NMOC emission rate reports have been submitted to the EPA via the EPA's CDX. If the NMOC emission rate reports have been previously submitted to the EPA's CDX, a statement that the NMOC emission rate reports have been submitted electronically and the dates that the reports were submitted to the EPA's CDX may be submitted in the equipment removal report in lieu of the NMOC emission rate reports; or

(iv) For the closed landfill subcategory, dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year, unless the NMOC emission rate reports have been submitted to the EPA via the EPA's CDX. If the NMOC emission rate reports have been previously submitted to the EPA's CDX, a statement that the NMOC emission rate reports have been submitted electronically and the dates that the reports were submitted to the EPA's CDX may be submitted in the equipment removal report in lieu of the NMOC emission rate reports.

(2) The Director may request such additional information as may be necessary to verify that all of the conditions for removal in Subparagraph 18.3.1(e)(2) of this Part have been met.

(g) *Annual Report.* Each owner or operator of a landfill seeking to comply with paragraph 18.3.1(d) of this Part using an active collection system designed in accordance with Paragraph 18.3.1(a) of this Part shall submit to the Director annual reports of the recorded information in Subparagraphs (g)(1) through (g)(6). The initial annual report shall be submitted within 180 days of installation and start-up of the collection and control system, and shall include the initial performance test report required under

§60.8, 40 CFR as applicable, unless the report of the results of the performance test has been submitted to the EPA via the EPA's CDX. In the initial annual report, the process unit(s) tested, the pollutant(s) tested and the date that such performance test was conducted may be submitted in lieu of the performance test report if the report has been previously submitted to the EPA's CDX. The initial performance test report shall be submitted, following the procedure specified in Subparagraph (i)(1) of this Section, no later than the date that the initial annual report is submitted. For enclosed combustion devices and flares, reportable exceedances are defined under Paragraph 18.3.7(c) of this Part. If complying with the operational provisions of 40 CFR §§ 63.1958, 63.1960, and 63.1961, as allowed in Sections 18.3.2, 18.3.4 and 18.3.5 of this Part, the owner or operator shall follow the semi-annual reporting requirements in § 63.1981(h) in lieu of this Paragraph.

(1) Value and length of time for exceedance of applicable parameters monitored under Paragraphs 18.3.5(a),(b),(c), ~~and~~ (d) and (g) of this Part.

(2) Description and duration of all periods when the gas stream was diverted from the control device or treatment system through a bypass line or the indication of bypass flow as specified under Section 18.3.5 of this Part.

(3) Description and duration of all periods when the control device or treatment system was not operating and length of time the control device or treatment system was not operating.

(4) All periods when the collection system was not operating.

(5) The location of each exceedance of the 500 parts per million methane concentration as provided in ~~Section~~ Paragraph 18.3.2(d) of this Part and the concentration recorded at each location for which an exceedance was recorded in the previous month. For location, the owner or operator shall determine the latitude and longitude coordinates using an instrument with an accuracy of at least 4 meters. The coordinates shall be in decimal degrees with at least five decimal places.

(6) The date of installation and the location of each well or collection system expansion added pursuant to Paragraphs (a)(3), (a)(5), (b), and (c)(4) of Section 18.3.4.

(7) For any corrective action analysis for which corrective actions are required in Subparagraph 18.3.4(a)(3) or (5) of this Part, and that take more than 60 days to correct the exceedance, the root cause analysis conducted, including a description of the recommended corrective action(s), the date for corrective action(s) already completed following the positive pressure or elevated temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

(h) *Initial performance test report.* Each owner or operator seeking to comply with Paragraph 18.3.1(b) of this Part shall include the following information with the initial performance test report required under §60.8, 40 CFR:

(1) A diagram of the collection system showing collection system positioning including all wells, horizontal collectors, surface collectors, or other gas

extraction devices, including the locations of any areas excluded from collection and the proposed sites for the future collection system expansion;

(2) The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based;

(3) The documentation of the presence of asbestos or nondegradable material for each area from which collection wells have been excluded based on the presence of asbestos or nondegradable material;

(4) The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on nonproductivity and the calculations of gas generation flow rate for each excluded area;

(5) The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill; and

(6) The provisions for the control of off-site migration.

