TABLE I.—INTERFERENCE TEST GAS CONCENTRATIONS IN NITROGEN

Gas	Concentration
Carbon Monoxide	500±50 ppm.
Carbon Dioxide	10±1 percent.
Oxygen	20.9±1 percent.
Sulfur Dioxide	500±50 ppm.
Nitrogen Dioxide	250±25 ppm.
Water Vapor	25±5 percent.
Hydrogen Chloride (HCl)	50±5 ppm.
Chlorine (Cl_2)	10±1 ppm.

4.8 Calibration Source Requirements for Assessment of Calibration Error. The calibration source must permit the introduction of known (NIST traceable) and repeatable concentrations of elemental mercury (Hg(0)) and mercuric chloride ($HgCl_2$) into the sampling system of the CEMS. The CEMS manufacturer shall document the performance of the calibration source, and submit this documentation and a calibration protocol to the administrator for approval. Determination of CEMS calibration error must then be made in using the approved calibration source and in accordance with the approved protocol.

4.8.1 Design Considerations. The calibration source must be designed so that the flowrate of calibration gas introduced to the CEMS is the same at all three calibration levels specified in Section 4.3 and at all times exceeds the flow requirements of the CEMS.

4.8.2 Calibration Precision. A series of three injections of the same calibration gas, at any dilution, shall produce results which do not vary by more than ±5 percent from the mean of the three injections. Failure to attain this level of precision is an indication of a problem in the calibration system or the CEMS. Any such problem must be identified and corrected before proceeding.

5. Performance Specification Test Procedure

5.1 Pretest Preparation. Install the CEMS and prepare the RM test site according to the specifications in Section 3, and prepare the CEMS for operation according to the manufacturer's written instructions.

5.2 Calibration and Zero Drift Test Period. While the affected facility is operating at more than 50 percent of normal load, or as specified in an applicable subpart, determine the magnitude of the calibration drift (CD) and zero drift (ZD) once each day (at 24-hour intervals) for 7 consecutive days according to the procedure given in Section 6. To meet the requirements of Sections 4.4 and 4.5 none of the CD's or ZD's may exceed the specification. All CD determinations must be made following a 24-hour period during which no unscheduled maintenance, repair, or manual adjustment of the CEMS took place.

5.3 CE Test Period. Conduct a CE test prior to the CD test period. Conduct the CE test according to the procedure given in Section 8.

5.4 CEMS Interference Response Test Period. Conduct an interference response test in conjunction with the CE test according to the procedure given in Section 9.

5.5 RA Test Period. Conduct a RA test following the CD test period. Conduct the RA test according to the procedure given in Section 7 while the affected facility is operating at more than 50 percent of normal load, or as specified in the applicable subpart.

6.0 The CEMS Calibration and Zero Drift Test Procedure

This performance specification is designed to allow calibration of the CEMS by use of standard solutions, filters, etc. that challenge the pollutant analyzer part of the CEMS (and as much of the whole system as possible), but which do not challenge the entire CEMS, including the sampling interface. Satisfactory response of the entire system is covered by the RA and CE requirements.

The CD measurement is to verify the ability of the CEMS to conform to the established CEMS calibration used for determining the emission concentration. Therefore, if periodic automatic or manual adjustments are made to the CEMS zero and calibration settings, conduct the CD test immediately before the adjustments, or conduct it in such a way that the CD and ZD can be determined.

Conduct the CD and ZD tests at the points specified in Sections 4.4 and 4.5. Record the CEMS response and calculate the CD according to:

$$CD = \frac{(R_{CEM} - R_V)}{R_V} \times 100, \quad (1)$$

Where CD denotes the calibration drift of the CEMS in percent, R_{CEM} is the CEMS response, and R_V is the reference value of the high level calibration standard. Calculate the ZD according to:

$$ZD = \frac{(R_{CEM} - R_V)}{R_{EM}} \times 100, \quad (2)$$

Where ZD denotes the zero drift of the CEMS in percent, R_{CEM} is the CEMS response, R_V is the reference value of the low level calibration standard, and R_{EM} is the emission limit value.

7. Relative Accuracy Test Procedure

7.1 Sampling Strategy for RA Tests. The RA tests are to verify the initial performance of the entire CEMS system, including the sampling interface, by comparison to RM measurements. Conduct the RM measurements in such a way that they will yield results representative of the emissions from the source and can be correlated to the CEMS data. Although it is preferable to conduct the diluent (if applicable), moisture (if needed), and pollutant measurements simultaneously, the diluent and moisture measurements that are taken within a 30 to 60-minute period, which includes the pollutant measurements, may be used to calculate dry pollutant concentration.

A measure of relative accuracy at a single level that is detectable by both the CEMS and the RM is required.

In order to correlate the CEMS and RM data properly, note the beginning and end of each RM test period of each run (including the exact time of day) in the CEMS data log.

7.2 Correlation of RM and CEMS Data. Correlate the CEMS and RM test data as to the time and duration by first determining from the CEMS final output (the one used for reporting) the integrated average pollutant concentration for each RM test period. Consider system response time, if important, and confirm that the pair of results are on a consistent moisture, temperature, and diluent concentration basis. Then compare each integrated CEMS value against the corresponding average RM value.

7.3 Number of tests. Obtain a minimum of three pairs of CEMS and RM measurements. If more than nine pairs of measurements are obtained, then up to three pairs of measurements may be rejected so long as the total number of measurement pairs used to determine the RA is greater than or equal to nine. However, all data, including the rejected data, must be reported.

7.4 Reference Methods. Unless otherwise specified in an applicable subpart of the regulations, Method 3B, or its approved alternative, is the reference method for diluent (O_2) concentration. Unless otherwise specified in an applicable subpart of the regulations, the manual method for multi-metals in 40 CFR part 266, Appendix IX, Section 3.1 (until superseded by SW–846), or its approved alternative, is the reference method for mercury.

7.5 Calculations. Summarize the results on a data sheet. An example is shown in Figure 2–2 of 40 CFR part 60, Appendix B, Performance Specification 2. Calculate the mean of the RM values. Calculate the arithmetic differences between the RM and CEMS output sets, and then calculate the mean of the differences. Calculate the standard deviation of each data set and CEMS RA using the equations in Section 10.

8. Calibration Error Test Procedure

8.1 Sampling Strategy. The CEMS calibration error shall be assessed using calibration sources of elemental mercury and mercuric chloride in turn (see Section 4.8 for calibration source requirements). Challenge the CEMS at the measurement levels specified in Section 4.3. During the test, operate the CEMS as nearly as possible in its normal operating mode. The calibration gases should be injected into the sampling system as close to the sampling probe outlet as practical and shall pass through all filters, scrubbers, conditioners, and other monitor components used during normal sampling.

8.2 Number of tests. Challenge the CEMS three non-consecutive times at each measurement point and record the responses. The duration of each challenge should be for a sufficient period of time to ensure that the CEMS surfaces are conditioned and a stable output obtained.

8.3 Calculations. Summarize the results on a data sheet. Calculate the mean difference between the CEMS response and the known reference concentration at each measurement point according to equations 5 and 6 of Section 10. The calibration error (CE) at each measurement point is then given by

$$CE = |d / R_V| \times 100, \quad (3)$$

Where R_V is the reference concentration value.

9. Interference Response Test Procedure

9.1 Test Strategy. Perform the interference response test while the CEMS is being challenged by the high level calibration source for mercury (after the CE determination has been made), and again while the CEMS is being challenged by the high level calibration source for mercuric chloride (after the CE determination has been made). The interference test gases should be injected into the sampling system as close to the sampling probe outlet as practical and shall pass through all filters, scrubbers, conditioners, and other monitor components used during normal sampling.

9.2 Number of tests. Introduce the interference test gas three times alternately with the high-level calibration gas and record the responses both with and without the interference test gas. The duration of each test should be for a sufficient period of time to ensure that the CEMS surfaces are conditioned and a stable output obtained.

9.3 Calculations. Summarize the results on a data sheet. Calculate the mean difference between the CEMS response with and without the interference test gas by taking the average of the CEMS responses with and without the interference test gas (see equation 5) and then taking the difference (d). The percent interference (I) is then given by:

$$I = |d / R_{HL}| \times 100, \quad (4)$$

Where R_{HL} is the value of the high-level calibration standard. If the gaseous components of the interference test gas are introduced separately, then the total interference is the sum of the individual interferences.

10. Equations

10.1 Arithmetic Mean. Calculate the arithmetic mean of a data set as follows:

$$\bar{x} = \frac{1}{n}\sum_{i=1}^{n} x_i, \quad (5)$$

Where n is equal to the number of data points.

10.1.1 Calculate the arithmetic mean of the difference, d, of a data set, using Equation 5 and substituting d for x. Then

$$d_i = x_i - y_i, \quad (6)$$

Where x and y are paired data points from the CEMS and RM, respectively.

10.2 Standard Deviation. Calculate the standard deviation (SD) of a data set as follows:

$$SD = \sqrt{\frac{\sum_{i=1}^{n} x_i^2 - \frac{1}{n}\left(\sum_{i=1}^{n} x_i\right)^2}{n-1}}, \quad (7)$$

10.3 Relative Accuracy (RA). Calculate the RA as follows:

$$RA = \frac{\bar{d} + \frac{t_{0.975}(SD)}{\sqrt{n}}}{\bar{R}_{RM}} \quad (8)$$

Where $\bar{d}$ is equal to the arithmetic mean of the difference, d, of the paired CEMS and RM data set, calculated according to Equations 5 and 6, SD is the standard deviation calculated according to Equation 7, $\bar{R}_{RM}$ is equal to either the average of the RM data set, calculated according to Equation 5, or the value of the emission standard, as applicable (see Section 4.2), and $t_{0.975}$ is the t-value at 2.5 percent error confidence, see Table II.

TABLE II
[t-Values]

n^a	$t_{0.975}$	n_a	$t_{0.975}$	n^a	$t_{0.975}$
2	12.706	7	2.447	12	2.201
3	4.303	8	2.365	13	2.179
4	3.182	9	2.306	14	2.160
5	2.776	10	2.262	15	2.145
6	2.571	11	2.228	16	2.131

[a] The values in this table are already corrected for n-1 degrees of freedom. Use n equal to the number of individual values.

11. Reporting

At a minimum (check with the appropriate regional office, or State, or local agency for additional requirements, if any) summarize in tabular form the results of the CE, interference response, CD and RA tests. Include all data sheets, calculations, and records of CEMS response necessary to substantiate that the performance of the CEMS met the performance specifications.

The CEMS measurements shall be reported to the agency in units of $\mu g/m^3$ on a dry basis, corrected to 20 °C and 7 percent O_2.

12. Bibliography

1. 40 CFR Part 60, Appendix B, "Performance Specification 2—Specifications and Test Procedures for SO_2 and NO_X Continuous Emission Monitoring Systems in Stationary Sources."

2. 40 CFR Part 60, Appendix B, "Performance Specification 1—Specification and Test Procedures for Opacity Continuous Emission Monitoring Systems in Stationary Sources."

3. 40 CFR Part 60, Appendix A, "Method 1—Sample and Velocity Traverses for Stationary Sources."

4. 40 CFR Part 266, Appendix IX, Section 2, "Performance Specifications for Continuous Emission Monitoring Systems."

5. Draft Method 29, "Determination of Metals Emissions from Stationary Sources," Docket A–90–45, Item II–B–12, and EMTIC CTM–012.WPF.

6. "Continuous Emission Monitoring Technology Survey for Incinerators, Boilers, and Industrial Furnaces: Final Report for Metals CEM's," prepared for the Office of Solid Waste, U.S. EPA, Contract No. 68–D2–0164 (4/25/94).

7. 40 CFR Part 60, Appendix A, Method 16, "Semicontinuous Determination of Sulfur Emissions from Stationary Sources."

8. 40 CFR Part 266, Appendix IX, Performance Specification 2.2, "Performance Specifications for Continuous Emission Monitoring of Hydrocarbons for Incinerators, Boilers, and Industrial Furnaces Burning Hazardous Waste."

Performance Specification 13—Specifications and test procedures for hydrochloric acid continuous monitoring systems in stationary sources

1. Applicability and Principle

1.1 Applicability. This specification is to be used for evaluating the acceptability of hydrogen chloride (HCl) continuous emission monitoring systems (CEMS) at the time of or soon after installation and whenever specified in the pertinent regulations. Some source specific regulations require the simultaneous operation of diluent monitors. These may be O_2 or CO_2 monitors.

This specification does not evaluate the performance of installed CEMS over extended periods of time. The specification does not identify specific calibration techniques or other auxiliary procedures that will assess the CEMS performance. Section 114 of the Act authorizes the administrator to require the operator of the CEMS to conduct performance evaluations at times other than immediately following the initial installation.

