

§ 63.1209 What are the monitoring requirements?

(a) *Continuous emissions monitoring systems (CEMS) and continuous opacity monitoring systems (COMS)*. (1)(i) You must use either a carbon monoxide or hydrocarbon CEMS to demonstrate and monitor compliance with the carbon monoxide and hydrocarbon standard under this subpart. You must also use an oxygen CEMS to continuously correct the carbon monoxide or hydrocarbon level to 7 percent oxygen.

(ii) (A) *Cement kilns under § 63.1204*. Except as provided by paragraphs (a)(1)(iv) and (a)(1)(v) of the section, you must use a COMS to demonstrate and monitor compliance with the opacity standard under §§ 63.1204(a)(7) and (b)(7) at each point where emissions are vented from these affected sources including the bypass stack of a preheater or preheater/precalciner kiln with dual stacks.

(B) *Cement kilns under § 63.1220*. Except as provided by paragraphs (a)(1)(iv) and (a)(1)(v) of the section and unless your source is equipped with a bag leak detection system under § 63.1206(c)(8) or a particulate matter detection system under § 63.1206(c)(9), you must use a COMS to demonstrate and monitor compliance with the opacity standard under §§ 63.1220(a)(7) and (b)(7) at each point where emissions are vented from these affected sources including the bypass stack of a preheater or preheater/precalciner kiln with dual stacks.

(C) You must maintain and operate each COMS in accordance with the requirements of § 63.8(c) except for the requirements under § 63.8(c)(3). The requirements of § 63.1211(c) shall be complied with instead of § 63.8(c)(3); and

(D) Compliance is based on a six-minute block average.

(iii) You must install, calibrate, maintain, and operate a particulate matter CEMS to demonstrate and monitor compliance with the particulate matter standards under this subpart. However, compliance with the requirements in this section to install, calibrate, maintain and operate the PM CEMS is not required until such time that the Agency promulgates all performance specifications and oper-

ational requirements applicable to PM CEMS.

(iv) If you operate a cement kiln subject to the provisions of this subpart and use a fabric filter with multiple stacks or an electrostatic precipitator with multiple stacks, you may, in lieu of installing the COMS required by paragraph (a)(1)(ii) of this section, comply with the opacity standard in accordance with the procedures of Method 9 to part 60 of this chapter:

(A) You must conduct the Method 9 test while the affected source is operating at the highest load or capacity level reasonably expected to occur within the day;

(B) The duration of the Method 9 test shall be at least 30 minutes each day;

(C) You must use the Method 9 procedures to monitor and record the average opacity for each six-minute block period during the test; and

(D) To remain in compliance, all six-minute block averages must not exceed the opacity standard.

(v) If you operate a cement kiln subject to the provisions of this subpart and use a particulate matter control device that exhausts through a monovent, or if the use of a COMS in accordance with the installation specification of Performance Specification 1 (PS-1) of appendix B to part 60 of this chapter is not feasible, you may, in lieu of installing the COMS required by paragraph (a)(1)(ii) of this section, comply with the opacity standard in accordance with the procedures of Method 9 to part 60 of this chapter:

(A) You must conduct the Method 9 test while the affected source is operating at the highest load or capacity level reasonably expected to occur within the day;

(B) The duration of the Method 9 test shall be at least 30 minutes each day;

(C) You must use the Method 9 procedures to monitor and record the average opacity for each six-minute block period during the test; and

(D) To remain in compliance, all six-minute block averages must not exceed the opacity standard.

(2) *Performance specifications*. You must install, calibrate, maintain, and continuously operate the CEMS and COMS in compliance with the quality assurance procedures provided in the

appendix to this subpart and Performance Specifications 1 (opacity), 4B (carbon monoxide and oxygen), and 8A (hydrocarbons) in appendix B, part 60 of this chapter.

(3) *Carbon monoxide readings exceeding the span.* (i) Except as provided by paragraph (a)(3)(ii) of this section, if a carbon monoxide CEMS detects a response that results in a one-minute average at or above the 3,000 ppmv span level required by Performance Specification 4B in appendix B, part 60 of this chapter, the one-minute average must be recorded as 10,000 ppmv. The one-minute 10,000 ppmv value must be used for calculating the hourly rolling average carbon monoxide level.

(ii) Carbon monoxide CEMS that use a span value of 10,000 ppmv when one-minute carbon monoxide levels are equal to or exceed 3,000 ppmv are not subject to paragraph (a)(3)(i) of this section. Carbon monoxide CEMS that use a span value of 10,000 are subject to the same CEMS performance and equipment specifications when operating in the range of 3,000 ppmv to 10,000 ppmv that are provided by Performance Specification 4B for other carbon monoxide CEMS, except:

(A) Calibration drift must be less than 300 ppmv; and

(B) Calibration error must be less than 500 ppmv.

(4) *Hydrocarbon readings exceeding the span.* (i) Except as provided by paragraph (a)(4)(ii) of this section, if a hydrocarbon CEMS detects a response that results in a one-minute average at or above the 100 ppmv span level required by Performance Specification 8A in appendix B, part 60 of this chapter, the one-minute average must be recorded as 500 ppmv. The one-minute 500 ppmv value must be used for calculating the hourly rolling average HC level.

(ii) Hydrocarbon CEMS that use a span value of 500 ppmv when one-minute hydrocarbon levels are equal to or exceed 100 ppmv are not subject to paragraph (a)(4)(i) of this section. Hydrocarbon CEMS that use a span value of 500 ppmv are subject to the same CEMS performance and equipment specifications when operating in the range of 100 ppmv to 500 ppmv that are provided by Performance Specification

8A for other hydrocarbon CEMS, except:

(A) The zero and high-level calibration gas must have a hydrocarbon level of between 0 and 100 ppmv, and between 250 and 450 ppmv, respectively;

(B) The strip chart recorder, computer, or digital recorder must be capable of recording all readings within the CEM measurement range and must have a resolution of 2.5 ppmv;

(C) The CEMS calibration must not differ by more than ± 15 ppmv after each 24-hour period of the seven day test at both zero and high levels;

(D) The calibration error must be no greater than 25 ppmv; and

(E) The zero level, mid-level, and high level calibration gas used to determine calibration error must have a hydrocarbon level of 0–200 ppmv, 150–200 ppmv, and 350–400 ppmv, respectively.

(5) *Petitions to use CEMS for other standards.* You may petition the Administrator to use CEMS for compliance monitoring for particulate matter, mercury, semivolatile metals, low volatile metals, and hydrogen chloride and chlorine gas under § 63.8(f) in lieu of compliance with the corresponding operating parameter limits under this section.

(6) *Calculation of rolling averages—(i) Calculation of rolling averages initially.* The carbon monoxide or hydrocarbon CEMS must begin recording one-minute average values by 12:01 a.m. and hourly rolling average values by 1:01 a.m., when 60 one-minute values will be available for calculating the initial hourly rolling average for those sources that come into compliance on the regulatory compliance date. Sources that elect to come into compliance before the regulatory compliance date must begin recording one-minute and hourly rolling average values within 60 seconds and 60 minutes (when 60 one-minute values will be available for calculating the initial hourly rolling average), respectively, from the time at which compliance begins.

(ii) *Calculation of rolling averages upon intermittent operations.* You must ignore periods of time when one-minute values are not available for calculating the hourly rolling average. When one-

minute values become available again, the first one-minute value is added to the previous 59 values to calculate the hourly rolling average.