(i) *Electronic reporting.* The owner or operator shall submit reports electronically according to Subparagraphs (i)(1) and (2) of this Paragraph.

(1) Within 60 days after the date of completing each performance test (as defined in 40 CFR §60.8), the owner or operator shall submit the results of each performance test according to the following procedures:

(i) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (*https://www3.epa.gov/ttn/chief/ert/ert_info.html*) at the time of the test, the owner or operator shall submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/*). Performance test data shall be submitted in a file format generated through the use of the EPA's ERT or an alternative file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site, once the XML schema is available. If the owner or operator claim that some of the performance test information being submitted is confidential business information (CBI), the owner or operator shall submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive or other commonly used electronic storage media to the EPA. The electronic media shall be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted shall be submitted to the EPA via the EPA's CDX as described earlier in this Subdivision (i)(1)(i) of this Paragraph.

(ii) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, the owner or operator shall submit the results of the performance test to the Director at the appropriate address listed in 40 CFR §60.4.

(2) Each owner or operator required to submit reports following the procedure specified in this paragraph shall submit reports to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) The owner or operator shall use the appropriate electronic report in CEDRI for this Chapter or an alternate electronic file format consistent with the XML schema listed on the CEDRI Web site (*https://www3.epa.gov/ttn/chief/cedri/index.html*). If the reporting form specific to this Chapter is not available in CEDRI at the time that the report is due, the owner or operator shall submit the report to the Director at the appropriate address listed in §60.4. Once the form has been available in CEDRI for 90 calendar days, the owner or operator shall begin submitting all subsequent reports via CEDRI. The reports shall be submitted by the deadlines specified in this Chapter, regardless of the method in which the reports are submitted.

(j) *Corrective action and the corresponding timeline.* The owner or operator shall submit according to Subparagraphs (j)(1) and (2) below. If complying with the operational provisions of 40 CFR §§ 63.1958, 63.1960 and 63.1961, as allowed in Sections 18.3.2, 18.3.4 and 18.3.5 of this Part, the owner or operator shall follow the corrective action and the corresponding timeline reporting requirements in 40 CFR § 63.1981(j) in lieu of (j)(1) and (j)(2) of this Paragraph.

(1) For corrective action that is required according to Subdivisions 18.3.4(a)(3)(iii) or (a)(5)(iii) of this Part, and is expected to take longer than 120 days after the initial exceedance to complete, the owner or operator shall submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Director as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature monitoring value of 55 degrees Celsius (131 degrees

Fahrenheit) or above. The Director shall approve the plan for corrective action and the corresponding timeline.

(2) For corrective action that is required according to Subdivisions 18.3.4(a)(3)(iii) or (a)(5)(iii) of this Part, and is not completed within 60 days after the initial exceedance, the owner or operator shall submit a notification to the Director as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature exceedance.

(k) *Liquids addition.* The owner or operator of an affected landfill with a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters that has employed leachate recirculation or added liquids based on a Research, Development, and Demonstration permit (issued through Resource Conservation and Recovery Act, subtitle D, part 258) within the last 10 years shall submit to the Director, annually, following the procedure specified in Subparagraph (i)(2) of this Section, the following information:

(1) Volume of leachate recirculated (gallons per year) and the reported basis of those estimates (records or engineering estimates).

(2) Total volume of all other liquids added (gallons per year) and the reported basis of those estimates (records or engineering estimates).

(3) Surface area (acres) over which the leachate is recirculated (or otherwise applied).

(4) Surface area (acres) over which any other liquids are applied.

(5) The total waste disposed (megagrams) in the areas with recirculated leachate and/or added liquids based on on-site records to the extent data are available, or engineering estimates and the reported basis of those estimates.

(6) The annual waste acceptance rates (megagrams per year) in the areas with recirculated leachate and/or added liquids, based on on-site records to the extent data are available, or engineering estimates.

(7) The initial report shall contain items in Subparagraph (k)(1) through (6) of this Paragraph per year for the most recent 365 days as well as for each of the previous 10 years, to the extent historical data are available in on-site records, and the report shall be submitted no later than:

(i) September 27, 2017, for landfills that commenced construction, modification, or reconstruction after July 17, 2014 but before August 29, 2016; or

(ii) 365 days after the date of commenced construction, modification, or reconstruction for landfills that commence construction, modification, or reconstruction after August 29, 2016.