This specification is only applicable to monitors that unequivocally measure the concentration of HCl in the gas phase. It is not applicable to CEMS that do not measure gas phase HCl, per se, or CEMS that may have significant interferences. The Administrator believes that HCl CEMS must measure the concentration of gaseous HCl thereby eliminating interferences from volatile inorganic and/or organic chlorinated compounds. CEMS that are based upon infrared measurement techniques, non-dispersive infrared (NDIR), gas filter correlation infrared (GFC–IR) and Fourier Transform infrared (FTIR) are examples of acceptable measurement techniques. Other measurement techniques that unequivocally

measure the concentration of HCl in the gas phase may also be acceptable.

1.2 Principle. This specification includes installation and measurement location specifications, performance and equipment specifications, test procedures, and data reduction procedures. This specification also provides definitions of acceptable performance.

This specification stipulates that audit gas tests and calibration drift tests be used to assess the performance of the CEMS. The determination of the accuracy with which the CEMS measures HCl is measured by challenging the CEMS with audit gas of known concentration. There is no absolute determination of interference with the measurement of gas phase HCl with other constituents in the stack gases.

2. Definitions

2.1 Continuous Emission Monitoring System. The total equipment required for the determination of the concentration of a gas or its emission rate. The CEMS consist of the following subsystems:

2.1.1 Sample Interface. That portion of the CEMS used for one or more of the following: sample acquisition, sample transportation, sample conditioning, and protection of the monitor from the effects of the stack effluent.

2.1.2 Pollutant Analyzer. That portion of the CEMS that senses the pollutant gas and generates an output that is proportional to the gas concentration.

2.1.3 Diluent Analyzer. That portion of the CEMS that senses the concentration of the diluent gas (e.g., CO_2 or O_2) and generates an output that is proportional to the concentration of the diluent.

2.1.4 Data Recorder. That portion of the CEMS that provides a permanent record of the analyzer output. The data recorder may include automatic data reduction capabilities.

2.2 Point CEMS. A CEMS that measures the gas concentration either at a single point or along a path equal to or less than 10 percent of the equivalent diameter of the stack or duct cross section. The equivalent diameter must be determined as specified in Appendix A, Method 1 of this Part.

2.3 Path CEMS. A CEMS that measures the gas concentration along a path greater than 10 percent of the equivalent diameter (Appendix A, Method 1) of the stack of duct cross section.

2.4 Span Value. The upper limit of a gas concentration measurement range specified for affected source categories in the applicable subpart of the regulations. The span value shall be documented by the CEMS manufacturer with laboratory data.

2.5 Accuracy. A measurement of agreement between a measured value and an accepted or true value, expressed as the percentage difference between the true and measured values relative to the true value. For these performance specifications, accuracy is checked by conducting a calibration error (CE) test.

2.6 Calibration Error (CE). The difference between the concentration indicated by the CEMS and the known concentration of the cylinder gas. A CE test procedure is performed to document the accuracy and linearity of the monitoring equipment over the entire measurement range.

2.7 Calibration Drift. (CD). The difference between the CEMS output and the concentration of the calibration gas after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place.

2.8 Centroidal Area. A concentric area that is geometrically similar to the stack or duct cross section is no greater than 1 percent of the stack or duct cross-sectional area.

2.9 Representative Results. Defined by the RM test procedure outlined in this specification.

3. Installation and Measurement Location Specifications

3.1 CEMS Installation and Measurement Locations. The CEMS shall be installed in a location in which measurements representative of the source's emissions can be obtained. The optimum location of the sample interface for the CEMS is determined by a number of factors, including ease of access for calibration and maintenance, the degree to which sample conditioning will be required, the degree to which it represents total emissions, and the degree to which it represents the combustion situation in the firebox. The location should be as free from in-leakage influences as possible and reasonably free from severe flow disturbances. The sample location should be at least two equivalent duct diameters downstream from the nearest control device, point of pollutant generation, or other point at which a change in the pollutant concentration or emission rate occurs and at least 0.5 diameter upstream from the exhaust or control device. The equivalent duct diameter is calculated as per 40 CFR part 60, appendix A, method 1, section 2.1. If these criteria are not achievable or if the location is otherwise less than optimum, the possibility of stratification should be investigated as described in section 3.2. The measurement point shall be within the centroidal area of the stack or duct cross section.

3.1.1 Point CEMS. It is suggested that the measurement point be (1) no less than 1.0 meter from the stack or duct wall or (2) within or centrally located over the centroidal area of the stack or duct cross section.

3.1.2 Path CEMS. It is suggested that the effective measurement path (1) be totally within the inner area bounded by a line 1.0 meter from the stack or duct wall, or (2) have at least 70 percent of the path within the inner 50 percent of the stack or duct cross-sectional area.

3.2 Stratification Test Procedure. Stratification is defined as a difference in excess of 10 percent between the average concentration in the duct or stack and the concentration at any point more than 1.0 meter from the duct or stack wall. To determine whether effluent stratification exists, a dual probe system should be used to determine the average effluent concentration while measurements at each traverse point are being made. One probe, located at the stack or duct centroid, is used as a stationary reference point to indicate the change in effluent concentration over time. The second probe is used for sampling at the traverse points specified in 40 CFR part 60 appendix A, method 1. The monitoring system samples sequentially at the reference and traverse points throughout the testing period for five minutes at each point.

4. Performance and Equipment Specifications

4.1 Data Recorder Scale. The CEMS data recorder response range must include zero and a high-level value. The high-level value is chosen by the source owner or operator and is defined as follows:

For a CEMS intended to measure an uncontrolled emission (e.g., at the inlet of a scrubber) the high-level value must be between 1.25 and 2.0 times the average potential emission concentration, unless another value is specified in an applicable subpart of the regulations. For a CEMS installed to measure controlled emissions or emissions that are in compliance with an applicable regulation, the high-level value must be between 1.5 times the HCl concentration corresponding to the emission standard level and the span value. If a lower high-level value is used, the operator must have the capability of requirements of the applicable regulations.

The data recorder output must be established so that the high-level value is read between 90 and 100 percent of the data recorder full scale. (This scale requirement may not be applicable to digital data recorders.) The calibration gas, optical filter or cell values used to establish the data recorder scale should produce the zero and high-level values. Alternatively, a calibration gas, optical filter, or cell value between 50 and 100 percent of the high-level value may be used in place of the high-level value, provided that the data recorder full-scale requirements as described above are met.

The CEMS design must also allow the determination of calibration drift at the zero and high-level values. If this is not possible or practicable, the design must allow these determinations to be conducted at a low-level value (zero to 20 percent of the high-level value) and at a value between 50 and 100 percent of the high-level value.

4.2 Calibration Drift. The CEMS calibration must not drift or deviate from the reference value of the gas cylinder, gas cell, or optical filter by more than 2.5 percent of the span value. If the span value of the CEMS is 20 ppm or less then the calibration drift must be less than 0.5 parts per million, for 6 out of 7 test days.

If the CEMS includes both HCl and diluent monitors, the calibration drift must be determined separately for each in terms of concentrations (see PS 3 for the diluent specifications).

4.3 Calibration Error (CE). Calibration error is assessed using EPA protocol 1 cyinder gases for HCl. The mean difference between the indicated CEMS concentration and the reference concentration value for each standard at all three test levels indicated below shall be no greater than 15 percent of the reference concentration at each level.

4.3.1 Zero Level. Zero to twenty (0–20) percent of the emission limit.

4.3.2 Mid Level. Forty to sixty (40–60) percent of the emission limit.

4.3.3 High Level. Eighty to one-hundred and twenty (80–120) percent of the emission limit.

4.4 CEMS Interference Response Test. Introduce the gaseous components listed in Table PS HCl–1 into the measurement system of the CEMS, while the measurement system is measuring the concentration of HCl in a calibration gas. These components may be introduced separately or as gas mixtures. Adjust the HCl calibration gas and gaseous component flow rates so as to maintain a constant concentration of HCl in the gas mixture being introduced into the measurement system. Record the change in the measurement system response to the HCl on a form similar to Figure PS HCl–1. If the sum of the interferences is greater than 2 percent of the applicable span concentration, take corrective action to eliminate the interference.

TABLE PS HCL–1.—INTERFERENCE TEST GASES CONCENTRATIONS

Gas	Concentration
Carbon Monoxide	500±50 ppm.
Carbon Dioxide	10±1 percent.
Oxygen	20.9±1 percent.
Sulfur Dioxide	500±50 ppm.
Water Vapor	25±5 percent.
Nitrogen Dioxide	250±25 ppm.

Figure PS HCl–1—Interference Response

Date of Test _____

Analyzer Type _____

Serial Number _____

HCl—CALIBRATION GAS CONCENTRATION

Test gas	Concentration	Analyzer response	Analyzer error	Percent of span

Conduct an interference response test of each analyzer prior to its initial use in the field. Thereafter, re-check the measurement system if changes are made in the instrumentation that could alter the interference response, e.g., changes in the type of gas detector.

4.5 Sampling and Response Time. The CEMS shall sample the stack effluent continuously. Averaging time, the number of measurements in an average, and the averaging procedure for reporting and determining compliance shall conform with that specified in the applicable emission regulation.

4.5.1 Response Time. The response time of the CEMS should not exceed 2 minutes to achieve 95 percent of the final stable value. The response time shall be documented by the CEMS manufacturer.

4.5.2 Waiver from Response Time Requirement. A source owner or operator may receive a waiver from the response time requirement for instantaneous, continuous CEMS in section 4.5.1 from the Agency if no CEM is available which can meet this specification at the time of purchase of the CEMS.

4.5.3 Response Time for Batch CEMS. The response time requirement of Section 4.5.1 does not apply to batch CEMS. Instead it is required that the sampling time be no longer than one third of the averaging period for the applicable standard. In addition, the delay between the end of the sampling time and reporting of the sample analysis shall be no greater than one hour. Sampling is also required to be continuous except in that the pause in sampling when the sample collection media are changed should be no greater than five percent of the averaging period or five minutes, whichever is less.

5. Performance Specification Test Procedure

5.1 Pretest Preparation. Install the CEMS, prepare the RM test site according to the specifications in Section 3, and prepare the CEMS for operation according to the manufacturer's written instructions.

5.2 Calibration Drift Test Period. While the affected facility is operating at more than 50 percent of normal load, or as specified in an applicable subpart, determine the magnitude of the calibration drift (CD) once each day (at 24-hour intervals) for 7 consecutive days, according to the procedure given in Section 6. The CD may not exceed the specification given in Section 4.2.

5.3 CE Test Period. Conduct a CE test prior to the CD test period. Conduct the CE test according to the procedure given in section 7.

6. The CEMS Calibration Drift Test Procedure

The CD measurement is to verify the ability of the CEMS to conform to the established CEMS calibration used for determining the emission concentration or emission rate. Therefore, if periodic automated or manual adjustments are made to the CEMS zero and calibration settings, conduct the CD test immediately before these adjustments, or conduct it in such a way that the CD can be determined.

Conduct the CD test at the two points specified in Section 4.1. Introduce the reference gases, gas cells or optical filters (these need not be certified) to the CEMS. Record the CEMS response and subtract this value from the reference value (see the example data sheet in Figure 2–1).

7. Calibration Error Test Procedure

7.1 Sampling Strategy. The CEMS calibration error shall be assessed using the calibration source specified in Section 4.3. Challenge the CEMS at the measurement levels specified in Section 4.3. During the test, operate the CEMS as nearly as possible in its normal operating mode. The calibration gases should be injected into the sampling system as close to the sampling probe outlet as practical and shall pass through all filters, scrubbers, conditioners, and other monitor components used during normal sampling.

7.2 Number of tests. Challenge the CEMS three non-consecutive times at each measurement point and record the responses. The duration of each challenge should be for a sufficient period of time to ensure that the CEMS surfaces are conditioned and a stable output obtained.

7.3 Calculations. Summarize the results on a data sheet. Calculate the mean difference between the CEMS response and the known reference concentration at each measurement point according to equations 1 and 2 of Section 8. The calibration error (CE) at each measurement point is then given by:

$$CE = |d / r_V| \times 100, \quad (1)$$

Where R_V is the reference concentration value.

8. Equations

8.1 Arithmetic Mean. Calculate the arithmetic mean of the difference, d, of a data set as follows:

$$\bar{d} = \frac{1}{n}\sum_{i=1}^{n} d_i \quad (2)$$

Where:
n=number of data points.

$$\sum_{i=1}^{n} d_i = \text{Algebraic sum of the individual differences } d_i$$

When the mean of the differences of pairs of data is calculated, be sure to correct the data for moisture, if applicable.