(iii) *Calculation of rolling averages when the hazardous waste feed is cutoff.*

(A) Except as provided by paragraph (a)(6)(iii)(B) of this section, you must continue monitoring carbon monoxide and hydrocarbons when the hazardous waste feed is cutoff if the source is operating. You must not resume feeding hazardous waste if the emission levels exceed the standard.

(B) You are not subject to the CEMS requirements of this subpart during periods of time you meet the requirements of § 63.1206(b)(1)(ii) (compliance with emissions standards for nonhazardous waste burning sources when you are not burning hazardous waste).

(7) *Operating parameter limits for hydrocarbons.* If you elect to comply with the carbon monoxide and hydrocarbon emission standard by continuously monitoring carbon monoxide with a CEMS, you must demonstrate that hydrocarbon emissions during the comprehensive performance test do not exceed the hydrocarbon emissions standard. In addition, the limits you establish on the destruction and removal efficiency (DRE) operating parameters required under paragraph (j) of this section also ensure that you maintain compliance with the hydrocarbon emission standard. If you do not conduct the hydrocarbon demonstration and DRE tests concurrently, you must establish separate operating parameter limits under paragraph (j) of this section based on each test and the more restrictive of the operating parameter limits applies.

(b) *Other continuous monitoring systems (CMS).* (1) You must use CMS (e.g., thermocouples, pressure transducers, flow meters) to document compliance with the applicable operating parameter limits under this section.

(2) Except as specified in paragraphs (b)(2)(i) and (ii) of this section, you must install and operate continuous monitoring systems other than CEMS in conformance with § 63.8(c)(3) that requires you, at a minimum, to comply with the manufacturer's written specifications or recommendations for in-

stallation, operation, and calibration of the system:

(i) *Calibration of thermocouples and pyrometers.* The calibration of thermocouples must be verified at a frequency and in a manner consistent with manufacturer specifications, but no less frequent than once per year. You must operate and maintain optical pyrometers in accordance with manufacturer specifications unless otherwise approved by the Administrator. You must calibrate optical pyrometers in accordance with the frequency and procedures recommended by the manufacturer, but no less frequent than once per year, unless otherwise approved by the Administrator. And,

(ii) *Accuracy and calibration of weight measurement devices for activated carbon injection systems.* If you operate a carbon injection system, the accuracy of the weight measurement device must be ± 1 percent of the weight being measured. The calibration of the device must be verified at least once each calendar quarter at a frequency of approximately 120 days.

(3) CMS must sample the regulated parameter without interruption, and evaluate the detector response at least once each 15 seconds, and compute and record the average values at least every 60 seconds.

(4) The span of the non-CEMS CMS detector must not be exceeded. You must interlock the span limits into the automatic waste feed cutoff system required by § 63.1206(c)(3).

(5) *Calculation of rolling averages—(i) Calculation of rolling averages initially.* Continuous monitoring systems must begin recording one-minute average values by 12:01 a.m., hourly rolling average values by 1:01 a.m. (e.g., when 60 one-minute values will be available for calculating the initial hourly rolling average), and twelve-hour rolling averages by 12:01 p.m. (e.g., when 720 one-minute averages are available to calculate a 12-hour rolling average), for those sources that come into compliance on the regulatory compliance date. Sources that elect to come into compliance before the regulatory compliance date must begin recording one-minute, hourly rolling average, and 12-hour rolling average values within 60 seconds, 60 minutes (when 60 one-

minute values will be available for calculating the initial hourly rolling average), and 720 minutes (when 720 one-minute values will be available for calculating the initial 12-hour hourly rolling average) respectively, from the time at which compliance begins.

(ii) *Calculation of rolling averages upon intermittent operations.* You must ignore periods of time when one-minute values are not available for calculating rolling averages. When one-minute values become available again, the first one-minute value is added to the previous one-minute values to calculate rolling averages.

(iii) *Calculation of rolling averages when the hazardous waste feed is cutoff.* (A) Except as provided by paragraph (b)(5)(iii)(B) of this section, you must continue monitoring operating parameter limits with a CMS when the hazardous waste feed is cutoff if the source is operating. You must not resume feeding hazardous waste if an operating parameter exceeds its limit.

(B) You are not subject to the CMS requirements of this subpart during periods of time you meet the requirements of § 63.1206(b)(1)(ii) (compliance with emissions standards for nonhazardous waste burning sources when you are not burning hazardous waste).

(c) *Analysis of feedstreams*—(1) *General.* Prior to feeding the material, you must obtain an analysis of each feedstream that is sufficient to document compliance with the applicable feedrate limits provided by this section.

(2) *Feedstream analysis plan.* You must develop and implement a feedstream analysis plan and record it in the operating record. The plan must specify at a minimum:

(i) The parameters for which you will analyze each feedstream to ensure compliance with the operating parameter limits of this section;

(ii) Whether you will obtain the analysis by performing sampling and analysis or by other methods, such as using analytical information obtained from others or using other published or documented data or information;

(iii) How you will use the analysis to document compliance with applicable feedrate limits (*e.g.*, if you blend hazardous wastes and obtain analyses of

the wastes prior to blending but not of the blended, as-fired, waste, the plan must describe how you will determine the pertinent parameters of the blended waste);

(iv) The test methods which you will use to obtain the analyses;

(v) The sampling method which you will use to obtain a representative sample of each feedstream to be analyzed using sampling methods described in appendix IX, part 266 of this chapter, or an equivalent method; and

(vi) The frequency with which you will review or repeat the initial analysis of the feedstream to ensure that the analysis is accurate and up to date.

(3) *Review and approval of analysis plan.* You must submit the feedstream analysis plan to the Administrator for review and approval, if requested.

(4) *Compliance with feedrate limits.* To comply with the applicable feedrate limits of this section, you must monitor and record feedrates as follows:

(i) Determine and record the value of the parameter for each feedstream by sampling and analysis or other method;

(ii) Determine and record the mass or volume flowrate of each feedstream by a CMS. If you determine flowrate of a feedstream by volume, you must determine and record the density of the feedstream by sampling and analysis (unless you report the constituent concentration in units of weight per unit volume (*e.g.*, mg/l)); and

(iii) Calculate and record the mass feedrate of the parameter per unit time.

(5) *Waiver of monitoring of constituents in certain feedstreams.* You are not required to monitor levels of metals or chlorine in the following feedstreams to document compliance with the feedrate limits under this section provided that you document in the comprehensive performance test plan the expected levels of the constituent in the feedstream and account for those assumed feedrate levels in documenting compliance with feedrate limits: natural gas, process air, and feedstreams from vapor recovery systems.

(d) *Performance evaluations.* (1) The requirements of §§ 63.8(d) (Quality control program) and (e) (Performance evaluation of continuous monitoring

systems) apply, except that you must conduct performance evaluations of components of the CMS under the frequency and procedures (for example, submittal of performance evaluation test plan for review and approval) applicable to performance tests as provided by § 63.1207.

(2) You must comply with the quality assurance procedures for CEMS prescribed in the appendix to this subpart.

(e) *Conduct of monitoring.* The provisions of § 63.8(b) apply.

(f) *Operation and maintenance of continuous monitoring systems.* The provisions of § 63.8(c) apply except:

(1) *Section 63.8(c)(3).* The requirements of § 63.1211(c), that requires CEMS to be installed, calibrated, and operational on the compliance date, shall be complied with instead of section 63.8(c)(3);

(2) *Section 63.8(c)(4)(ii).* The performance specifications for carbon monoxide, hydrocarbon, and oxygen CEMSs in subpart B, part 60 of this chapter that requires detectors to measure the sample concentration at least once every 15 seconds for calculating an average emission rate once every 60 seconds shall be complied with instead of section 63.8(c)(4)(ii); and

(3) Sections 63.8(c)(4)(i), (c)(5), and (c)(7)(i)(C) pertaining to COMS apply only to owners and operators of hazardous waste burning cement kilns.