(8) Subsequent annual reports shall contain items in Subparagraph (k)(1) through (6) of this paragraph for the 365-day period following the 365-day period included in the previous annual report, and the

report shall be submitted no later than 365 days after the date the previous report was submitted.

(9) Landfills in the closed landfill subcategory are exempt from reporting requirements contained in Subparagraphs (k)(1) through (7) of this paragraph.

(10) Landfills may cease annual reporting of items in Subparagraphs (k)(1) through (6) of this paragraph once they have submitted the closure report in Paragraph (e) of this Section.

(l) *Tier 4 notification.*

(1) The owner or operator of an affected landfill with a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters shall provide a notification of the date(s) upon which it intends to demonstrate site-specific surface methane emissions are below 500 parts per million methane, based on the Tier 4 provisions of Subparagraph 18.3.3(a)(6) of this Part. The landfill shall also include a description of the wind barrier to be used during the SEM in the notification. Notification shall be postmarked not less than 30 days prior to such date.

(2) If there is a delay to the scheduled Tier 4 SEM date due to weather conditions, including not meeting the wind requirements in Subdivision 18.3.3(a)(6)(iii)(A) of this Part, the owner or operator of a landfill shall notify the Director by email or telephone no later than 48 hours before any known delay in the original test date, and arrange an updated date with the Director by mutual agreement.

(m) Each owner or operator that chooses to comply with the provisions in 40 CFR §§ 63.1958, 63.1960 and 63.1961, as allowed in Sections 18.3.2,18.3.4 and 18.3.5 of this Part, shall submit the high temperature report according to 40 CFR § 63.1981(k).

18.3.7 Recordkeeping Requirements.

(a) Except as provided in Subparagraph 18.3.6(c)(2) of this Part, each owner or operator of an MSW landfill subject to the provisions of Paragraph 18.3.1(d) of this Part shall keep for at least 5 years up-to-date, readily accessible, on-site records of the maximum design capacity report which triggered Paragraph 18.3.1(d), the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.

(b) Except as provided in Subparagraph 18.3.6(c)(2) of this Part, each owner or operator of a controlled landfill shall keep up-to-date, readily accessible records for the life of the control equipment of the data listed in Subparagraphs (b)(1) through (b)(5) as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring shall be maintained for a minimum of 5 years. Records of the control device vendor specifications shall be maintained until removal.

(1) Where an owner or operator subject to the provisions of this Chapter seeks to demonstrate compliance with Paragraph 18.3.1(a) of this Part:

(i) The maximum expected gas generation flow rate as calculated in Subparagraph 18.3.4(a)(1) of this Part. The owner or operator may use another method to

determine the maximum gas generation flow rate, if the method has been approved by the Director.

(ii) The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in Subparagraph 18.3.8(a)(1) of this Part.

(2) Where an owner or operator subject to the provisions of this Chapter seeks to demonstrate compliance with Paragraph 18.3.1(b) of this Part through use of an enclosed combustion device other than a boiler or process heater with a design heat input capacity equal to or greater than 44 megawatts:

(i) The average combustion temperature measured at least every 15 minutes and averaged over the same time period of the performance test.

(ii) The percent reduction of NMOC determined as specified in Subparagraph 18.3.1(b)(2) of this Part achieved by the control device.

(3) Where an owner or operator subject to the provisions of this Chapter seeks to demonstrate compliance with Subdivision 18.3.1(b)(2)(i) of this Part through use of a boiler or process heater of any size: a description of the location at which the collected gas vent stream is introduced into the boiler or process heater over the same time period of the performance testing.

(4) Where an owner or operator subject to the provisions of this Chapter seeks to demonstrate compliance with Subparagraph 18.3.1(b)(1) of this Part through use of an open flare, the flare type (i.e., steam-assisted, air-assisted, or nonassisted), all visible emission readings,

heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in §60.18, 40 CFR; continuous records of the flare pilot flame or flare flame monitoring and records of all periods of operations during which the pilot flame or the flare flame is absent.