9. Reporting

At a minimum (check with the appropriate regional office, or State, or local agency for additional requirements, if any) summarize in tabular form the results of the CD tests and the relative accuracy tests or alternative RA procedure as appropriate. Include all data sheets, calculations, charts (records of CEMS responses), cylinder gas concentration certifications (if applicable), necessary to substantiate that the performance of the CEMS met the performance specifications.

Performance Specifications 14—Specifications and test procedures for chlorine continuous monitoring systems in stationary sources.

1. Applicability and Principle

1.1 Applicability. This specification is to be used for evaluating the acceptability of chlorine (Cl_2) continuous emission monitoring systems (CEMS) at the time of or soon after installation and whenever specified in the regulations. This performance specification applies only to those CEMS capable of directly measuring the gas phase concentration of the chlorine (Cl_2) molecule. The CEMS may include, for certain stationary sources, a) a diluent (O_2) monitor (which must meet its own performance specifications: 40 CFR part 60, Appendix B, Performance Specification 3), b) flow monitoring equipment to allow measurement of the dry volume of stack effluent sampled, and c) an automatic sampling system.

This specification is not designed to evaluate the installed CEMS' performance over an extended period of time nor does it identify specific calibration techniques and auxiliary procedures to assess the CEMS' performance. The source owner or operator, however, is responsible to properly calibrate, maintain, and operate the CEMS. To evaluate the CEMS' performance, the Administrator may require, under Section 114 of the Act, the operator to conduct CEMS performance evaluations at other times besides the initial test.

1.2 Principle. Installation and measurement location specifications, performance specifications, test procedures, and data reduction procedures are included in this specification. Calibration error tests, and calibration drift tests, and interferant tests are conducted to determine conformance of the CEMS with the specification. Calibration error is assessed with cylinder gas standards for chlorine. The ability of the CEMS to provide an accurate measure of chlorine concentration in the flue gas of the facility at which it is installed is demonstrated by comparison to manual reference method measurements.

2. Definitions

2.1 Continuous Emission Monitoring System (CEMS). The total equipment required for the determination of a pollutant concentration. The system consists of the following major subsystems:

2.1.1 Sample Interface. That portion of the CEMS used for one or more of the following: sample acquisition, sample transport, and sample conditioning, or protection of the monitor from the effects of the stack effluent.

2.1.2 Pollutant Analyzer. That portion of the CEMS that senses the pollutant concentration(s) and generates a proportional output.

2.1.3 Diluent Analyzer (if applicable). That portion of the CEMS that senses the diluent gas (O_2) and generates an output proportional to the gas concentration.

2.1.4 Data Recorder. That portion of the CEMS that provides a permanent record of the analyzer output. The data recorder may provide automatic data reduction and CEMS control capabilities.

2.2 Point CEMS. A CEMS that measures the pollutant concentrations either at a single point or along a path equal to or less than 10 percent of the equivalent diameter of the stack or duct cross section.

2.3 Path CEMS. A CEMS that measures the pollutant concentrations along a path greater than 10 percent of the equivalent diameter of the stack or duct cross section.

2.4 Span Value. The upper limit of a pollutant concentration measurement range defined as twenty times the applicable emission limit. The span value shall be documented by the CEMS manufacturer with laboratory data.

2.5 Accuracy. A measurement of agreement between a measured value and an accepted or true value, expressed as the percentage difference between the true and measured values relative to the true value. For these performance specifications, accuracy is checked by conducting a calibration error (CE) test.

2.6 Calibration Drift (CD). The difference in the CEMS output readings from the established reference value after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place.

2.7 Zero Drift (ZD). The difference in the CEMS output readings for zero input after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place.

2.8 Representative Results. Defined by the RA test procedure defined in this specification.

2.9 Response Time. The time interval between the start of a step change in the system input and the time when the pollutant analyzer output reaches 95 percent of the final value.

2.10 Centroidal Area. A concentric area that is geometrically similar to the stack or duct cross section and is no greater than 1 percent of the stack or duct cross sectional area.

2.11 Calibration Standard. Calibration standards consist of a known amount of pollutant that is presented to the pollutant analyzer portion of the CEMS in order to calibrate the drift or response of the analyzer. The calibration standard may be, for example, a gas sample containing known concentration.

2.12 Calibration Error (CE). The difference between the concentration indicated by the CEMS and the known concentration generated by a calibration source when the entire CEMS, including the sampling interface) is challenged. A CE test procedure is performed to document the accuracy and linearity of the CEMS over the entire measurement range.

3. Installation and Measurement Location Specifications

3.1 CEMS Installation and Measurement Locations. The CEMS shall be installed in a location in which measurements representative of the source's emissions can be obtained. The optimum location of the sample interface for the CEMS is determined by a number of factors, including ease of access for calibration and maintenance, the degree to which sample conditioning will be required, the degree to which it represents total emissions, and the degree to which it represents the combustion situation in the firebox. The location should be as free from in-leakage influences as possible and reasonably free from severe flow disturbances. The sample location should be at least two equivalent duct diameters downstream from the nearest control device, point of pollutant generation, or other point at which a change in the pollutant concentration or emission rate occurs and at least 0.5 diameter upstream from the exhaust or control device. The equivalent duct diameter is calculated as per 40 CFR part 60, appendix A, method 1, section 2.1. If these criteria are not achievable or if the location is otherwise less than optimum, the possibility of stratification should be investigated as described in section 3.2. The measurement point shall be within the centroidal area of the stack or duct cross section.

3.1.1 Point CEMS. It is suggested that the measurement point be (1) no less than 1.0 meter from the stack or duct wall or (2) within or centrally located over the centroidal area of the stack or duct cross section.

3.1.2 Path CEMS. It is suggested that the effective measurement path (1) be totally within the inner area bounded by a line 1.0 meter from the stack or duct wall, or (2) have at least 70 percent of the path within the inner 50 percent of the stack or duct cross-sectional area.

3.2 Stratification Test Procedure. Stratification is defined as a difference in

excess of 10 percent between the average concentration in the duct or stack and the concentration at any point more than 1.0 meter from the duct or stack wall. To determine whether effluent stratification exists, a dual probe system should be used to determine the average effluent concentration while measurements at each traverse point are being made. One probe, located at the stack or duct centroid, is used as a stationary reference point to indicate the change in effluent concentration over time. The second probe is used for sampling at the traverse points specified in 40 CFR part 60 appendix A, method 1. The monitoring system samples sequentially at the reference and traverse points throughout the testing period for five minutes at each point.

4. Performance and Equipment Specifications

4.1 Data Recorder Scale. The CEMS data recorder response range must include zero and a high level value. The high level value must be equal to the span value. If a lower high level value is used, the CEMS must have the capability of providing multiple outputs with different high level values (one of which is equal to the span value) or be capable of automatically changing the high level value as required (up to the span value) such that the measured value does not exceed 95 percent of the high level value.

4.2 Relative Accuracy (RA). The RA of the CEMS must be no greater than 20 percent of the mean value of the RM test data in terms of units of the emission standard, or 10 percent of the applicable standard, whichever is greater.

4.3 Calibration Error. Calibration error is assessed using certified NIST traceable cylinder gas standards for chlorine. The mean difference between the indicated CEMS concentration and the reference concentration shall be no greater than ±15 percent of the reference concentration. The reference concentration shall be the greater of 80 to 120 percent of the applicable emission standard or 50 ppm Cl_2, in nitrogen.

4.4 Calibration Drift. The CEMS design must allow the determination of calibration drift at concentration levels commensurate with the applicable emission standard. The CEMS calibration may not drift or deviate from the reference value (RV) of the calibration standard by more than 2 percent of the reference value. The calibration shall be performed at a level equal to 80 to 120 percent of the applicable emission standard.

4.5 Zero Drift. The CEMS design must allow the determination of calibration drift at the zero level (zero drift). The CEMS zero point shall not drift by more than 2 percent of the emission standard.

4.6 Sampling and Response Time. The CEMS shall sample the stack effluent continuously. Averaging time, the number of measurements in an average, and the averaging procedure for reporting and determining compliance shall conform with that specified in the applicable emission regulation.

4.6.1 Response Time. The response time of the CEMS should not exceed 2 minutes to achieve 95 percent of the final stable value. The response time shall be documented by the CEMS manufacturer.

4.7 CEMS Interference Response. While the CEMS is measuring the concentration of chlorine in the high-level calibration source used to conduct the CE test, the gaseous components (in nitrogen) listed in Table I shall be introduced into the measurement system either separately or in combination. The interference test gases must be introduced in such a way as to cause no change in the calibration concentration of chlorine being delivered to the CEMS. The concentrations listed in the table are the target levels at the sampling interface of the CEMS based on the known cylinder gas concentrations and the extent of dilution (see Section 9). Interference is defined as the difference between the CEMS response with these components present and absent. The sum of the interferences must be less than 2 percent of the emission limit value. If this level of interference is exceeded, then corrective action to eliminate the interference(s) must be taken.

TABLE I.—INTERFERENCE TEST GAS CONCENTRATIONS IN NITROGEN

Gas	Concentration
Carbon Monoxide	500 ± 50 ppm.
Carbon Dioxide	10 ± 1 percent.
Oxygen	20.9 ± 1 percent.
Sulfur Dioxide	500 ± 50 ppm.
Nitrogen Dioxide	250 ± 25 ppm.
Water Vapor	25 ± 5 percent.
Hydrogen Chloride (HCl)	50 ± 5 ppm.

5. Performance Specification Test Procedure

5.1 Pretest Preparation. Install the CEMS and prepare the RM test site according to the specifications in Section 3, and prepare the CEMS for operation according to the manufacturer's written instructions.

5.2 Calibration and Zero Drift Test Period. While the affected facility is operating at more than 50 percent of normal load, or as specified in an applicable subpart, determine the magnitude of the calibration drift (CD) and zero drift (ZD) once each day (at 24-hour intervals) for 7 consecutive days according to the procedure given in Section 6. To meet the requirements of Sections 4.4 and 4.5 none of the CD's or ZD's may exceed the specification. All CD determinations must be made following a 24-hour period during which no unscheduled maintenance, repair, or manual adjustment of the CEMS took place.

5.3 CE Test Period. Conduct a CE test prior to the CD test period. Conduct the CE test according to the procedure given in Section 8.

5.4 CEMS Interference Response Test Period. Conduct an interference response test in conjunction with the CE test according to the procedure given in Section 9.

6.0 The CEMS Calibration and Zero Drift Test Procedure

This performance specification is designed to allow calibration of the CEMS by use of gas samples, filters, etc, that challenge the pollutant analyzer part of the CEMS (and as much of the whole system as possible), but which do not challenge the entire CEMS, including the sampling interface. Satisfactory response of the entire system is covered by the RA and CE requirements.

The CD measurement is to verify the ability of the CEMS to conform to the established CEMS calibration used for determining the emission concentration. Therefore, if periodic automatic or manual adjustments are made to the CEMS zero and calibration settings, conduct the CD test immediately before the adjustments, or conduct it in such a way that the CD and ZD can be determined.

Conduct the CD and ZD tests at the points specified in Sections 4.4 and 4.5. Record the CEMS response and calculate the CD according to:

$$CD = \frac{(R_{CEM} - R_V)}{R_V} \times 100, \quad (1)$$

Where CD denotes the calibration drift of the CEMS in percent, R_{CEM} is the CEMS response, and R_V is the reference value of the high level calibration standard. Calculate the ZD according to:

$$ZD = \frac{(R_{CEM} - R_V)}{R_{EM}} \times 100, \quad (2)$$

Where ZD denotes the zero drift of the CEMS in percent, R_{CEM} is the CEMS response, R_V is the reference value of the low level calibration standard, and R_{EM} is the emission limit value.

7. Calibration Error Test Procedure

7.1 Sampling Strategy. The CEMS calibration error shall be assessed using the calibration source specified in Section 4.3. Challenge the CEMS at the measurement levels specified in Section 4.3. During the test, operate the CEMS as nearly as possible in its normal operating mode. The calibration gases should be injected into the sampling system as close to the sampling probe outlet as practical and shall pass through all filters, scrubbers, conditioners, and other monitor components used during normal sampling.

7.2 Number of tests. Challenge the CEMS three non-consecutive times at each measurement point and record the responses. The duration of each challenge should be for a sufficient period of time to ensure that the CEMS surfaces are conditioned and a stable output obtained.

7.3 Calculations. Summarize the results on a data sheet. Calculate the mean difference between the CEMS response and the known reference concentration at each measurement point according to equations 5 and 6 of Section 10. The calibration error (CE) at each measurement point is then given by:

$$CE = |d / R_V| \times 100, \quad (3)$$

Where R_V is the reference concentration value.