(g) *Alternative monitoring requirements other than continuous emissions monitoring systems (CEMS)*—(1) *Requests to use alternatives to operating parameter monitoring requirements.* (i) You may submit an application to the Administrator under this paragraph for approval of alternative operating parameter monitoring requirements to document compliance with the emission standards of this subpart. For requests to use additional CEMS, however, you must use paragraph (a)(5) of this section and § 63.8(f). Alternative requests to operating parameter monitoring requirements that include unproven monitoring methods may not be made under this paragraph and must be made under § 63.8(f).

(ii) You may submit an application to waive an operating parameter limit specified in this section based on documentation that neither that operating parameter limit nor an alternative op-

erating parameter limit is needed to ensure compliance with the emission standards of this subpart.

(iii) You must comply with the following procedures for applications submitted under paragraphs (g)(1)(i) and (ii) of this section:

(A) *Timing of the application.* You must submit the application to the Administrator not later than with the comprehensive performance test plan.

(B) *Content of the application.* You must include in the application:

(1) Data or information justifying your request for an alternative monitoring requirement (or for a waiver of an operating parameter limit), such as the technical or economic infeasibility or the impracticality of using the required approach;

(2) A description of the proposed alternative monitoring requirement, including the operating parameter to be monitored, the monitoring approach/technique (*e.g.*, type of detector, monitoring location), the averaging period for the limit, and how the limit is to be calculated; and

(3) Data or information documenting that the alternative monitoring requirement would provide equivalent or better assurance of compliance with the relevant emission standard, or that it is the monitoring requirement that best assures compliance with the standard and that is technically and economically practicable.

(C) *Approval of request to use an alternative monitoring requirement or waive an operating parameter limit.* The Administrator will notify you of approval or intention to deny approval of the request within 90 calendar days after receipt of the original request and within 60 calendar days after receipt of any supplementary information that you submit. The Administrator will not approve an alternative monitoring request unless the alternative monitoring requirement provides equivalent or better assurance of compliance with the relevant emission standard, or is the monitoring requirement that best assures compliance with the standard and that is technically and economically practicable. Before disapproving

any request, the Administrator will notify you of the Administrator's intention to disapprove the request together with:

(1) Notice of the information and findings on which the intended disapproval is based; and

(2) Notice of opportunity for you to present additional information to the Administrator before final action on the request. At the time the Administrator notifies you of intention to disapprove the request, the Administrator will specify how much time you will have after being notified of the intended disapproval to submit the additional information.

(D) *Responsibility of owners and operators.* You are responsible for ensuring that you submit any supplementary and additional information supporting your application in a timely manner to enable the Administrator to consider your application during review of the comprehensive performance test plan. Neither your submittal of an application, nor the Administrator's failure to approve or disapprove the application, relieves you of the responsibility to comply with the provisions of this subpart.

(iv) *Dual standards that incorporate the interim standards for HAP metals—(A) Semivolatile and low volatile metals.* You may petition the Administrator to waive a feedrate operating parameter limit under paragraph (n)(2) of this section for either the emission standards expressed in a thermal emissions format or the interim standards based on documentation that the feedrate operating parameter limit is not needed to ensure compliance with the relevant standard on a continuous basis.

(B) *Mercury.* You may petition the Administrator to waive a feedrate operating parameter limit under paragraph (l)(1) of this section for either the feed concentration standard under §§ 63.1220(a)(2)(i) and (b)(2)(i) or the interim standards based on documentation that the feedrate operating parameter limit is not needed to ensure compliance with the relevant standard on a continuous basis.

(2) *Administrator's discretion to specify additional or alternative requirements.* The Administrator may determine on a case-by-case basis at any time (e.g.,

during review of the comprehensive performance test plan, during compliance certification review) that you may need to limit additional or alternative operating parameters (e.g., opacity in addition to or in lieu of operating parameter limits on the particulate matter control device) or that alternative approaches to establish limits on operating parameters may be necessary to document compliance with the emission standards of this subpart.

(h) *Reduction of monitoring data.* The provisions of § 63.8(g) apply.

(i) *When an operating parameter is applicable to multiple standards.* Paragraphs (j) through (p) of this section require you to establish limits on operating parameters based on comprehensive performance testing to ensure you maintain compliance with the emission standards of this subpart. For several parameters, you must establish a limit for the parameter to ensure compliance with more than one emission standard. An example is a limit on minimum combustion chamber temperature to ensure compliance with both the DRE standard of paragraph (j) of this section and the dioxin/furan standard of paragraph (k) of this section. If the performance tests for such standards are not performed simultaneously, the most stringent limit for a parameter derived from independent performance tests applies.

(j) *DRE.* To remain in compliance with the destruction and removal efficiency (DRE) standard, you must establish operating limits during the comprehensive performance test (or during a previous DRE test under provisions of § 63.1206(b)(7)) for the following parameters, unless the limits are based on manufacturer specifications, and comply with those limits at all times that hazardous waste remains in the combustion chamber (*i.e.*, the hazardous waste residence time has not transpired since the hazardous waste feed cutoff system was activated):

(1) *Minimum combustion chamber temperature.* (i) You must measure the temperature of each combustion chamber at a location that best represents, as practicable, the bulk gas temperature in the combustion zone. You must

document the temperature measurement location in the test plan you submit under § 63.1207(e);

(ii) You must establish a minimum hourly rolling average limit as the average of the test run averages;

(2) *Maximum flue gas flowrate or production rate.* (i) As an indicator of gas residence time in the control device, you must establish and comply with a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis;

(3) *Maximum hazardous waste feedrate.* (i) You must establish limits on the maximum pumpable and total (i.e., pumpable and nonpumpable) hazardous waste feedrate for each location where hazardous waste is fed.

(ii) You must establish the limits as the average of the maximum hourly rolling averages for each run.

(iii) You must comply with the feedrate limit(s) on a hourly rolling average basis;

(4) *Operation of waste firing system.* You must specify operating parameters and limits to ensure that good operation of each hazardous waste firing system is maintained.

(k) *Dioxins and furans.* You must comply with the dioxin and furans emission standard by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

(1) *Gas temperature at the inlet to a dry particulate matter control device.* (i) For sources other than a lightweight aggregate kiln, if the combustor is equipped with an electrostatic precipitator, baghouse (fabric filter), or other dry emissions control device where particulate matter is suspended in contact with combustion gas, you must establish a limit on the maximum temperature of the gas at the inlet to the device on an hourly rolling average. You must establish the hourly rolling aver-

age limit as the average of the test run averages.

(ii) For hazardous waste burning lightweight aggregate kilns, you must establish a limit on the maximum temperature of the gas at the exit of the (last) combustion chamber (or exit of any waste heat recovery system) on an hourly rolling average. The limit must be established as the average of the test run averages;

(2) *Minimum combustion chamber temperature.* (i) For sources other than cement kilns, you must measure the temperature of each combustion chamber at a location that best represents, as practicable, the bulk gas temperature in the combustion zone. You must document the temperature measurement location in the test plan you submit under §§ 63.1207(e) and (f);

(ii) You must establish a minimum hourly rolling average limit as the average of the test run averages.