(5) Where an owner or operator subject to the provisions of this Chapter seeks to demonstrate compliance with Subparagraph 18.2.1(b)(3) of this Part through use of a landfill gas treatment system:

(i) *Bypass records.* Records of the flow of landfill gas to, and bypass of, the treatment system.

(ii) *Site-specific treatment monitoring plan,* to include:

(A) Monitoring records of parameters that are identified in the treatment system monitoring plan and that ensure the treatment system is operating properly for each intended end use of the treated landfill gas. At a minimum, records should include records of filtration, de-watering, and compression parameters that ensure the treatment system is operating properly for each intended end use of the treated landfill gas.

(B) Monitoring methods, frequencies, and operating ranges for each monitored operating parameter based on manufacturer's recommendations or engineering analysis for each intended end use of the treated landfill gas.

(C) Documentation of the monitoring methods and ranges, along with justification for their use.

(D) Identify who is responsible (by job title) for data collection.

(E) Processes and methods used to collect the necessary data.

(F) Description of the procedures and methods that are used for quality assurance, maintenance, and repair of all continuous monitoring systems.

(c) Except as provided in Subparagraph 18.3.6(c)(2) of this Part, each owner or operator of a controlled landfill subject to the provisions of this Chapter shall keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in Section 18.3.5 of this Part as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.

(1) The following constitute exceedances that shall be recorded and reported under Section 18.3.6 of this Part:

(i) For enclosed combustors except for boilers and process heaters with design heat input capacity of 44 megawatts (150 million British thermal unit per hour) or greater, all 3-hour periods of operation during which the average combustion temperature was more than 28°C (82 degrees Fahrenheit) below the average combustion temperature during the most recent performance test at

which compliance with Paragraph 18.3.1(b) of this Part was determined.

(ii) For boilers or process heaters, whenever there is a change in the location at which the vent stream is introduced into the flame zone as required under Subparagraph 18.3.7(b)(3) of this Section.

(2) Each owner or operator subject to the provisions of this Chapter shall keep up-to-date, readily accessible continuous records of the indication of flow to the control device or the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under Section 18.3.5 of this Part.

(3) Each owner or operator subject to the provisions of this Chapter who uses a boiler or process heater with a design heat input capacity of 44 megawatts or greater to comply with Paragraph 18.3.1(b) shall keep an up-to-date, readily accessible record of all periods of operation of the boiler or process heater. (Examples of such records could include records of steam use, fuel use, or monitoring data collected pursuant to other State regulatory requirements.)

(4) Each owner or operator seeking to comply with the provisions of this Chapter by use of an open flare shall keep up-to-date, readily accessible continuous records of the flame or flare pilot flame monitoring specified under Paragraph 18.3.5(c) of this Part, and up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent.

(5) Each owner or operator of a landfill seeking to comply with Paragraph 18.3.1(d) of this Part using an active collection system designed in accordance with

Paragraph 18.3.1(d) of this Part shall keep records of periods when the collection system or control device is not operating.

(d) Except as provided in Subparagraph 18.3.6(c)(2) of this Part, each owner or operator subject to the provisions of this Chapter shall keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector that matches the labeling on the plot map.

(1) Each owner or operator subject to the provisions of this Chapter shall keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors as specified under Paragraph 18.3.4(b) of this Part.

(2) Each owner or operator subject to the provisions of this Chapter shall keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as provided in Subdivision 18.3.8(a)(3)(i) of this Part as well as any nonproductive areas excluded from collection as provided in Subdivision 18.3.8(a)(3)(ii) of this Part.

(e) Except as provided in Subparagraph 18.3.6(c)(2) of this Part, each owner or operator subject to the provisions of this Chapter shall keep for at least 5 years up-to-date, readily accessible records of the ~~following:~~ items in Subparagraphs (e)(1) through (e)(5) below. Each owner or operator that chooses to comply with the provisions in 40 CFR §§ 63.1958, 63.1960 and 63.1961, as allowed in Sections 18.3.2, 18.3.4 and 18.3.5 of this Part, shall keep the records in subparagraph (e)(6) of this Paragraph and must keep records according to 40 CFR § 63.1983(e)(1) through

(5) in lieu of Subparagraphs (e)(1) through (5) of this Paragraph.