8. Interference Response Test Procedure

8.1 Test Strategy. Perform the interference response test while the CEMS is being challenged by the high level calibration source (after the CE determination has been

made). The interference test gases should be injected into the sampling system as close to the sampling probe outlet as practical and shall pass through all filters, scrubbers, conditioners, and other monitor components used during normal sampling.

8.2 Number of tests. Introduce the interference test gas three times alternately with the high-level calibration gas and record the responses both with and without the interference test gas. The duration of each test should be for a sufficient period of time to ensure that the CEMS surfaces are conditioned and a stable output obtained.

8.3 Calculations. Summarize the results on a data sheet. Calculate the mean difference between the CEMS response with and without the interference test gas by taking the average of the CEMS responses with and without the interference test gas (see equation 5) and then taking the difference (d). The percent interference (I) is then given by:

$$I = \left| d / R_{HL} \right| \times 100, \quad (4)$$

Where R_{HL} is the value of the high-level calibration standard. If the gaseous components of the interference test gas are introduced separately, then the total interference is the sum of the individual interferences.

9. Equations

9.1 Arithmetic Mean. Calculate the arithmetic mean of a data set as follows:

$$\bar{x} = \frac{1}{n} \sum_{i=1}^{n} x_i, \quad (5)$$

Where n is equal to the number of data points.

9.1.1 Calculate the arithmetic mean of the difference, d, of a data set, using Equation 5 and substituting d for x. Then

$$d_i = x_i - y_i, \quad (6)$$

Where x and y are paired data points from the CEMS and RM, respectively.

10. Reporting

At a minimum (check with the appropriate regional office, or State, or local agency for additional requirements, if any) summarize in tabular form the results of the CE, interference response, CD and RA tests. Include all data sheets, calculations, and records of CEMS response necessary to substantiate that the performance of the CEMS met the performance specifications.

The CEMS measurements shall be reported to the agency in units of $\mu g/m^3$ on a dry basis, corrected to 20 °C and 7 percent O_2.

11. Bibliography

1. 40 CFR Part 60, Appendix B, "Performance Specification 2—Specifications and Test Procedures for SO_2 and NO_X Continuous Emission Monitoring Systems in Stationary Sources."

2. 40 CFR Part 60, Appendix B, "Performance Specification 1—Specification and Test Procedures for Opacity Continuous Emission Monitoring Systems in Stationary Sources."

3. 40 CFR Part 60, Appendix A, "Method 1—Sample and Velocity Traverses for Stationary Sources."

4. 40 CFR Part 266, Appendix IX, Section 2, "Performance Specifications for Continuous Emission Monitoring Systems."

5. "Continuous Emission Monitoring Technology Survey for Incinerators, Boilers, and Industrial Furnaces: Final Report for Metals CEM's," prepared for the Office of Solid Waste, U.S. EPA, Contract No. 68–D2–0164 (4/25/94).

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

II. In part 63:

1. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

2. Part 63 is revised by adding subpart EEE, to read as follows:

Subpart EEE—National Emission Standards for Hazardous Air Pollutants From Hazardous Waste Combustors

Sec.

Appendix to Subpart EEE—Quality Assurance Procedures for Continuous Emissions Monitors Used for Hazardous Waste Combustors

§ 63.1200 Applicability.

(a) The provisions of this subpart apply to all hazardous waste combustors (HWCs): hazardous waste incinerators, cement kilns that burn hazardous waste, and lightweight aggregate kilns that burn hazardous waste.

(b) HWCs are subject to the provisions of part 63 as major sources irrespective of the quantity of hazardous air pollutants emitted.

(c) When a HWC continues to operate when hazardous waste is neither being fed nor remains in the combustion chamber, the source remains subject to this subpart until hazardous waste burning is terminated.

(1) A source has terminated hazardous waste burning if:

(i) It has stopped feeding hazardous waste and hazardous waste does not remain in the combustion chamber;

(ii) The owner or operator notifies the Administrator in writing within 5 calendar days after hazardous waste burning has ceased that hazardous waste burning has terminated.

(2) A source that has terminated hazardous waste burning may resume hazardous waste burning provided that:

(i) It complies with requirements in this subpart for new sources; and

(ii) The owner and operator submits a notification of compliance based on comprehensive performance testing after burning has been resumed. Hazardous waste cannot be burned for more than 720 hours prior to submittal of the notification of compliance, and may be burned only for purposes of emissions testing in preparation for performance testing or performance testing.

(d) HWCs are also subject to applicable requirements under parts 260–270 of this chapter.

(e) The more stringent of requirements of an operating permit issued under part 270 of this chapter or the requirements of this subpart (and part) apply. If requirements of the operating permit issued under part 270 of this chapter conflict with any requirements of this subpart (and part 63), the requirements of this subpart (and part 63) take precedence.

(f) If the only hazardous wastes that a HWC burns are those exempt from regulation under § 266.100(b) of this chapter, the HWC is not subject to the requirements of this subpart.

(g) Waiver of emission standards. (1) Nondetect levels of Hg, SVM, or LVM in feedstreams. If no feedstream to a HWC contains detectable levels of Hg, SVM, or LVM, the HWC is not subject to the emission standards and ancillary performance testing, monitoring, notification, and recordkeeping and reporting requirements for those standards provided in this subpart. To be eligible for this waiver, the owner and operator must also develop and implement a feedstream sampling and analysis plan to document that no feedstream contains detectable levels of the metals.

(2) Nondetect levels of chlorine in feedstreams. If no feedstream to a HWC contains detectable levels of chlorine, the HWC is not subject to the HCl/Cl_2 emission standard and ancillary performance testing, monitoring, notification, and recordkeeping and reporting requirements for that standard in this subpart. To be eligible for this waiver, the owner and operator must also develop and implement a

feedstream sampling and analysis plan to document that no feedstream contains detectable levels of the chlorine.

§ 63.1201 Definitions.

The terms used in this part are defined in the Act, in subpart A of this part, or in this section as follows:

Air pollution control system means the equipment used to reduce the release of particulate matter and other pollutants to the atmosphere.

Automatic waste feed cutoff (AWFCO) system means a system comprised of cutoff valves, actuator, sensor, data manager, and other necessary components and electrical circuitry designed, operated and maintained to stop the flow of hazardous waste to the combustion unit automatically and immediately when any of the parameters to which the system is interlocked exceed the limits established in compliance with applicable standards, the operating permit, or safety considerations.

By-pass duct means a device which diverts a minimum of 10 percent of a cement kiln's off gas.

Cement kiln means a rotary kiln and any associated preheater or precalciner devices that produces clinker by heating limestone and other materials for subsequent production of cement for use in commerce, and that burns hazardous waste.

Combustion chamber means the area in which controlled flame combustion of hazardous waste occurs.

Compliance date means the date by which a hazardous waste combustor must submit a notification of compliance under this subpart.

Comprehensive performance test means the performance test during which a HWC demonstrates compliance with emission standard and establishes or re-establishes operating limits.

Confirmatory performance test means the performance test conducted under normal operating conditions to demonstrate compliance with the D/F emission standard.

Continuous monitor means a device which continuously samples the regulated parameter without interruption except during allowable periods of calibration, and except as defined otherwise by the CEM Performance Specifications in appendix B, part 60.

Dioxins and furans (D/F) means tetra-, penta-, hexa-, hepta-, and octa-chlorinated dibenzo dioxins and furans.

Feedstream means any material fed into a HWC, including, but not limited to, any pumpable or nonpumpable solid or gas.

Flowrate means the rate at which a feedstream is fed into a HWC.

Fugitive combustion emissions means particulate or gaseous matter generated by or resulting from the burning of hazardous waste that is not collected by a capture system and is released to the atmosphere prior to the exit of the stack.

Hazardous waste is defined in § 261.3 of this chapter.

Hazardous waste combustor (HWC) means a hazardous waste incinerator, or a cement kiln, or a lightweight aggregate kiln.

Hazardous waste incinerator means a device defined in 260.10 of this chapter that burns hazardous waste.

Initial comprehensive performance test means the comprehensive performance test that is used as the basis for initially demonstrating compliance with the standards.

Instantaneous monitoring means continuously sampling, detecting, and recording the regulated parameter without use of an averaging period.

Lightweight aggregate kiln means a rotary kiln that produces for commerce (or for manufacture of products for commerce) an aggregate with a density less than 2.5 g/cc by slowly heating organic-containing geologic materials such as shale and clay, and that burns hazardous waste.

Low volatility metals means arsenic, beryllium, chromium, and antimony, and their compounds.

New source means a HWC that first begins to burn hazardous waste, or the construction or reconstruction of which is commenced, after April 19, 1996.

Notification of compliance means a notification in which the owner and operator certify, after completion of performance evaluations and tests, that the HWC meets the emission standards, CMS, and other requirements of this subpart, and that the source is in compliance with operating limits.

One-minute average means the average of detector responses calculated at least every 60 seconds from responses obtained at least each 15 seconds.

Operating record means a documentation of all information required by the standards to document and maintain compliance with the applicable regulations, including data and information, reports, notifications, and communications with regulatory officials.

Reconstruction means the replacement or addition of components of a hazardous waste combustor to such an extent that:

(1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source.

(2) Upon reconstruction, the combustor becomes subject to the standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source.

Rolling average means the average of all one-minute averages over the averaging period.

Run means the net period of time during which an air emission sample is collected under a given set of operating conditions. Three or more runs constitutes an emissions test. Unless otherwise specified, a run may be either intermittent or continuous.

Semivolatile metals means cadmium and lead, and their compounds.

TEQ means the international method of expressing toxicity equivalents for dioxins and furans as defined in U.S. EPA, Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and -Dibenzofurans (CDDs and CDFs) and 1989 Update, March 1989.

§ 63.1202 Construction and reconstruction.

The requirements of § 63.5 apply, except the following apply in lieu of §§ 63.5(d)(3)(v) and (vi) and (e)(1)(ii)(D), as follows:

(a) A discussion of any technical limitations the source may have in complying with relevant standards or other requirements after the proposed replacements. The discussion shall be sufficiently detailed to demonstrate to the Administrator's satisfaction that the technical limitations affect the source's ability to comply with the relevant standard and how they do so.

(b) If in the application for approval of reconstruction the owner or operator designates the affected source as a reconstructed source and declares that there are no technical limitations to prevent the source from complying with all relevant standards or other requirements, the owner or operator need not submit the information required in paragraphs (d)(3) (iii) through (v) of this section.

(c) Any technical limitations on compliance with relevant standards that are inherent in the proposed replacements.

§ 63.1203 Standards for hazardous waste incinerators (HWIs).

(a) Emission limits for existing sources. No owner or operator of an existing HWI shall discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) Dioxins and furans in excess of 0.20 ng/dscm (TEQ) corrected to 7 percent oxygen;

(2) Mercury in excess of 50 μg/dscm, over a 10-hour rolling average, and corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 270 μg/dscm, combined emissions, corrected to 7 percent oxygen, and measured over a 12-hour rolling average if compliance is based on a CEMS;

(4) Arsenic, beryllium, chromium, and antimony in excess of 210 μg/dscm, combined emissions, corrected to 7 percent oxygen and measured over a 10-hour rolling average if compliance is based on a CEMS;

(5) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average, dry basis and corrected to 7 percent oxygen;

(6) Hydrocarbons in excess of 12 parts per million by volume, over an hourly rolling average, dry basis, corrected to 7 percent oxygen, and reported as propane;

(7) Hydrochloric acid and chlorine gas in excess of 280 parts per million by volume, combined emissions, expressed as hydrochloric acid equivalents, dry basis and corrected to 7 percent oxygen, and measured over a hourly rolling average if compliance is based on a CEMS; and

(8) Particulate matter (PM) in excess of 69 mg/dscm, over a 2-hour rolling average and corrected to 7 percent oxygen.

(b) Emission limits for new sources. No owner or operator that commences construction or reconstruction of a HWI, or that first burns hazardous waste in an existing incinerator, after April 19, 1996, shall discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) Dioxins and furans in excess of 0.20 ng/dscm (TEQ), corrected to 7 percent oxygen;

(2) Mercury in excess of 50 μg/dscm, over a 10-hour rolling average, corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 62 μg/dscm, combined emissions, corrected to 7 percent oxygen and measured over a 10-hour rolling average;

(4) Arsenic, beryllium, chromium, and antimony in excess of 60 μg/dscm (or 80 μg/dscm if compliance is based on a CEMS), combined emissions, corrected to 7 percent oxygen and measured over a 10-hour rolling average if compliance is based on a CEM;

(5) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average, dry basis and corrected to 7 percent oxygen;

(6) Hydrocarbons in excess of 12 parts per million by volume, over an hourly rolling average, dry basis, corrected to 7 percent oxygen, and reported as propane;

(7) Hydrochloric acid and chlorine gas in excess of 67 parts per million by volume, combined emissions, expressed as hydrochloric acid equivalents, dry basis and corrected to 7 percent oxygen, and measured over a hourly rolling average if compliance is based on a CEM; and

(8) Particulate matter (PM) in excess of 69 mg/dscm, over a 2-hour rolling average and corrected to 7 percent oxygen.