(3) *Maximum flue gas flowrate or production rate.* (i) As an indicator of gas residence time in the control device, you must establish and comply with a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis;

(4) *Maximum hazardous waste feedrate.* (i) You must establish limits on the maximum pumpable and total (pumpable and nonpumpable) hazardous waste feedrate for each location where waste is fed.

(ii) You must establish the limits as the average of the maximum hourly rolling averages for each run.

(iii) You must comply with the feedrate limit(s) on a hourly rolling average basis;

(5) *Particulate matter operating limit.* If your combustor is equipped with an activated carbon injection system, you must establish operating parameter limits on the particulate matter control device as specified by paragraph (m)(1) of this section;

(6) *Activated carbon injection parameter limits.* If your combustor is equipped

with an activated carbon injection system:

(i) *Carbon feedrate.* You must establish a limit on minimum carbon injection rate on an hourly rolling average calculated as the average of the test run averages. If your carbon injection system injects carbon at more than one location, you must establish a carbon feedrate limit for each location.

(ii) *Carrier fluid.* You must establish a limit on minimum carrier fluid (gas or liquid) flowrate or pressure drop as an hourly rolling average based on the manufacturer's specifications. You must document the specifications in the test plan you submit under §§ 63.1207(e) and (f);

(iii) *Carbon specification.* (A) You must specify and use the brand (*i.e.*, manufacturer) and type of carbon used during the comprehensive performance test until a subsequent comprehensive performance test is conducted, unless you document in the site-specific performance test plan required under §§ 63.1207(e) and (f) key parameters that affect adsorption and establish limits on those parameters based on the carbon used in the performance test.

(B) You may substitute at any time a different brand or type of carbon provided that the replacement has equivalent or improved properties compared to the carbon used in the performance test and conforms to the key sorbent parameters you identify under paragraph (k)(6)(iii)(A) of this section. You must include in the operating record documentation that the substitute carbon will provide the same level of control as the original carbon.

(7) *Carbon bed parameter limits.* If your combustor is equipped with a carbon bed system:

(i) *Monitoring bed life.* You must:

(A) Monitor performance of the carbon bed consistent with manufacturer's specifications and recommendations to ensure the carbon bed (or bed segment for sources with multiple segments) has not reached the end of its useful life to minimize dioxin/furan and mercury emissions at least to the levels required by the emission standards;

(B) Document the monitoring procedures in the operation and maintenance plan;

(C) Record results of the performance monitoring in the operating record; and

(D) Replace the bed or bed segment before it has reached the end of its useful life to minimize dioxin/furan and mercury emissions at least to the levels required by the emission standards.

(ii) *Carbon specification.* (A) You must specify and use the brand (*i.e.*, manufacturer) and type of carbon used during the comprehensive performance test until a subsequent comprehensive performance test is conducted, unless you document in the site-specific performance test plan required under §§ 63.1207(e) and (f) key parameters that affect adsorption and establish limits on those parameters based on the carbon used in the performance test.

(B) You may substitute at any time a different brand or type of carbon provided that the replacement has equivalent or improved properties compared to the carbon used in the performance test. You must include in the operating record documentation that the substitute carbon will provide an equivalent or improved level of control as the original carbon.

(iii) *Maximum temperature.* You must measure the temperature of the carbon bed at either the bed inlet or exit and you must establish a maximum temperature limit on an hourly rolling average as the average of the test run averages.

(8) *Catalytic oxidizer parameter limits.* If your combustor is equipped with a catalytic oxidizer, you must establish limits on the following parameters:

(i) *Minimum flue gas temperature at the entrance of the catalyst.* You must establish a limit on minimum flue gas temperature at the entrance of the catalyst on an hourly rolling average as the average of the test run averages.

(ii) *Maximum time in-use.* You must replace a catalytic oxidizer when it has reached the maximum service time specified by the manufacturer.

(iii) *Catalyst replacement specifications.* When you replace a catalyst with a new one, the new catalyst must be equivalent to or better than the one used during the previous comprehensive test, as measured by:

(A) Catalytic metal loading for each metal;

(B) Space time, expressed in the units s^{-1} , the maximum rated volumetric flow of combustion gas through the catalyst divided by the volume of the catalyst; and

(C) Substrate construction, including materials of construction, washcoat type, and pore density.

(iv) *Maximum flue gas temperature.* You must establish a maximum flue gas temperature limit at the entrance of the catalyst as an hourly rolling average, based on manufacturer's specifications.

(9) *Inhibitor feedrate parameter limits.* If you feed a dioxin/furan inhibitor into the combustion system, you must establish limits for the following parameters:

(i) *Minimum inhibitor feedrate.* You must establish a limit on minimum inhibitor feedrate on an hourly rolling average as the average of the test run averages.

(ii) *Inhibitor specifications.* (A) You must specify and use the brand (*i.e.*, manufacturer) and type of inhibitor used during the comprehensive performance test until a subsequent comprehensive performance test is conducted, unless you document in the site-specific performance test plan required under §§ 63.1207(e) and (f) key parameters that affect the effectiveness of the inhibitor and establish limits on those parameters based on the inhibitor used in the performance test.

(B) You may substitute at any time a different brand or type of inhibitor provided that the replacement has equivalent or improved properties compared to the inhibitor used in the performance test and conforms to the key parameters you identify under paragraph (k)(9)(ii)(A) of this section. You must include in the operating record documentation that the substitute inhibitor will provide the same level of control as the original inhibitor.

(1) *Mercury.* You must comply with the mercury emission standard by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

(1) *Feedrate of mercury.* (i) For incinerators and solid fuel boilers, when complying with the mercury emission standards under §§ 63.1203, 63.1216 and 63.1219, you must establish a 12-hour rolling average limit for the total feedrate of mercury in all feedstreams as the average of the test run averages.

(ii) For liquid fuel boilers, when complying with the mercury emission standards of § 63.1217, you must establish a rolling average limit for the mercury feedrate as follows on an averaging period not to exceed an annual rolling average:

(A) You must calculate a mercury system removal efficiency for each test run and calculate the average system removal efficiency of the test run averages. If emissions exceed the mercury emission standard during the comprehensive performance test, it is not a violation because the averaging period for the mercury emission standard is (not-to-exceed) one year and compliance is based on compliance with the mercury feedrate limit with an averaging period not-to-exceed one year.

(B) If you burn hazardous waste with a heating value of 10,000 Btu/lb or greater, you must calculate the mercury feedrate limit as follows:

(1) The mercury feedrate limit is the emission standard divided by $[1 - \text{system removal efficiency}]$.

(2) The mercury feedrate limit is a hazardous waste thermal concentration limit expressed as pounds of mercury in hazardous waste feedstreams per million Btu of hazardous waste fired.

(3) You must comply with the hazardous waste mercury thermal concentration limit by determining the feedrate of mercury in all hazardous waste feedstreams (lb/hr) at least once a minute and the hazardous waste thermal feedrate (MM Btu/hr) at least once a minute to calculate a 60-minute average thermal emission concentration as $[\text{hazardous waste mercury feedrate (lb/hr)} / \text{hazardous waste thermal feedrate (MM Btu/hr)}]$.

(4) You must calculate a rolling average hazardous waste mercury thermal concentration that is updated each hour.

(5) If you select an averaging period for the feedrate limit that is greater than a 12-hour rolling average, you

must calculate the initial rolling average as though you had selected a 12-hour rolling average, as provided by paragraph (b)(5)(i) of this section. Thereafter, you must calculate rolling averages using either one-minute or one-hour updates. Hourly updates shall be calculated using the average of the one-minute average data for the preceding hour. For the period beginning with initial operation under this standard until the source has operated for the full averaging period that you select, the average feedrate shall be based only on actual operation under this standard.