(1) All collection and control system exceedances of the operational standards in Section 18.3.2 of this Part, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance.

(2) Each owner or operator subject to the provisions of this Chapter shall also keep records of each wellhead temperature monitoring value of 55 degrees Celsius (131 degrees Fahrenheit) or above, each wellhead nitrogen level at or above 20 percent, and each wellhead oxygen level at or above 5 percent.

(3) For any root cause analysis for which corrective actions are required in Subparagraph 18.3.4(a)(3) or (5) of this Part, keep a record of the root cause analysis conducted, including a description of the recommended corrective action(s) taken, and the date(s) the corrective action(s) were completed.

(4) For any root cause analysis for which corrective actions are required in Subdivision 18.3.4(a)(3)(ii) or (a)(5)(ii) of this Part, keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

(5) For any root cause analysis for which corrective actions are required in Subdivision 18.3.4)(a)(3)(iii) or (a)(5)(iii) of this Part, keep a record of the root cause analysis conducted, the

corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates, and a copy of any comments or final approval on the corrective action analysis or schedule from the regulatory agency.

(6) Each owner or operator that chooses to comply with provisions in 40 CFR §§ 63.1958, 63.1960 and 63.1961, shall keep records of the date upon which the owner or operator started complying with the provisions in 63.1958, 63.1960 and 63.1961.

(f) Landfill owners or operators who convert design capacity from volume to mass or mass to volume to demonstrate that landfill design capacity is less than 2.5 million megagrams or 2.5 million cubic meters, as provided in the definition of "design capacity," shall keep readily accessible, on-site records of the annual recalculation of site-specific density, design capacity, and the supporting documentation. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic format is acceptable.

(g) Landfill owners or operators seeking to demonstrate that site-specific surface methane emissions are below 500 parts per million by conducting surface emission monitoring under the Tier 4 procedures specified in Subparagraph 18.3.3(a)(6) of this Part shall keep for at least 5 years up-to-date, readily accessible records of all surface emissions monitoring and information related to monitoring instrument calibrations conducted according to sections 8 and 10 of Method 21 of appendix A of 40 CFR Part 60, including all of the following items:

(1) Calibration records:

(i) Date of calibration and initials of operator performing the calibration.

(ii) Calibration gas cylinder identification, certification date, and certified concentration.

(iii) Instrument scale(s) used.

(iv) A description of any corrective action taken if the meter readout could not be adjusted to correspond to the calibration gas value.

(v) If an owner or operator makes their own calibration gas, a description of the procedure used.

(2) Digital photographs of the instrument setup. The photographs shall be time and date-stamped and taken at the first sampling location prior to sampling and at the last sampling location after sampling at the end of each sampling day, for the duration of the Tier 4 monitoring demonstration.

(3) Timestamp of each surface scan reading:

(i) Timestamp should be detailed to the nearest second, based on when the sample collection begins.

(ii) A log for the length of time each sample was taken using a stopwatch (*e.g.,* the time the probe was held over the area).

(4) Location of each surface scan reading. The owner or operator shall determine the coordinates using an instrument with an accuracy of at least 4 meters. Coordinates shall be in decimal degrees with at least five decimal places.

(5) Monitored methane concentration (parts per million) of each reading.

(6) Background methane concentration (parts per million) after each instrument calibration test.

(7) Adjusted methane concentration using most recent calibration (parts per million).

(8) For readings taken at each surface penetration, the unique identification location label matching the label specified in Paragraph (d) of this Section.

(9) Records of the operating hours of the gas collection system for each destruction device.

(h) Except as provided in Subparagraph 18.3.6(c)(2) of this Part, each owner or operator subject to the provisions of this Chapter shall keep for at least 5 years up-to-date, readily accessible records of all collection and control system monitoring data for parameters measured in Subparagraphs 18.3.5(a)(1), (2), and (3) of this Part.

(i) Any records required to be maintained by this Chapter that are submitted electronically via the EPA's CDX may be maintained in electronic format.