(c) Significant figures. The emission limits provided by paragraphs (a) and (b) of this section shall be considered to have two significant figures. Emissions measurements may be rounded to two significant figures to demonstrate compliance.

(d) Air emission standards for equipment leaks, tanks, surface impoundments, and containers. Owners and operators of HWIs are subject to the air emission standards of Subparts BB and CC, part 264, of this chapter.

§ 63.1204 Standards for cement kilns (CKs) that burn hazardous waste.

(a) Emission limits for existing sources. No owner or operator of an existing CK shall discharge or cause combustion gases (resulting solely or partially from burning hazardous waste) to be emitted into the atmosphere that contain:

(1) Dioxins and furans in excess of 0.20 ng/dscm, TEQ, corrected to 7 percent oxygen;

(2) Mercury in excess of 50 μg/dscm, over a 10-hour rolling average, and corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 57 μg/dscm, combined emissions, corrected to 7 percent oxygen, and measured over a 10-hour rolling average if compliance is based on a CEMS;

(4) Arsenic, beryllium, chromium, and antimony in excess of 130 μg/dscm, combined emissions, corrected to 7 percent oxygen and measured over a 10-hour rolling average if compliance is based on a CEMS;

(5) Carbon Monoxide. For kilns equipped with a by-pass duct, either:

(i) Carbon monoxide in the by-pass duct in excess of 100 parts per million by volume, over an hourly rolling average, dry basis and corrected to 7 percent oxygen; or

(ii) Hydrocarbons in the by-pass duct in excess of 6.7 parts per million by volume, over an hourly rolling average, dry basis, corrected to 7 percent oxygen, and reported as propane.

(6) Hydrocarbons. Hydrocarbons in the main stack of kilns not equipped with a by-pass duct in excess of 20 parts per million by volume, over an hourly rolling average, dry basis, corrected to 7 percent oxygen, and reported as propane;

(7) Hydrochloric acid and chlorine gas in excess of 630 parts per million by volume, combined emissions, expressed as hydrochloric acid equivalents, dry basis, corrected to 7 percent oxygen, and measured over a hourly rolling average if compliance is based on a CEMS; and

(8) Particulate matter (PM) in excess of 69 mg/dscm over a 3-hour rolling average and corrected to 7 percent oxygen.

(b) Emission limits for new sources. No owner or operator that commences construction or reconstruction of a CK, or that first burns hazardous waste in an existing CK, after April 19, 1996, shall discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) Dioxins and furans in excess of 0.20 ng/dscm (TEQ) corrected to 7 percent oxygen;

(2) Mercury in excess of 50 μg/dscm, over a 10-hour rolling average, corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 55 μg/dscm, combined emissions, corrected to 7 percent oxygen, or if compliance is based on a CEMS, 60 μg/dscm, combined emissions, corrected to 7 percent oxygen and measured over a 10-hour rolling average;

(4) Arsenic, beryllium, chromium, and antimony in excess of 44 μg/dscm, combined emissions, corrected to 7 percent oxygen, or, if compliance is based on a CEM, 80 μg/dscm, combined emissions, corrected to 7 percent oxygen and measured over a 10-hour rolling average;

(5) Carbon Monoxide. For kilns equipped with a by-pass duct, either:

(i) Carbon monoxide in the by-pass duct in excess of 100 parts per million by volume, over an hourly rolling average, dry basis and corrected to 7 percent oxygen; or

(ii) Hydrocarbons in the by-pass duct in excess of 6.7 parts per million by volume, over an hourly rolling average, dry basis, corrected to 7 percent oxygen, and reported as propane.

(6) Hydrocarbons. Hydrocarbons in the main stack of kilns not equipped with a by-pass duct in excess of 20 parts per million by volume, over an hourly rolling average, dry basis, corrected to 7 percent oxygen, and reported as propane;

(7) Hydrochloric acid and chlorine gas in excess of 67 parts per million, combined emissions, expressed as hydrochloric acid equivalents, dry basis and corrected to 7 percent oxygen, and

measured over a hourly rolling average if compliance is based on a CEMS; and

(8) Particulate matter (PM) in excess of 69 mg/dscm over a 2-hour rolling average and corrected to 7 percent oxygen.

(c) Significant figures. The emission limits provided by paragraphs (a) and (b) of this section shall be considered to have two significant figures. Emissions measurements may be rounded to two significant figures to demonstrate compliance.

(d) Air emission standards for equipment leaks, tanks, surface impoundments, and containers. Owners and operators of CKs are subject to the air emission standards of subparts BB and CC, part 264, of this chapter.

§ 63.1205 Standards for lightweight aggregate kilns (LWAKs) that burn hazardous waste.

(a) Emission limits for existing sources. No owner or operator of an existing LWAK shall discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) Dioxins and furans in excess of 0.20 ng/dscm (TEQ), corrected to 7 percent oxygen;

(2) Mercury in excess of 72 μg/dscm, over a 10-hour rolling average, and corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 12 μg/dscm, combined emissions, corrected to 7 percent oxygen, or, if compliance is based on a CEMS, 60 μg/dscm, combined emissions, corrected to 7 percent oxygen and measured over a 10-hour rolling average;

(4) Arsenic, beryllium, chromium, and antimony in excess of 340 μg/dscm, combined emissions, corrected to 7 percent oxygen, and measured over a 10-hour rolling average if a CEMS is used for compliance;

(5) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average, dry basis and corrected to 7 percent oxygen;

(6) Hydrocarbons in excess of 14 parts per million by volume, over an hourly rolling average, dry basis, corrected to 7 percent oxygen, and reported as propane;

(7) Hydrochloric acid and chlorine gas in excess of 450 parts per million by volume, combined emissions, expressed as hydrochloric acid equivalents, dry basis and corrected to 7 percent oxygen, and measured over a hourly rolling average if compliance is based on a CEMS; and

(8) Particulate matter (PM) in excess of 69 mg/dscm over a 2-hour rolling average and corrected to 7 percent oxygen.

(b) Emission limits for new sources. No owner or operator that commences construction or reconstruction of a LWAK, or that first burns hazardous waste in an existing LWAK, after April 19, 1996, shall discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) Dioxins and furans in excess of 0.20 ng/dscm (TEQ), corrected to 7 percent oxygen;

(2) Mercury in excess of 72 μg/dscm, over a 10-hour rolling average, corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 5.2 μg/dscm, combined emissions, corrected to 7 percent oxygen, or, if compliance is based on a CEMS, 60 μg/dscm, combined emissions, corrected to 7 percent oxygen and measured over a 10-hour rolling average;

(4) Arsenic, beryllium, chromium, and antimony in excess of 55 μg/dscm, combined emissions, corrected to 7 percent oxygen, or, if compliance is based on a CEMS, 80 μg/dscm, combined emissions, corrected to 7 percent oxygen and measured over a 10-hour rolling average;

(5) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average, dry basis and corrected to 7 percent oxygen;

(6) Hydrocarbons in excess of 14 parts per million by volume, over an hourly rolling average, dry basis, corrected to 7 percent oxygen, and reported as propane;

(7) Hydrochloric acid and chlorine gas in excess of 62 parts per million by volume, combined emissions, expressed as hydrochloric acid equivalents, dry basis and corrected to 7 percent oxygen, and measured over a hourly rolling average if compliance is based on a CEMS; and

(8) Particulate matter (PM) in excess of 69 mg/dscm over a 2-hour rolling average and corrected to 7 percent oxygen.

(c) Significant figures. The emission limits provided by paragraphs (a) and (b) shall be considered to have two significant figures. Emissions measurements may be rounded to two significant figures to demonstrate compliance.

(d) Air emission standards for equipment leaks, tanks, surface impoundments, and containers. Owners and operators of LWAKs are subject to the air emission standards subparts BB and CC, part 264, of this chapter.

§ 63.1206 Initial Compliance dates.

(a) Existing sources. (1) Compliance Date. Each owner or operator of an existing hazardous waste combustor (HWC) shall submit to the Administrator under § 63.1211 an initial notification of compliance certifying compliance with the requirements of this subpart no later than [date 36 months after publication of the final rule], unless an extension of time is granted under § 63.6(i).

(2) Failure to meet compliance date. (i) Termination of waste burning. If an owner or operator fails to submit the notification of compliance as specified in paragraph (a)(1) of this section, hazardous waste burning must terminate on the date that the owner or operator determine that the notification will not be submitted by the deadline, but not later than the date the notification should have been submitted.

(ii) Requirements for resuming waste burning. (A) If a source that fails to submit a timely initial notification of compliance has not been issued a RCRA operating permit under part 270 of this chapter for the HWC, the source may not resume burning hazardous waste until a RCRA permit is issued.

(B) If a source that fails to submit a timely initial notification of compliance has already been issued a RCRA operating permit under part 270 of this chapter for the HWC, the source may resume burning hazardous waste only for a total of 720 hours and only for purposes of pretesting or comprehensive performance testing prior to submitting an initial notification of compliance. If the owner and operator do not submit an initial notification of compliance within 90 days after the date it is due, they must begin closure procedures under the RCRA operating permit unless an extension of time is granted prior to that date in writing by the Administrator for good cause.

(C) The source must comply with the requirements for new sources under this subpart.

(b) New sources. (1) Sources that begin burning hazardous waste before the effective date but after the date of proposal. Each owner or operator of a new source that first burns hazardous waste prior to [date of publication of final rule] but after April 19, 1996 shall:

(i) For any requirements of this subpart (and part) that are not more stringent than the proposed requirement, submit to the Administrator a notification of compliance at the time specified in the operating permit issued under part 270 of this chapter;

(ii) For any requirements of this subpart (and part) that are more stringent than the proposed requirement:

(A) Submit to the Administrator a notification of compliance not later than [date 36 months after publication of the

final rule], unless an extension of time is granted under § 63.6(i); and

(B) Comply with the standards as proposed in the interim until the notification of compliance is submitted.

(2) Sources that begin burning hazardous waste after the effective date. Each owner or operator of a new source that first burns hazardous waste after [date of publication of final rule] must submit the notification of compliance at the time specified in the operating permit issued under part 270 of this chapter.

Note to paragraph (b) of this section: An owner or operator wishing to commence construction of a hazardous waste incinerator or hazardous waste-burning equipment for a cement kiln or lightweight aggregate kiln must first obtain some type of RCRA authorization, whether it be a RCRA permit, a modification to an existing RCRA permit, or a change under already existing interim status. See 40 CFR part 270.

§ 63.1207 Compliance with standards and general requirements.

(a) Compliance with standards. (1) Standards are in effect at all times. A hazardous waste combustor (HWC) shall not burn hazardous waste (that is, hazardous waste must not be fed and hazardous waste must not remain in the combustion chamber) except in compliance with the standards of this subpart, including periods of startup, shutdown, and malfunction. Therefore, the owner or operator of a HWC is not subject to the requirements of §§ 63.6(e) and (f)(1) (regarding operation and maintenance in conformance with a startup, shutdown, and malfunction plan) when burning hazardous waste.

(2) Automatic waste feed cutoff (AWFCO). During the initial comprehensive performance test required under § 63.1208, and upon submittal of the initial notification of compliance under § 63.1211, a HWC must be operated with a functioning system that immediately and automatically cuts off the hazardous waste feed when any of the following are exceeded: applicable operating limits specified under § 63.1210; the emission levels monitored by CEMS; the span value of any CMS detector, except a CEMS; the automatic waste feed cutoff system fails; or the allowable combustion chamber pressure.

(i) Ducting of combustion gases. During a AWFCO, combustion gases must continue to be ducted to the air pollution control system while hazardous waste remains in the combustion chamber;

(ii) Restarting waste feed. The operating parameters for which limits are established under § 63.1210 and the emissions required under that section to be monitored by a CEMS must continue to be monitored during the cutoff, and the hazardous waste feed shall not be restarted until the operating parameters and emission levels are within allowable levels;

(iii) Violations. If, after a AWFCO, a parameter required to be interlocked with the AWFCO system exceeds an allowable level while hazardous waste remains in the combustion chamber, the owner and operator have violated the emission standards of this subpart.

(iv) Corrective measures. After any AWFCO that results in a violation as defined in paragraph (a)(2)(iii) of this section, the owner or operator must investigate the cause of the AWFCO, take appropriate corrective measures to minimize future AWFCO violations, and record the findings and corrective measures in the operating record.