(C) If you burn hazardous waste with a heating value of less than 10,000 Btu/lb, you must calculate the mercury feedrate limit as follows:

(1) You must calculate the mercury feedrate limit as the mercury emission standard divided by [1 - System Removal Efficiency].

(2) The feedrate limit is expressed as a mass concentration per unit volume of stack gas ($\mu\text{gm/dscm}$) and is converted to a mass feedrate (lb/hr) by multiplying it by the average stack gas flowrate of the test run averages.

(3) You must comply with the feedrate limit by determining the mercury feedrate (lb/hr) at least once a minute to calculate a 60-minute average feedrate.

(4) You must update the rolling average feedrate each hour with this 60-minute feedrate measurement.

(5) If you select an averaging period for the feedrate limit that is greater than a 12-hour rolling average, you must calculate the initial rolling average as though you had selected a 12-hour rolling average, as provided by paragraph (b)(5)(i) of this section. Thereafter, you must calculate rolling averages using either one-minute or one-hour updates. Hourly updates shall be calculated using the average of the one-minute average data for the preceding hour. For the period beginning with initial operation under this standard until the source has operated for the full averaging period that you select, the average feedrate shall be based only on actual operation under this standard.

(D) If your boiler is equipped with a wet scrubber, you must comply with

the following unless you document in the performance test plan that you do not feed chlorine at rates that may substantially affect the system removal efficiency of mercury for purposes of establishing a mercury feedrate limit based on the system removal efficiency during the test:

(1) Scrubber blowdown must be minimized during a pretest conditioning period and during the performance test:

(2) Scrubber water must be preconditioned so that mercury in the water is at equilibrium with stack gas at the mercury feedrate level of the performance test; and

(3) You must establish an operating limit on minimum pH of scrubber water as the average of the test run averages and comply with the limit on an hourly rolling average.

(iii) For cement kilns:

(A) When complying with the emission standards under §§ 63.1220(a)(2)(i) and (b)(2)(i), you must:

(1) Comply with the mercury hazardous waste feed concentration operating requirement on a twelve-hour rolling average;

(2) Monitor and record in the operating record the as-fired mercury concentration in the hazardous waste (or the weighted-average mercury concentration for multiple hazardous waste feedstreams);

(3) Initiate an automatic waste feed cutoff that immediately and automatically cuts off the hazardous waste feed when the as-fired mercury concentration operating requirement is exceeded;

(B) When complying with the emission standards under §§ 63.1204 and 63.1220(a)(2)(ii)(A) and (b)(2)(ii)(A), you must establish a 12-hour rolling average limit for the feedrate of mercury in all feedstreams as the average of the test run averages;

(C) Except as provided by paragraph (1)(1)(iii)(D) of this section, when complying with the hazardous waste maximum theoretical emission concentration (MTEC) under § 63.1220(a)(2)(ii)(B) and (b)(2)(ii)(B), you must:

(1) Comply with the MTEC operating requirement on a twelve-hour rolling average;

(2) Monitor and record the feedrate of mercury for each hazardous waste feedstream according to § 63.1209(c);

(3) Monitor with a CMS and record in the operating record the gas flowrate (either directly or by monitoring a surrogate parameter that you have correlated to gas flowrate);

(4) Continuously calculate and record in the operating record a MTEC assuming mercury from all hazardous waste feedstreams is emitted;

(5) Initiate an automatic waste feed cutoff that immediately and automatically cuts off the hazardous waste feed when the MTEC operating requirement is exceeded;

(D) In lieu of complying with paragraph (1)(1)(iii)(C) of this section, you may:

(1) Identify in the Notification of Compliance a minimum gas flowrate limit and a maximum feedrate limit of mercury from all hazardous waste feedstreams that ensures the MTEC calculated in paragraph (1)(1)(iii)(C)(4) of this section is below the operating requirement under paragraphs §§ 63.1220(a)(2)(ii)(B) and (b)(2)(ii)(B); and

(2) Initiate an automatic waste feed cutoff that immediately and automatically cuts off the hazardous waste feed when either the gas flowrate or mercury feedrate exceeds the limits identified in paragraph (1)(1)(iii)(D)(1) of this section.

(iv) For lightweight aggregate kilns:

(A) When complying with the emission standards under §§ 63.1205, 63.1221(a)(2)(i) and (b)(2)(i), you must establish a 12-hour rolling average limit for the total feedrate of mercury in all feedstreams as the average of the test run averages;

(B) Except as provided by paragraph (1)(1)(iv)(C) of this section, when complying with the hazardous waste feedrate corresponding to a maximum theoretical emission concentration (MTEC) under §§ 63.1221(a)(2)(ii) and (b)(2)(ii), you must:

(1) Comply with the MTEC operating requirement on a twelve-hour rolling average;

(2) Monitor and record the feedrate of mercury for each hazardous waste feedstream according to § 63.1209(c);

(3) Monitor with a CMS and record in the operating record the gas flowrate (either directly or by monitoring a surrogate parameter that you have correlated to gas flowrate);

(4) Continuously calculate and record in the operating record a MTEC assuming mercury from all hazardous waste feedstreams is emitted;

(5) Initiate an automatic waste feed cutoff that immediately and automatically cuts off the hazardous waste feed when the MTEC operating requirement is exceeded;

(C) In lieu of complying with paragraph (1)(1)(iv)(B) of this section, you may:

(1) Identify in the Notification of Compliance a minimum gas flowrate limit and a maximum feedrate limit of mercury from all hazardous waste feedstreams that ensures the MTEC calculated in paragraph (1)(1)(iv)(B)(4) of this section is below the operating requirement under paragraphs §§ 63.1221(a)(2)(ii) and (b)(2)(ii); and

(2) Initiate an automatic waste feed cutoff that immediately and automatically cuts off the hazardous waste feed when either the gas flowrate or mercury feedrate exceeds the limits identified in paragraph (1)(1)(iv)(C)(1) of this section.

(v) *Extrapolation of feedrate levels.* In lieu of establishing mercury feedrate limits as specified in paragraphs (1)(1)(i) through (iv) of this section, you may request as part of the performance test plan under §§ 63.7(b) and (c) and §§ 63.1207 (e) and (f) to use the mercury feedrates and associated emission rates during the comprehensive performance test to extrapolate to higher allowable feedrate limits and emission rates. The extrapolation methodology will be reviewed and approved, as warranted, by the Administrator. The review will consider in particular whether:

(A) Performance test metal feedrates are appropriate (*i.e.*, whether feedrates are at least at normal levels; depending on the heterogeneity of the waste, whether some level of spiking would be appropriate; and whether the physical form and species of spiked material is appropriate); and

(B) Whether the extrapolated feedrates you request are warranted

considering historical metal feedrate data.

(2) *Wet scrubber.* If your combustor is equipped with a wet scrubber, you must establish operating parameter limits prescribed by paragraph (o)(3) of this section, except for paragraph (o)(3)(iv).

(3) *Activated carbon injection.* If your combustor is equipped with an activated carbon injection system, you must establish operating parameter limits prescribed by paragraphs (k)(5) and (k)(6) of this section.

(4) *Activated carbon bed.* If your combustor is equipped with an activated carbon bed system, you must comply with the requirements of (k)(7) of this section to assure compliance with the mercury emission standard.