(j) For each owner or operator reporting leachate or other liquids addition under Paragraph 18.3.6(k) of this Part, keep records of any engineering calculations or company records used to estimate the quantities of leachate or liquids added, the surface areas for which the leachate or liquids were applied, and the estimates of annual waste acceptance or total waste in place in the areas where leachate or liquids were applied.

18.3.8 Specifications for Active Collection Systems.

(a) Each owner or operator seeking to comply with ~~Subparagraph~~ Paragraph 18.3.1~~(d)(2)~~ (a) of this Part shall site active collection wells, horizontal collectors, surface collectors, or other extraction devices at a sufficient density throughout all gas producing areas using the following procedures unless alternative procedures have been approved by the Director. (Amended , 2022)

(1) The collection devices within the interior and along the perimeter areas shall be certified to achieve comprehensive control of surface gas emissions by a professional engineer. The following issues shall be addressed in the design: depths of refuse, refuse gas generation rates and flow characteristics, cover properties, gas system expandability, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, ~~and~~ resistance to the refuse decomposition heat, and ability to isolate individual components or sections for repair or troubleshooting without shutting down the entire collection system.

(2) The sufficient density of gas collection devices determined in Subparagraph (a)(1) shall address

landfill gas migration issues and augmentation of the collection system through the use of active or passive systems at the landfill perimeter or exterior.

(3) The placement of gas collection devices determined in Subparagraph (a)(1) shall control all gas producing areas, except as provided by Subdivisions (a)(3)(i) and (a)(3)(ii).

(i) Any segregated area of asbestos or nondegradable material may be excluded from collection if documented as provided under Paragraph 18.3.7(d) of this Part. The documentation shall provide the nature, date of deposition, location and amount of asbestos or nondegradable material deposited in the area, and shall be provided to the Director upon request.

(ii) Any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1 percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material shall be documented and provided to the Director upon request. A separate NMOC emissions estimate shall be made for each section proposed for exclusion, and the sum of all such sections shall be compared to the NMOC emissions estimate for the entire landfill.

(A) The NMOC emissions from each section proposed for exclusion shall be computed using the following equation:

$$Q_i = 2kL_oM_i(e^{-kti})(C_{NMOC})(3.6 \times 10^{-9})$$

where,

Q_i = NMOC emission rate from the i^{th} section, megagrams per year

k = methane generation rate constant, $year^{-1}$

L_o = methane generation potential, cubic meters per megagram solid waste

M_i = mass of the degradable solid waste in the i^{th} section, megagram

t_i = age of the solid waste in the i^{th} section, years

C_{NMOC} = concentration of nonmethane organic compounds, parts per million by volume

3.6×10^{-9} = conversion factor

(B) If the owner or operator is proposing to exclude, or cease gas collection and control from, nonproductive physically separated (*e.g.*, separately lined) closed areas that already have gas collection systems, NMOC emissions from each physically separated closed area shall be computed using either equation in Paragraph 18.3.3(b) of this Part, or the equation in Subdivision (a)(3)(ii)(A) of this paragraph.

(iii) The values for k, and C_{NMOC} determined in field testing shall be used, if field testing has been performed in determining the NMOC emission rate or the radii of influence (the distance from the well center to a point in the landfill where the pressure gradient applied by the

blower or compressor approaches zero). If field testing has not been performed, the default values for k, L_o and C_{NMOC} provided in Section 18.3.3 of this Part or the alternative values from Section 18.3.3 of this Part shall be used. The mass of nondegradable solid waste contained within the given section may be subtracted from the total mass of the section when estimating emissions provided the nature, location, age, and amount of the nondegradable material is documented as provided in Subdivision (a)(3)(i).

18.5.3 Department Actions on Petitions. (Amended _____, 2022) On receipt of a petition, the Department will authorize one of the following actions, as they shall determine:

(a) The petition may be dismissed if the Department determines that it is not adequate under Section 18.5.1 of this Part.

(b) The Department may grant the request of the petition, as petitioned or by imposing such conditions as ~~this Division~~ the Department may require in the Major Source Operating Permit, including the establishment of schedules of compliance and monitoring requirements, if EPA consents to the extension of prior or existing alternative emission standards or compliance schedule as submitted to EPA by the Department.

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