(v) Excessive AWFCO report. If a HWC experiences more than 10 AWFCOs in any 60-day period that result in an exceedance of any parameter required to be interlocked with the AWFCO system under this section, the owner or operator must submit a written report within 5 calendar days of the 10th AWFCO documenting the results of the investigation and corrective measures taken.

(vi) Limit on AWFCOs. The Administrator may limit the number of cutoffs per an operating period on a case-by-case basis.

(vii) Testing. The AWFCO system and associated alarms must be tested at least weekly to verify operability, unless the owner and operator document in the operating record that weekly inspections will unduly restrict or upset operations and that less frequent inspection will be adequate. At a minimum, operational testing must be conducted at least monthly.

(3) ESV Openings. (i) Violation. If an emergency safety vent opens when hazardous waste is fed or remains in the combustion chamber, such that combustion gases are not treated as during the most recent comprehensive performance test (e.g., if the combustion gas by-passes any emission control device operating during the performance test), it is a violation of the emission standards of this subpart.

(ii) ESV Operating Plan. The ESV Operating Plan shall explain detailed procedures for rapidly stopping waste feed, shutting down the combustor, maintaining temperature in the combustion chamber until all waste exits the combustor, and controlling emissions in the event of equipment malfunction or activation of any ESV or other bypass system including calculations demonstrating that emissions will be controlled during such an event (sufficient oxygen for combustion and maintaining negative pressure), and the procedures for executing the plan whenever the ESV is used, thus causing an emergency release of emissions.

(iii) Corrective measures. After any ESV opening that results in a violation as defined in paragraph (b)(1) of this section, the owner or operator must investigate the cause of the ESV opening, take appropriate corrective measures to minimize future ESV violations, and record the findings and corrective measures in the operating record.

(iv) Reporting requirement. The owner or operator must submit a written report within 5 days of a ESV opening violation documenting the result of the investigation and corrective measures taken.

(b) Fugitive emissions. (1) Fugitive emissions must be controlled by:

(i) Keeping the combustion zone totally sealed against fugitive emissions; or

(ii) Maintaining the maximum combustion zone pressure lower than ambient pressure using an instantaneous monitor; or

(iii) Upon prior written approval of the Administrator, an alternative means of control to provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than ambient pressure;

(2) The owner or operator must specify in the operating record the method used for fugitive emissions control.

(c) Finding of compliance. The procedures of determining compliance and finding of compliance provided by § 63.6(f)(2) and (3) are applicable to HWCs, except that paragraph (f)(2)(iii)(B) (testing is to be conducted under representative operating conditions) is superseded by the requirements for performance testing under § 63.1208.

(d) Use of an alternative nonopacity emission standard. The provisions of § 63.6(g) are applicable to HWCs.

(e) Extension of compliance with emission standards. The provisions of § 63.6(i) are applicable to HWCs.

(f) Changes in design, operation, or maintenance. If the design, operation, or maintenance of the source is changed in a manner that may affect compliance with any emission standard that is not monitored with a CEMS, the source shall:

(1) Conduct a comprehensive performance test to re-establish

operating limits on the parameters specified in § 63.1210; and

(2) Burn hazardous waste after such change for no more than a total of 720 hours and only for purposes of pretesting or comprehensive performance testing (including demonstrating compliance with CMS requirements).

§ 63.1208 Performance testing requirements.

(a) Types of performance tests. (1) Comprehensive performance test. The purpose of the comprehensive performance test is to demonstrate compliance with the emission standards provided by §§ 63.1203, 63.1204, and 63.1205, establish limits for the applicable operating parameters provided by § 63.1210, and demonstrate compliance with the performance specifications for CMS.

(2) Confirmatory performance test. The purpose of the confirmatory performance test is to demonstrate compliance with the D/F emission standard when the source operates under normal operating conditions.

(b) Frequency of testing. Testing shall be conducted periodically as prescribed in this paragraph (b). The date of commencement of the initial comprehensive performance test shall be the basis for establishing the anniversary date of commencement of subsequent performance testing. A source may conduct comprehensive performance testing at any time prior to the required date. If so, the anniversary date for subsequent testing is advanced accordingly. Except as provided by paragraph (c) of this section, testing shall be conducted as follows:

(1) Comprehensive performance testing. (i) Large or off-site sources. HWCs that receive hazardous waste from off-site and HWCs with a gas flow rate exceeding 23,127 acfm at any time that hazardous waste is burned or remains in the combustion chamber shall commence testing within 35–37 months of the anniversary date of the initial comprehensive performance test, and within every 35–37 months of that anniversary date thereafter.

(ii) Small, on-site sources. HWCs that burn hazardous waste generated on site only and that have a gas flow rate of 23,127 acfm or less shall commence testing within 59–61 months of the anniversary date of the initial comprehensive performance test, and within every 59–61 months of that anniversary date thereafter. However, the Administrator may determine on a case-specific basis that such a source may pose the same potential to exceed the standards of this part as a large or off-site source. If so, the Administrator may require such a source to comply with the testing frequency applicable to large and off-site sources. Factors that the Administrator may consider include: type and volume of hazardous wastes burned, concentration of toxic constituents in the hazardous waste, and compliance history.

(2) Confirmatory performance testing. (i) Large or off-site sources shall commence confirmatory performance testing within 17–19 months after the anniversary date of each comprehensive performance test.

(ii) Small, on-site sources shall conduct confirmatory performance testing within 29–31 months after the anniversary date of each comprehensive performance test.

(3) Duration of testing. Performance testing shall be completed within 30 days after the date of commencement.

(c) Time extension for subsequent performance tests. After the initial performance test, a HWC may request under procedures provided by § 63.6(i) up to a 1-year time extension for conducting a performance test in order to consolidate performance testing with trial burn testing required under part 270 of this chapter, or for other reasons deemed acceptable by the Administrator. If a time extension is granted, a new anniversary date for subsequent testing is established as the date that the delayed testing commences.

(d) Operating conditions during testing. (1) Comprehensive performance testing. (i) The source must operate under representative conditions (or conditions that will result in higher than normal emissions) for the following parameters to ensure that emissions are representative (or higher than) of normal operating conditions:

(A) When demonstrating compliance with the D/F emission standard, types of organic compounds in the waste (e.g., aromatics, aliphatics, nitrogen content, halogen/carbon ratio, oxygen/carbon ratio), and feedrate of chlorine; and

(B) When demonstrating compliance with the SVM or LVM emission standard when using manual stack sampling (i.e., rather than a CEMS) and the D/F emission standard, normal feedrates of ash and normal cleaning cycle of the PM control device.

(ii) Given that limits will be established for the applicable operating parameters specified in § 63.1210, a source may conduct testing under two or more operating modes to provide operating flexibility. If so, the source must note in the operating record under which mode it is operating at all times.

(2) Confirmatory performance testing. Confirmatory performance testing for D/F shall be conducted under normal operating conditions defined as follows:

(i) The CO, HC, and PM CEM emission levels must be within the range of the average value to the maximum (or minimum) value allowed. The average value is defined as the sum of all one-minute averages, divided by the number of one-minute averages over the previous 18 months (30 months for small, on-site facilities defined in § 63.1208(b)(1)(ii));

(ii) Each operating limit established to maintain compliance with the D/F emission standard must be held within the range of the average value over the previous 18 months (30 months for small, on-site facilities defined in § 63.1208(b)(1)(ii)) and the maximum or minimum, as appropriate, that is allowed; and

(iii) The source must feed representative types (or types that may result in higher emissions than normal) of organic compounds in the waste (e.g., aromatics, aliphatics, nitrogen content, halogen/carbon ratio, oxygen/carbon ratio), and chlorine must be fed at normal feedrates or greater.

(e) Notification of performance test and approval of test plan. The provisions of § 63.7 (b) and (c) apply. Notwithstanding the Administrator's approval or disapproval, or failure to approve or disapprove the test plan, the owner or operator must comply with all applicable requirements of this part, including deadlines for submitting the initial and subsequent notifications of compliance.

(f) Performance testing facilities. The provisions of § 63.7(d) apply.

(g) Notification of compliance. Within 90 days of completion of the performance test, the owner or operator must postmark a notification of compliance documenting compliance with the emission standards and CMS requirements, and identifying applicable operating limits. See § 63.7(g) for additional requirements.

(h) Failure to submit a timely notification of compliance. If an owner or operator determines (based on CEM recordings, results of analyses of stack samples, or results of CMS performance evaluations) that the source has failed any emission standard during the performance test for a mode of operation, it is a violation of the standard and hazardous waste burning must cease immediately under that mode of operation. Hazardous waste burning could not be resumed under that mode of operation, except for purposes of pretesting or comprehensive performance testing and for a maximum

of 720 hours, until a notification of compliance is submitted subsequent to a new comprehensive performance test.

(i) Waiver of performance test. The following waiver provision applies in lieu of § 63.7(h). Performance tests are not required to document compliance with the following standards under the conditions specified and provided that the required information is submitted to the Administrator for review and approval with the site-specific test plan as required by paragraph (e) of this section:

(1) Mercury. The owner or operator is deemed to be in compliance with the mercury emission standard (and monitoring Hg emissions with a CEMS is not required) if the maximum possible emission concentration determined as specified below does not exceed the emission standard:

(i) Establish a maximum feedrate of mercury from all feedstreams, and monitor and record the feedrate according to § 63.1210(c);

(ii) Establish a minimum stack gas flow rate, or surrogate for gas flow rate, monitor the parameter with a CMS and record the data, and interlock the limit on the parameter with the automatic waste feed cutoff system;

(iii) Calculate a maximum possible emission concentration assuming all mercury from all feedstreams is emitted.

(2) SVM (semivolatile metals). The owner or operator is deemed to be in compliance with the SVM (cadmium and lead, combined) emission standard if the maximum possible emission concentration determined as specified below does not exceed the emission standard:

(i) Establish a maximum feedrate of cadmium and lead, combined, from all feedstreams, and monitor and record the feedrate according to § 63.1210(c);

(ii) Establish a minimum stack gas flow rate, or surrogate for gas flow rate, monitor the parameter with a CMS and record the data, and interlock the limit on the parameter with the automatic waste feed cutoff system;

(iii) Calculate a maximum possible emission concentration assuming all cadmium and lead from all feedstreams is emitted.

(3) LVM (low volatility metals). The owner or operator is deemed to be in compliance with the LVM (arsenic, beryllium, chromium, and antimony, combined) emission standard if the maximum possible emission concentration determined as specified below does not exceed the emission standard:

(i) Establish a maximum feedrate of arsenic, beryllium, chromium, and antimony, combined, from all feedstreams, and monitor and record the feedrate according to § 63.1210(c);

(ii) Establish a minimum stack gas flow rate, or surrogate for gas flow rate, monitor the parameter with a CMS and record the data, and interlock the limit on the parameter with the automatic waste feed cutoff system;

(iii) Calculate a maximum possible emission concentration assuming all LVM from all feedstreams is emitted.

(4) HCl/Cl_2. The owner or operator is deemed to be in compliance with the HCl/Cl_2 emission standard if the maximum possible emission concentration determined as specified below does not exceed the emission standard:

(i) Establish a maximum feedrate of total chlorine and chloride from all feedstreams, and monitor and record the feedrate according to § 63.1210(c);

(ii) Establish a minimum stack gas flow rate, or surrogate for gas flow rate, monitor the parameter with a CMS and record the data, and interlock the limit on the parameter with the automatic waste feed cutoff system;

(iii) Calculate a maximum possible emission concentration assuming all total chlorine and chloride from all feedstreams is emitted.

§ 63.1209 Test methods.

(a) Dioxins and furans. (1) Method 0023A, provided by SW–846 (incorporated by reference in § 260.11 of this chapter), shall be used to determine compliance with the emission standard for dioxin and furans;

(2) If the sampling period for each run is six hours or greater, nondetects shall be assumed to be present at zero concentration. If the sampling period for any run is less than six hours, nondetects shall be assumed to be present at the level of detection for all runs.

(b) Mercury. Method 0060, provided by SW–846 (incorporated by reference in § 260.11 of this chapter), shall be used to evaluate the mercury CEMS as required by § 63.1210.

(c) Cadmium and lead. Method 0060, provided by SW–846 (incorporated by reference in § 260.11 of this chapter), shall be used to determine compliance with the emission standard for cadmium and lead or to calibrate and/or evaluate a CEMS as provided by § 63.1210.

(d) Arsenic, beryllium, chromium, and antimony. Method 0060, provided by SW–846 (incorporated by reference in § 260.11 of this chapter), shall be used to determine compliance with the emission standard for arsenic, beryllium, chromium, and antimony or to calibrate and/or evaluate a CEMS as provided by § 63.1210.