(m) *Particulate matter.* You must comply with the particulate matter emission standard by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

(1) *Control device operating parameter limits (OPLs)*—(i) *Wet scrubbers.* For sources equipped with wet scrubbers, including ionizing wet scrubbers, high energy wet scrubbers such as venturi, hydrosonic, collision, or free jet wet scrubbers, and low energy wet scrubbers such as spray towers, packed beds, or tray towers, you must establish limits on the following parameters:

(A) For high energy scrubbers only, minimum pressure drop across the wet scrubber on an hourly rolling average, established as the average of the test run averages;

(B) For all wet scrubbers:

(1) To ensure that the solids content of the scrubber liquid does not exceed levels during the performance test, you must either:

(i) Establish a limit on solids content of the scrubber liquid using a CMS or by manual sampling and analysis. If you elect to monitor solids content manually, you must sample and analyze the scrubber liquid hourly unless you support an alternative monitoring frequency in the performance test plan that you submit for review and approval; or

(ii) Establish a minimum blowdown rate using a CMS and either a minimum scrubber tank volume or liquid level using a CMS.

(2) For maximum solids content monitored with a CMS, you must establish a limit on a twelve-hour rolling average as the average of the test run averages.

(3) For maximum solids content measured manually, you must establish an hourly limit, as measured at least once per hour, unless you support an alternative monitoring frequency in the performance test plan that you submit for review and approval. You must establish the maximum hourly limit as the average of the manual measurement averages for each run.

(4) For minimum blowdown rate and either a minimum scrubber tank volume or liquid level using a CMS, you must establish a limit on an hourly rolling average as the average of the test run averages.

(C) For high energy wet scrubbers only, you must establish limits on either the minimum liquid to gas ratio or the minimum scrubber water flowrate and maximum flue gas flowrate on an hourly rolling average. If you establish limits on maximum flue gas flowrate under this paragraph, you need not establish a limit on maximum flue gas flowrate under paragraph (m)(2) of this section. You must establish these hourly rolling average limits as the average of the test run averages; and

(ii)–(iii) [Reserved]

(iv) *Other particulate matter control devices.* For each particulate matter control device that is not a fabric filter or high energy wet scrubber, or is not an electrostatic precipitator or ionizing wet scrubber for which you elect to monitor particulate matter loadings under § 63.1206(c)(9) of this chapter for process control, you must ensure that the control device is properly operated and maintained as required by § 63.1206(c)(7) and by monitoring the operation of the control device as follows:

(A) During each comprehensive performance test conducted to demonstrate compliance with the particulate matter emissions standard, you must establish a range of operating values for the control device that is a

representative and reliable indicator that the control device is operating within the same range of conditions as during the performance test. You must establish this range of operating values as follows:

(1) You must select a set of operating parameters appropriate for the control device design that you determine to be a representative and reliable indicator of the control device performance.

(2) You must measure and record values for each of the selected operating parameters during each test run of the performance test. A value for each selected parameter must be recorded using a continuous monitor.

(3) For each selected operating parameter measured in accordance with the requirements of paragraph (m)(1)(iv)(A)(1) of this section, you must establish a minimum operating parameter limit or a maximum operating parameter limit, as appropriate for the parameter, to define the operating limits within which the control device can operate and still continuously achieve the same operating conditions as during the performance test.

(4) You must prepare written documentation to support the operating parameter limits established for the control device and you must include this documentation in the performance test plan that you submit for review and approval. This documentation must include a description for each selected parameter and the operating range and monitoring frequency required to ensure the control device is being properly operated and maintained.

(B) You must install, calibrate, operate, and maintain a monitoring device equipped with a recorder to measure the values for each operating parameter selected in accordance with the requirements of paragraph (m)(1)(iv)(A)(1) of this section. You must install, calibrate, and maintain the monitoring equipment in accordance with the equipment manufacturer's specifications. The recorder must record the detector responses at least every 60 seconds, as required in the definition of continuous monitor.

(C) You must regularly inspect the data recorded by the operating parameter monitoring system at a sufficient frequency to ensure the control device

is operating properly. An excursion is determined to have occurred any time that the actual value of a selected operating parameter is less than the minimum operating limit (or, if applicable, greater than the maximum operating limit) established for the parameter in accordance with the requirements of paragraph (m)(1)(iv)(A)(3) of this section.

(D) Operating parameters selected in accordance with paragraph (m)(1)(iv) of this section may be based on manufacturer specifications provided you support the use of manufacturer specifications in the performance test plan that you submit for review and approval.

(2) *Maximum flue gas flowrate or production rate.* (i) As an indicator of gas residence time in the control device, you must establish a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis;

(3) *Maximum ash feedrate.* Owners and operators of hazardous waste incinerators, solid fuel boilers, and liquid fuel boilers must establish a maximum ash feedrate limit as a 12-hour rolling average based on the average of the test run averages. This requirement is waived, however, if you comply with the particulate matter detection system requirements under § 63.1206(c)(9).

(n) *Semivolatile metals and low volatility metals.* You must comply with the semivolatile metal (cadmium and lead) and low volatile metal (arsenic, beryllium, and chromium) emission standards by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

(1) *Maximum inlet temperature to dry particulate matter air pollution control device.* You must establish a limit on the maximum inlet temperature to the primary dry metals emissions control device (e.g., electrostatic precipitator, baghouse) on an hourly rolling average

basis as the average of the test run averages.

(2) *Maximum feedrate of semivolatile and low volatile metals*—(i) *General*. You must establish feedrate limits for semivolatile metals (cadmium and lead) and low volatile metals (arsenic, beryllium, and chromium) as follows, except as provided by paragraph (n)(2)(vii) of this section.

(ii) For incinerators, cement kilns, and lightweight aggregate kilns, when complying with the emission standards under §§ 63.1203, 63.1204, 63.1205, and 63.1219, and for solid fuel boilers when complying with the emission standards under § 63.1216, you must establish 12-hour rolling average limits for the total feedrate of semivolatile and low volatile metals in all feedstreams as the average of the test run averages.

(iii) *Cement kilns under § 63.1220*. (A) When complying with the emission standards under § 63.1220(a)(3)(i), (a)(4)(i), (b)(3)(i), and (b)(4)(i), you must establish 12-hour rolling average feedrate limits for semivolatile and low volatile metals as the thermal concentration of semivolatile metals or low volatile metals in all hazardous waste feedstreams. You must calculate hazardous waste thermal concentrations for semivolatile metals and low volatile metals for each run as the total mass feedrate of semivolatile metals or low volatile metals for all hazardous waste feedstreams divided by the total heat input rate for all hazardous waste feedstreams. The 12-hour rolling average feedrate limits for semivolatile metals and low volatile metals are the average of the test run averages, calculated on a thermal concentration basis, for all hazardous waste feeds.

(B) When complying with the emission standards under §§ 63.1220(a)(3)(ii), (a)(4)(ii), (b)(3)(ii), and (b)(4)(ii), you must establish 12-hour rolling average limits for the total feedrate of semivolatile and low volatile metals in all feedstreams as the average of the test run averages.

(iv) *Lightweight aggregate kilns under § 63.1221*. (A) When complying with the emission standards under §§ 63.1221(a)(3)(i), (a)(4)(i), (b)(3)(i), and (b)(4)(i), you must establish 12-hour rolling average feedrate limits for

semivolatile and low volatile metals as the thermal concentration of semivolatile metals or low volatile metals in all hazardous waste feedstreams as specified in paragraphs (n)(2)(iii)(A) of this section.