(e) HCl and chlorine gas. Methods 0050, 0051, and 9057, provided by SW–846 (incorporated by reference in § 260.11 of this chapter), shall be used to determine compliance with the emission standard for HCl and Cl_2 (combined) or to calibrate and/or evaluate the HCl and chlorine gas CEMS as provided by § 63.1210.

(f) Particulate Matter. Method 5 in appendix A of part 60 shall be used to calibrate and/or evaluate a PM CEMS as provided by § 63.1210.

(g) Feedstream Analytical methods. Analytical methods used to determine feedstream concentrations of metals, halogens, and other constituents shall be those provided by SW–846 (incorporated by reference in § 260.11 of this chapter.)

Alternate methods may be used if approved in advance by the Director.

§ 63.1210 Monitoring requirements.

(a) Continuous emissions monitors (CEMS). (1) HWCs shall be equipped with CEMS for PM, Hg, CO, HC, and O_2 for compliance monitoring, except as provided by paragraph (a)(3). Owners and operators may elect to use CEMS for compliance monitoring for SVM, LVM, HCl, and Cl_2.

(2) At all times that hazardous waste is fed into the HWC or remains in the combustion chamber, the CEMS must be operated in compliance with the appendix to this subpart.

(3) Waiver of CEMS requirement for mercury. The following waiver provision applies in lieu of § 63.7(h). A mercury CEMS is not required to document compliance with the mercury standard under the conditions specified and provided that the required information is submitted to the Administrator for review and approval with the site-specific test plan as required by § 63.1209(e). The owner or operator is deemed to be in compliance with the mercury emission standard if the maximum possible emission concentration determined as specified below does not exceed the emission standard:

(i) Establish a maximum feedrate of mercury, combined, from all feedstreams, and monitor and record the feedrate according to § 63.1210(c);

(ii) Establish a minimum stack gas flow rate, or surrogate for gas flow rate, monitor the parameter with a CMS and record the data, and interlock the limit on the parameter with the automatic waste feed cutoff system;

(iii) Calculate a maximum possible emission concentration assuming all mercury from all feedstreams is emitted.

(b) Other continuous monitoring systems. (1) CMS other than CEMS (e.g.,

thermocouples, pressure transducers, flow meters) must be used to document compliance with the applicable operating limits provided by this section.

(2) Non-CEMS CMS must be installed and operated in conformance with § 63.8(c)(3) requiring the owner and operator, at a minimum, to comply with the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system.

(3) Non-CEMS 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 detector must not be exceeded. Span limits shall be interlocked into the automatic waste feed cutoff system required by § 63.1207(a)(2).

(c) Analysis of feedstreams. (1) General. The owner or operator must obtain an analysis of each feedstream prior to feeding the material that is sufficient to document compliance with the applicable feedrate limits provided by this section.

(2) Feedstream analysis plan. The owner or operator 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 each feedstream will be analyzed to ensure compliance with the operating limits of this section;

(ii) Whether the owner or operator 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 the analysis will be used to document compliance with applicable feedrate limits (e.g., if hazardous wastes are blended and analyses are obtained of the wastes prior to blending but not of the blended, as-fired, waste, the plan must describe how the owner and operator will determine the pertinent parameters of the blended waste);

(iv) The test methods which will be used to obtain the analyses;

(v) The sampling method which will be used to obtain a representative sample of each feedstream to be analyzed using sampling methods described in appendix I, part 261, of this chapter, or an equivalent method; and

(vi) The frequency with which the initial analysis of the feedstream will be reviewed or repeated to ensure that the analysis is accurate and up to date.

(3) Review and approval of analysis plan. The owner and operator 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, feedrates must be monitored and recorded 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 flowrate of a feedstream is determined by volume, the density of the feedstream shall be determined by sampling and analysis and shall be recorded (unless the constituent concentration is reported in units of weight per unit volume (e.g., mg/l));

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

(d) Performance evaluations. (1) The requirements of § 63.8(d) (Quality control program) and (e) (Performance evaluation of continuous monitoring systems) apply, except that performance evaluations of components of the CMS shall be conducted under the frequency and procedures (for example, submittal of performance evaluation test plan for review and approval) applicable to performance tests as provided by § 63.1208.

(2) Performance specifications and evaluations of CEMS are 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) are superseded by this section, except that paragraphs (c)(2), (c)(3), and (c)(6) are applicable.

(g) [Reserved]

(h) Use of an alternative monitoring method. The provisions of § 63.8(f) apply.

(i) Reduction of monitoring data. The provisions of § 63.8(g) apply, except for paragraphs (g)(2) and (g)(5).

(j) Dioxins and furans. To remain in compliance with the emission standard for dioxins and furans, the owner or operator shall establish operating limits for the following parameters and comply with those limits at all times that hazardous waste is fed or that hazardous waste remains in the combustion chamber:

(1) Maximum temperature at the dry PM control device. If a source is equipped with an electrostatic precipitator, fabric filter, or other dry emissions control device where particulate matter is collected and retained in contact with combustion gas, the maximum allowable temperature at the inlet to the first such control device in the air pollution control system must be established and complied with as follows:

(i) A 10-minute rolling average shall be established as the average over all runs of the highest 10-minute rolling average for each run;

(ii) An hourly rolling average shall be established as the average level over all runs.

(2) Minimum combustion chamber temperature. (i) The temperature of each combustion chamber shall be measured at a location as close to, and as representative of, each combustion chamber as practicable;

(ii) A 10-minute rolling average shall be established as the average over all runs of the minimum 10-minute rolling average for each run; and

(iii) An hourly rolling average shall be established as the average level over all runs.

(3) Maximum flue gas flowrate or production rate. As an indicator of gas residence time in the combustion chamber, the maximum flue gas flowrate, or a parameter that the owner or operator documents in the site-specific test plan is an appropriate surrogate, shall be established as the average over all runs of the maximum hourly rolling average for each run, and complied with on a hourly rolling average basis.

(4) Maximum hazardous waste feedrate. The maximum hazardous waste feedrate shall be established as the average over all runs of the maximum hourly rolling average for each run, and complied with on a hourly rolling average basis. A maximum waste feedrate shall be established for each waste feed point.

(5) Batch size, feeding frequency, and minimum oxygen. (i) Except as provided below, HWCs that feed a feedstream in a batch (e.g., ram fed systems) or container must comply with the following:

(A) The maximum batch size shall be the mass of that batch with the lowest mass fed during the comprehensive performance test;

(B) The minimum batch feeding frequency (i.e., the minimum period of time between batch or container feedings) shall be the longest interval of time between batch or container feedings during the comprehensive performance test; and

(C) The minimum combustion zone oxygen content at the time of firing the batch or container shall be the highest instantaneous oxygen level observed at the time any batch or container was fed during the comprehensive performance test.

(ii) Cement kilns that fire containers of material into the hot, clinker discharge end of the kiln are exempt from the requirements of this paragraph provided the owner or operator documents in the operating record:

(A) The volume of each container does not exceed 1 gallon; and

(B) The frequency of firing the containers does not exceed the rate occurring during the comprehensive performance test.

(6) PM limit. (i) PM shall be limited to the level achieved during the comprehensive performance test;

(ii) During the comprehensive performance test the owner and operator shall demonstrate compliance with the PM standards in §§ 63.1203, 63.1204, and 63.1205, corrected to 7 percent oxygen, based on a 2-hour rolling average, and monitored with a CEMS;

(A) The owner or operator shall install, calibrate, maintain, and continuously operate a CEMS that measures particulate matter at all times that hazardous waste is fed or that hazardous waste remains in the combustion chamber.

(B) The PM CEMS shall meet the requirements provided in the appendix to this subpart.

(iii) The site-specific PM limit shall be determined from the performance test as follows:

(A) A 10-minute rolling average shall be established as the average over all runs of the maximum 10-minute rolling average for each run;

(B) An hourly rolling average shall be established as the average of all one minute averages over all runs.

(7) Carbon injection parameters. If carbon injection is used:

(i) Injection rate. Minimum carbon injection rates shall be established as:

(A) A 10-minute rolling average established as the average over all runs of the minimum 10-minute rolling average for each run; and

(B) An hourly rolling average established as the average level over all runs.

(ii) Carrier fluid. Minimum carrier fluid (gas or liquid) flowrate or pressure drop shall be established as a 10-minute rolling average based on the carbon injection system manufacturer's specifications.

(iii) Carbon specification. (A) The brand (i.e., manufacturer) and type of carbon used during the comprehensive performance test must be used until a subsequent comprehensive performance test is conducted, unless the owner or operator document in the site-specific performance test plan required under § 63.1208 key parameters that affect adsorption and establish limits on those parameters based on the carbon used in the performance test.

(B) The owner or operator may request approval from the Administrator at any time to substitute a different brand or type of carbon without having to conduct a comprehensive performance test. The Administrator may grant such approval if he or she determines that the owner or operator has sufficiently documented that the substitute carbon will provide the same level of dioxin and furan control as the original carbon.

(8) Carbon bed. If a carbon bed is used, a carbon replacement rate must be established as follows:

(i) Testing Requirements. Testing of carbon beds shall be done in the following manner:

(A) Initial comprehensive performance test. For the initial comprehensive performance test, the carbon bed shall be used in accordance with manufacturer's specifications. No aging of the carbon is required.

(B) Confirmatory tests prior to subsequent comprehensive tests. For confirmatory tests after the initial but prior to subsequent comprehensive tests, the facility shall follow the normal change-out schedule specified by the carbon bed manufacturer.

(C) Subsequent comprehensive tests. The age of the carbon in the carbon bed shall be determined as the length of time since carbon was most recently added and the amount of time the carbon that has been in the bed the longest.

(ii) Determination of maximum allowable carbon age. (A) Prior to subsequent comprehensive performance tests, the manufacturer shall follow the manufacturer's suggested change-out interval for replacing used carbon with unused carbon.

(B) After the second comprehensive test the maximum allowable age of a carbon bed shall be the amount of time since carbon has most recently been added and the amount of time that the carbon the has been in the bed the longest, based on what those two time intervals were during the comprehensive performance test.

(iii) Carbon specification. (A) The brand (i.e., manufacturer) and type of carbon used during the comprehensive performance test must be used until a subsequent comprehensive performance test is conducted, unless the owner or operator document in the site-specific performance test plan required under § 63.1208 key parameters that affect adsorption and establish limits on those parameters based on the carbon used in the performance test.

(B) The owner or operator may request approval from the Administrator at any time to substitute a different brand or type of carbon without having to conduct a comprehensive performance test. The Administrator may grant such approval if he or she determines that the owner or operator has sufficiently documented that the substitute carbon will provide the same level of dioxin and furan control as the original carbon.

(7) Catalytic oxidizer. If a catalytic oxidizer is used, the following parameters shall be established:

(i) Minimum flue gas temperature at the entrance of the catalyst. A minimum flue gas temperature at the entrance of the catalyst shall be established as follows:

(A) A 10-minute average shall be established as the average over all runs of the minimum temperature 10-minute rolling average for each run;

(B) An hourly average shall be established as the average level over all runs.

(ii) Maximum time in-use. A catalytic oxidizer shall be replaced with a new catalytic oxidizer when it has reached the maximum service time specified by the manufacturer.

(iii) Catalyst replacement specifications. When a catalyst is replaced with a new one, the new catalyst shall be identical to the one used during the previous comprehensive test, including:

(A) Catalytic metal loading for each metal;

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

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

(iv) Maximum flue gas temperature. Maximum flue gas temperature at the entrance of the catalyst shall be established as a 10-minute rolling average, based on manufacturer's specifications.

(8) Inhibitor feedrate. If a dioxin inhibitor is fed into the unit, the following parameters shall be established:

(i) Minimum inhibitor feedrate. Minimum inhibitor feedrate shall be established as:

(A) A 10-minute rolling average shall be established as the average over all runs of the minimum 10-minute rolling average for each run;

(B) An hourly average shall be established as the average level over all runs.

(ii) Inhibitor specifications. (A) The brand (i.e., manufacturer) and type of

inhibitor used during the comprehensive performance test must be used until a subsequent comprehensive performance test is conducted, unless the owner or operator document in the site-specific performance test plan required under § 63.1208 key parameters that affect the effectiveness of a D/F inhibitor and establish limits on those parameters based on the inhibitor used in the performance test.

(B) The owner or operator may request approval from the Administrator at any time to substitute a different brand or type of inhibitor without having to conduct a comprehensive performance test. The Administrator may grant such approval if he or she determines that the owner or operator has sufficiently documented that the substitute inhibitor will provide the same level of dioxin and furan control as the original inhibitor.

(k) Mercury CEMS. (1) The owner or operator shall install, calibrate, maintain, and continuously operate a CEMS for mercury at all times that hazardous waste is fed or that hazardous waste remains in the combustion chamber.