(B) When complying with the emission standards under §§ 63.1221(a)(3)(ii), (a)(4)(ii), (b)(3)(ii), and (b)(4)(ii), you must establish 12-hour rolling average limits for the total feedrate of semivolatile and low volatile metals in all feedstreams as the average of the test run averages.

(v) *Liquid fuel boilers under § 63.1217*. (A) *Semivolatile metals*. You must establish a rolling average limit for the semivolatile metal feedrate as follows on an averaging period not to exceed an annual rolling average.

(1) *System removal efficiency*. You must calculate a semivolatile metal system removal efficiency for each test run and calculate the average system removal efficiency of the test run averages. If emissions exceed the semivolatile metal emission standard during the comprehensive performance test, it is not a violation because the averaging period for the semivolatile metal emission standard is one year and compliance is based on compliance with the semivolatile metal feedrate limit that has an averaging period not to exceed an annual rolling average.

(2) *Boilers that feed hazardous waste with a heating value of 10,000 Btu/lb or greater*. You must calculate the semivolatile metal feedrate limit as the semivolatile metal emission standard divided by [1 – System Removal Efficiency].

(i) The feedrate limit is a hazardous waste thermal concentration limit expressed as pounds of semivolatile metals in all hazardous waste feedstreams per million Btu of hazardous waste fed to the boiler.

(ii) You must comply with the hazardous waste semivolatile metal thermal concentration limit by determining the feedrate of semivolatile metal in all hazardous waste feedstreams (lb/hr) and the hazardous waste thermal feedrate (MM Btu/hr) at least once a minute to calculate a 60-minute average thermal emission concentration as [hazardous waste semivolatile metal feedrate (lb/hr) /

hazardous waste thermal feedrate (MM Btu/hr)].

(iii) You must calculate a rolling average hazardous waste semivolatile metal thermal concentration that is updated each hour.

(iv) If you select an averaging period for the feedrate limit that is greater than a 12-hour rolling average, you must calculate the initial rolling average as though you had selected a 12-hour rolling average, as provided by paragraph (b)(5)(i) of this section. Thereafter, you must calculate rolling averages using either one-minute or one-hour updates. Hourly updates shall be calculated using the average of the one-minute average data for the preceding hour. For the period beginning with initial operation under this standard until the source has operated for the full averaging period that you select, the average feedrate shall be based only on actual operation under this standard.

(3) *Boilers that feed hazardous waste with a heating value less than 10,000 Btu/lb.* (i) You must calculate the semivolatile metal feedrate limit as the semivolatile metal emission standard divided by [1 - System Removal Efficiency].

(ii) The feedrate limit is expressed as a mass concentration per unit volume of stack gas ($\mu\text{gm/dscm}$) and is converted to a mass feedrate (lb/hr) by multiplying it by the average stack gas flowrate (dscm/hr) of the test run averages.

(iii) You must comply with the feedrate limit by determining the semivolatile metal feedrate (lb/hr) at least once a minute to calculate a 60-minute average feedrate.

(iv) You must update the rolling average feedrate each hour with this 60-minute feedrate measurement.

(v) If you select an averaging period for the feedrate limit that is greater than a 12-hour rolling average, you must calculate the initial rolling average as though you had selected a 12-hour rolling average, as provided by paragraph (b)(5)(i) of this section. Thereafter, you must calculate rolling averages using either one-minute or one-hour updates. Hourly updates shall be calculated using the average of the one-minute average data for the pre-

ceding hour. For the period beginning with initial operation under this standard until the source has operated for the full averaging period that you select, the average feedrate shall be based only on actual operation under this standard.

(B) *Chromium—(1) Boilers that feed hazardous waste with a heating value of 10,000 Btu/lb or greater.* (i) The 12-hour rolling average feedrate limit is a hazardous waste thermal concentration limit expressed as pounds of chromium in all hazardous waste feedstreams per million Btu of hazardous waste fed to the boiler. You must establish the 12-hour rolling average feedrate limit as the average of the test run averages.

(ii) You must comply with the hazardous waste chromium thermal concentration limit by determining the feedrate of chromium in all hazardous waste feedstreams (lb/hr) and the hazardous waste thermal feedrate (MMBtu/hr) at least once each minute as [hazardous waste chromium feedrate (lb/hr)/hazardous waste thermal feedrate (MMBtu/hr)].

(2) *Boilers that feed hazardous waste with a heating value less than 10,000 Btu/lb.* You must establish a 12-hour rolling average limit for the total feedrate (lb/hr) of chromium in all feedstreams as the average of the test run averages.

(vi) *LVM limits for pumpable wastes.* You must establish separate feedrate limits for low volatile metals in pumpable feedstreams using the procedures prescribed above for total low volatile metals. Dual feedrate limits for both pumpable and total feedstreams are not required, however, if you base the total feedrate limit solely on the feedrate of pumpable feedstreams.

(vii) *Extrapolation of feedrate levels.* In lieu of establishing feedrate limits as specified in paragraphs (n)(2)(ii) through (vi) of this section, you may request as part of the performance test plan under §§ 63.7(b) and (c) and §§ 63.1207(e) and (f) to use the semivolatile metal and low volatile metal feedrates and associated emission rates during the comprehensive performance test to extrapolate to higher allowable feedrate limits and emission rates. The extrapolation

methodology will be reviewed and approved, as warranted, by the Administrator. The review will consider in particular whether:

(A) Performance test metal feedrates are appropriate (*i.e.*, whether feedrates are at least at normal levels; depending on the heterogeneity of the waste, whether some level of spiking would be appropriate; and whether the physical form and species of spiked material is appropriate); and

(B) Whether the extrapolated feedrates you request are warranted considering historical metal feedrate data.

(3) *Control device operating parameter limits (OPLs)*. You must establish operating parameter limits on the particulate matter control device as specified by paragraph (m)(1) of this section;

(4) *Maximum total chlorine and chloride feedrate*. You must establish a 12-hour rolling average limit for the feedrate of total chlorine and chloride in all feedstreams as the average of the test run averages.

(5) *Maximum flue gas flowrate or production rate*. (i) As an indicator of gas residence time in the control device, you must establish a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis.

(o) *Hydrogen chloride and chlorine gas*. You must comply with the hydrogen chloride and chlorine gas emission standard by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

(1) *Feedrate of total chlorine and chloride*. (i) *Incinerators, cement kilns, lightweight aggregate kilns, solid fuel boilers, and hydrochloric acid production furnaces*. You must establish a 12-hour rolling average limit for the total feedrate of chlorine (organic and inorganic) in all feedstreams as the average of the test run averages.

(ii) *Liquid fuel boilers*. (A) *Boilers that feed hazardous waste with a heating value not less than 10,000 Btu/lb*. (1) The feedrate limit is a hazardous waste thermal concentration limit expressed as pounds of chlorine (organic and inorganic) in all hazardous waste feedstreams per million Btu of hazardous waste fed to the boiler.

(2) You must establish a 12-hour rolling average feedrate limit as the average of the test run averages.

(3) You must comply with the feedrate limit by determining the mass feedrate of hazardous waste feedstreams (lb/hr) at least once a minute and by knowing the chlorine content (organic and inorganic, lb of chlorine/lb of hazardous waste) and heating value (Btu/lb) of hazardous waste feedstreams at all times to calculate a 1-minute average feedrate measurement as [hazardous waste chlorine content (lb of chlorine/lb of hazardous waste feed)/hazardous waste heating value (Btu/lb of hazardous waste)]. You must update the rolling average feedrate each hour with this 60-minute average feedrate measurement.

(B) *Boilers that feed hazardous waste with a heating value less than 10,000 Btu/lb*. You must establish a 12-hour rolling average limit for the total feedrate of chlorine (organic and inorganic) in all feedstreams as the average of the test run averages. You must update the rolling average feedrate each hour with a 60-minute average feedrate measurement.

(2) *Maximum flue gas flowrate or production rate*. (i) As an indicator of gas residence time in the control device, you must establish a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis;

(3) *Wet scrubber*. If your combustor is equipped with a wet scrubber:

(i) If your source is equipped with a high energy wet scrubber such as a venturi, hydrosonic, collision, or free jet wet scrubber, you must establish a

limit on minimum pressure drop across the wet scrubber on an hourly rolling average as the average of the test run averages;

(ii) If your source is equipped with a low energy wet scrubber such as a spray tower, packed bed, or tray tower, you must establish a minimum pressure drop across the wet scrubber based on manufacturer's specifications. You must comply with the limit on an hourly rolling average;

(iii) If your source is equipped with a low energy wet scrubber, you must establish a limit on minimum liquid feed pressure to the wet scrubber based on manufacturer's specifications. You must comply with the limit on an hourly rolling average;

(iv) You must establish a limit on minimum pH on an hourly rolling average as the average of the test run averages;

(v) You must establish limits on either the minimum liquid to gas ratio or the minimum scrubber water flowrate and maximum flue gas flowrate on an hourly rolling average as the average of the test run averages. If you establish limits on maximum flue gas flowrate under this paragraph, you need not establish a limit on maximum flue gas flowrate under paragraph (o)(2) of this section; and

(4) *Dry scrubber.* If your combustor is equipped with a dry scrubber, you must establish the following operating parameter limits:

(i) *Minimum sorbent feedrate.* You must establish a limit on minimum sorbent feedrate on an hourly rolling average as the average of the test run averages.

(ii) *Minimum carrier fluid flowrate or nozzle pressure drop.* You must establish a limit on minimum carrier fluid (gas or liquid) flowrate or nozzle pressure drop based on manufacturer's specifications.

(iii) *Sorbent specifications.* (A) You must specify and use the brand (*i.e.*, manufacturer) and type of sorbent used during the comprehensive performance test until a subsequent comprehensive performance test is conducted, unless you document in the site-specific performance test plan required under §§ 63.1207(e) and (f) key parameters that affect adsorption and establish limits

on those parameters based on the sorbent used in the performance test.

(B) You may substitute at any time a different brand or type of sorbent provided that the replacement has equivalent or improved properties compared to the sorbent used in the performance test and conforms to the key sorbent parameters you identify under paragraph (o)(4)(iii)(A) of this section. You must record in the operating record documentation that the substitute sorbent will provide the same level of control as the original sorbent.

(p) *Maximum combustion chamber pressure.* If you comply with the requirements for combustion system leaks under § 63.1206(c)(5) by maintaining the maximum combustion chamber zone pressure lower than ambient pressure to prevent combustion systems leaks from hazardous waste combustion, you must perform instantaneous monitoring of pressure and the automatic waste feed cutoff system must be engaged when negative pressure is not adequately maintained.

(q) *Operating under different modes of operation.* If you operate under different modes of operation, you must establish operating parameter limits for each mode. You must document in the operating record when you change a mode of operation and begin complying with the operating limits for an alternative mode of operation.

(1) *Operating under otherwise applicable standards after the hazardous waste residence time has transpired.* As provided by § 63.1206(b)(1)(ii), you may operate under otherwise applicable requirements promulgated under sections 112 and 129 of the Clean Air Act in lieu of the substantive requirements of this subpart.

(i) The otherwise applicable requirements promulgated under sections 112 and 129 of the Clean Air Act are applicable requirements under this subpart.

(ii) You must specify (*e.g.*, by reference) the otherwise applicable requirements as a mode of operation in your Documentation of Compliance under § 63.1211(c), your Notification of Compliance under § 63.1207(j), and your

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title V permit application. These requirements include the otherwise applicable requirements governing emission standards, monitoring and compliance, and notification, reporting, and recordkeeping.

(2) *Calculating rolling averages under different modes of operation.* When you transition to a different mode of operation, you must calculate rolling averages as follows:

(i) *Retrieval approach.* Calculate rolling averages anew using the continuous monitoring system values previously recorded for that mode of operation (i.e., you ignore continuous monitoring system values subsequently recorded under other modes of operation when you transition back to a mode of operation); or

(ii) *Start anew.* Calculate rolling averages anew without considering previous recordings.

(A) Rolling averages must be calculated as the average of the available one-minute values for the parameter until enough one-minute values are available to calculate hourly or 12-hour rolling averages, whichever is applicable to the parameter.

(B) You may not transition to a new mode of operation using this approach if the most recent operation in that mode resulted in an exceedance of an applicable emission standard measured

with a CEMS or operating parameter limit prior to the hazardous waste residence time expiring; or

(iii) *Seamless transition.* Continue calculating rolling averages using data from the previous operating mode provided that both the operating limit and the averaging period for the parameter are the same for both modes of operation.

(r) *Averaging periods.* The averaging periods specified in this section for operating parameters are not-to-exceed averaging periods. You may elect to use shorter averaging periods. For example, you may elect to use a 1-hour rolling average rather than the 12-hour rolling average specified in paragraph (1)(1)(i) of this section for mercury.

[64 FR 53038, Sept. 30, 1999, as amended at 65 FR 42300, July 10, 2000; 65 FR 67271, Nov. 9, 2000; 66 FR 24272, May 14, 2001; 66 FR 35106, July 3, 2001; 67 FR 6815, Feb. 13, 2002; 67 FR 6991, Feb. 14, 2002; 67 FR 77691, Dec. 19, 2002; 70 FR 59548, Oct. 12, 2005; 73 FR 18981, Apr. 8, 2008]

NOTIFICATION, REPORTING AND RECORDKEEPING

§ 63.1210 What are the notification requirements?

(a) *Summary of requirements.* (1) You must submit the following notifications to the Administrator:

Reference	Notification
63.9(b)	Initial notifications that you are subject to Subpart EEE of this Part.
63.9(d)	Notification that you are subject to special compliance requirements.
63.9(j)	Notification and documentation of any change in information already provided under § 63.9.
63.1206(b)(5)(i)	Notification of changes in design, operation, or maintenance.
63.1206(c)(7)(ii)(C)	Notification of excessive bag leak detection system exceedances.
63.1207(e), 63.9(e) 63.9(g)(1) and (3).	Notification of performance test and continuous monitoring system evaluation, including the performance test plan and CMS performance evaluation plan. ¹
63.1210(b)	Notification of intent to comply.
63.1210(d), 63.1207(j), 63.1207(k), 63.1207(l), 63.9(h), 63.10(d)(2), 63.10(e)(2).	Notification of compliance, including results of performance tests and continuous monitoring system performance evaluations.

¹ You may also be required on a case-by-case basis to submit a feedstream analysis plan under § 63.1209(c)(3).

(2) You must submit the following notifications to the Administrator if you request or elect to comply with alternative requirements:

Reference	Notification, request, petition, or application
63.9(i)	You may request an adjustment to time periods or postmark deadlines for submittal and review of required information.
63.10(e)(3)(ii)	You may request to reduce the frequency of excess emissions and CMS performance reports.
63.10(f)	You may request to waive recordkeeping or reporting requirements.
63.1204(d)(2)(iii). 63.1220(d)(2)(iii).	Notification that you elect to comply with the emission averaging requirements for cement kilns with in-line raw mills.