(2) The mercury CEMS shall meet Performance Specification 10, if the CEM measures other metals as well as mercury, or Performance Specification 12, if the CEM measures only mercury. Both performance specifications are provided in the appendix to this subpart.

(3) The owner and operator shall comply with the quality assurance procedures provided in the appendix to this subpart.

(l) Semivolatile metals (SVM). The owner or operator shall demonstrate compliance with the SVM (cadmium and lead) emission standard by either:

(1) CEMS. (i) Installing, calibrating, maintaining, and continuously operating a CEMS that measures multiple metals at all times that hazardous waste is fed or remains in the combustion chamber.

(ii) The multi-metal CEMS shall meet the requirements provided in the appendix to this subpart; or

(2) Operating limits. Establishing and complying with the following operating limits, except that cement kilns and lightweight aggregate kilns must comply with alternative requirements provided by paragraph (f) of this section:

(i) PM limit. (A) PM shall be limited to the level achieved during the comprehensive performance test;

(B) During the comprehensive performance test the owner and operator shall demonstrate compliance with the applicable PM standard in §§ 63.1203, 63.1204, and 63.1205, corrected to 7 percent oxygen, based on a 2-hour rolling average, and monitored with a CEMS;

(*1*) The owner or operator shall install, calibrate, maintain, and continuously operate a CEMS that measures particulate matter at all times that hazardous waste is fed or that hazardous waste remains in the combustion chamber.

(*2*) The PM CEMS shall meet the requirements provided in the appendix to this subpart.

(C) The site-specific PM limit shall be determined from the performance test as follows:

(*1*) A 10-minute rolling average shall be established as the average over all runs of the maximum 10-minute rolling average for each run;

(*2*) An hourly rolling average shall be established as the average of all one minute averages over all runs.

(ii) Maximum feedrate of Cd and Pb. A 12-hour rolling average limit for the feedrate of Cd and Pb, combined, in all feedstreams shall be established as the average feedrate over all runs.

(iii) Maximum total chlorine and chloride feedrate. A 12-hour rolling average limit for the feedrate of total chlorine and chloride in all feedstreams shall be established as the average feedrate over all runs.

(iv) Minimum gas flowrate. An hourly rolling average limit for gas flowrate, or a surrogate parameter, shall be established as the average over all runs of the lowest hourly rolling average for each run.

(m) Low volatility metals (LVM). The owner or operator shall demonstrate compliance with the LVM (arsenic, beryllium, chromium, and antimony) emission standard by either:

(1) CEMS. (i) Installing, calibrating, maintaining, and continuously operating a CEMS that measures multiple metals at all times that hazardous waste is fed or remains in the combustion chamber.

(ii) The multi-metals CEMS shall meet the requirements provided in the appendix to this subpart; or

(2) Operating limits. Establishing and complying with the following operating limits, except that cement kilns and lightweight aggregate kilns must comply with alternative requirements provided by paragraph (f) of this section:

(i) PM limit. (A) PM shall be limited to the level achieved during the comprehensive performance test;

(B) During the comprehensive performance test the owner and operator shall demonstrate compliance with the applicable PM standard in §§ 63.1203, 63.1204, or 63.1205, corrected to 7 percent oxygen, based on a 2-hour rolling average, and monitored with a CEMS;

(*1*) The owner or operator shall install, calibrate, maintain, and continuously operate a CEMS that measures particulate matter at all times that hazardous waste is fed or that hazardous waste remains in the combustion chamber.

(*2*) The PM CEMS shall meet the requirements provided in the appendix to this subpart.

(C) The site-specific PM limit shall be determined from the performance test as follows:

(*1*) A 10-minute rolling average shall be established as the average over all runs of the maximum 10-minute rolling average for each run;

(*2*) An hourly rolling average shall be established as the average of all one minute averages over all runs.

(ii) Maximum feedrate of As, Be, Cr, and Sb. (A) A 12-hour rolling average limit for the feedrate of As, Be, Cr, and Sb, combined, in all feedstreams shall be established as the average feedrate over all runs.

(B) A 12-hour rolling average limit for the feedrate of As, Be, Cr, and Sb, combined, in all pumpable feedstreams shall be established as the average feedrate in pumpable feedstreams over all runs.

(iii) Maximum chlorine and chloride feedrate. A 12-hour rolling average limit for the feedrate of total chlorine and chloride in all feedstreams shall be established as the average feedrate over all runs.

(iv) Minimum gas flowrate. An hourly rolling average limit for gas flowrate, or a surrogate parameter, shall be established as the average over all runs of the lowest hourly rolling average for each run.

(n) Special requirements for CKs and LWAKs for compliance with metals standards. Owners and operators of cement kilns and lightweight aggregate kilns that recycle collected particulate matter back into the kiln must comply with one of the following alternative approaches to demonstrate compliance with the emission standards for SVM, combined (cadmium and lead), and for LVM, combined (arsenic, beryllium, chromium and antimony):

(1) Feedstream monitoring. The requirements of paragraphs (d) and (e) of this section only after the kiln system has been conditioned to enable it to reach equilibrium with respect to metals fed into the system and metals emissions. During conditioning, hazardous waste and raw materials having the same metals content as will be fed during the performance test must

be fed at the feedrates that will be fed during the performance test; or

(2) Monitor recycled PM. The special testing requirements prescribed in "Alternative Method for Implementing Metals Controls" in appendix IX, part 266, of this chapter; or

(3) Semicontinuous emissions testing. Stack emissions testing for a minimum of 6 hours each day while hazardous waste is burned. The testing must be conducted when burning normal hazardous waste for that day at normal feedrates for that day and when the air pollution control system is operated under normal conditions. Although limits on metals in feedstreams are not established under this option, the owner or operator must analyze each feedstream for metals content sufficiently to determine if changes in metals content may affect the ability of the facility to meet the metal emissions standards under §§ 63.1204 and 63.1205.

(o) HCl and chlorine gas. The owner or operator shall demonstrate compliance with the HCl/Cl_2 emission standard by either:

(1) CEMS. (i) Installing, calibrating, maintaining, and continuously operating a CEMS for HCl and Cl_2 at all times that hazardous waste is fed or that hazardous waste remains in the combustion chamber.

(ii) The HCl and Cl_2 CEMS shall meet the requirements provided in the appendix to this subpart; or

(2) Operating limits. Establishing and complying with the following operating limits:

(i) Feedrate of total chlorine and chloride. A 12-hour rolling average limit for the total feedrate of total chlorine and chloride in all feedstreams shall be established as the average feedrate over all runs.

(ii) Maximum flue gas flowrate or production rate. As an indicator of gas residence time in the control device, the maximum flue gas flowrate, or a parameter that the owner or operator documents in the site-specific test plan is an appropriate surrogate, shall be established as the average over all runs of the maximum hourly rolling average for each run, and complied with on a hourly rolling average basis.

(iii) Wet Scrubber. If a wet scrubber is used, the following operating parameter limits shall be established.

(A) Minimum pressure drop across the scrubber. Minimum pressure drop across a wet scrubber shall be established.

(*1*) A 10-minute rolling average shall be established as the average over all runs of the minimum 10-minute rolling averages for each run.

(*2*) An hourly rolling average shall be established as the average level over all runs.

(B) Minimum liquid feed pressure. Minimum liquid feed pressure shall be established as a ten minute average, based on manufacturer's specifications.

(C) Minimum liquid pH. Minimum liquid pH shall be established.

(*1*) A 10-minute rolling average shall be established as the average over all runs of the minimum 10-minute rolling averages for each run.

(*2*) An hourly rolling average shall be established as the average level over all runs.

(D) Minimum liquid to gas flow ratio. Minimum liquid to gas flow ratio shall be established.

(*1*) A 10-minute rolling average shall be established as the average over all runs of the minimum 10-minute rolling averages for each run.

(*2*) An hourly rolling average shall be established as the average level over all runs.

(iv) Ionizing Wet Scrubber. If an ionizing wet scrubber is used, the following operating parameter limits shall be established.

(A) Minimum pressure drop across the scrubber. Minimum pressure drop across an ionizing wet scrubber shall be established on both a ten minute and hourly rolling average.

(*1*) A 10-minute rolling average shall be established as the average over all runs of the minimum 10-minute rolling averages for each run.

(*2*) An hourly rolling average shall be established as the average level over all runs.

(B) Minimum liquid feed pressure. Minimum liquid feed pressure shall be established as a ten minute average, based on manufacturer's specifications.

(C) Minimum liquid to gas flow ratio. Minimum liquid to gas flow ratio shall be established on both a ten minute and hourly rolling average.

(*1*) A 10-minute rolling average shall be established as the average over all runs of the minimum 10-minute rolling averages for each run.

(*2*) An hourly rolling average shall be established as the average level over all runs.

(v) Dry scrubber. If a dry scrubber is used, the following operating parameter limits shall be established.

(A) Minimum sorbent feedrate. Minimum sorbent feedrate shall be established on both a ten minute and hourly rolling average.

(*1*) A 10-minute rolling average shall be established as the average over all runs of the minimum 10-minute rolling averages for each run.

(*2*) An hourly rolling average shall be established as the average level over all runs.

(B) Minimum carrier fluid flowrate or nozzle pressure drop. Minimum carrier fluid (gas or liquid) flowrate or nozzle pressure drop shall be established as a ten minute average, based on manufacturer's specifications.

(C) Sorbent specifications. (*1*) The brand (i.e., manufacturer) and type of sorbent used during the comprehensive performance test must be used until a subsequent comprehensive performance test is conducted, unless the owner or operator document in the site-specific performance test plan required under § 63.1208 key parameters that affect the effectiveness of a sorbent and establish limits on those parameters based on the inhibitor used in the performance test.

(*2*) The owner or operator may request approval from the Administrator at any time to substitute a different brand or type of inhibitor without having to conduct a comprehensive performance test. The Administrator may grant such approval if he or she determines that the owner or operator has sufficiently documented that the substitute sorbent will provide the same level of HCl and Cl2 control as the original sorbent.

(p) Carbon monoxide CEMS. (1) The owner or operator shall install, calibrate, maintain, and continuously operate a CEMS for carbon monoxide at all times that hazardous waste is fed or that hazardous waste remains in the combustion chamber.

(2) The carbon monoxide CEMS shall meet the requirements provided in the appendix to this subpart.

(q) Hydrocarbon CEMS. (1) The owner or operator shall install, calibrate, maintain, and continuously operate a CEMS for hydrocarbons at all times that hazardous waste is fed or that hazardous waste remains in the combustion chamber.

(2) The hydrocarbon CEMS shall meet the requirements provided in the appendix to this subpart.

(r) Oxygen CEMS. (1) The owner or operator shall install, calibrate, maintain, and continuously operate a CEMS for oxygen at all times that hazardous waste is fed or remains in the combustion chamber.

(2) The oxygen CEMS shall meet the requirements provided in the appendix to this subpart.

(s) Maximum combustion chamber pressure. If a source complies with the fugitive emissions requirements of § 63.1207(b) by maintaining the maximum combustion chamber zone pressure lower than ambient pressure, the source must monitor the pressure instantaneously and the automatic

waste feed cutoff system must be engaged when negative pressure is not maintained at any time.

(t) Waiver of operating limits. The owner or operator may request in writing a waiver from any of the operating limits provided by this section. The waiver must include documentation that other operating parameters or methods to establish operating limits are more appropriate to ensure compliance with the emission standards. The waiver must also include recommended averaging periods and the basis for establishing operating limits.

§ 63.1211 Notification requirements.

(a) Notifications. HWCs shall submit the following notifications as applicable:

(1) Initial notification. HWCs shall comply with the initial notification requirements of § 63.9(b).

(2) Notification of performance test and CMS evaluation. The notification of performance test requirements of § 63.9(c) apply to all performance tests and CMS evaluations required by § 63.1208, except that all notifications shall be submitted for review and approval at the times specified in that section.

(3) Notification of compliance. The notification of compliance status requirements of § 63.9(h) apply, except that:

(i) The notification is a notification of compliance (rather than compliance status), as defined in § 63.1200;

(ii) The notification is required for each performance test;

(iii) The requirements of § 63.9(h)(2)(i)(D) and (E) pertaining to major source determinations do not apply; and

(iv) Under § 63.9(h)(2)(ii), the notification shall be sent before the close of business on the 90th day following the completion of relevant compliance demonstration activity specified in this subpart.

(4) Request for extension of time to submit a notification of compliance. HWCs that elect to request a time extension of up to one year to submit an initial notification of compliance under § 63.9(c) or a subsequent notification of compliance under § 63.1208(c) must submit a written request and justification as required by those sections.

(b) Applicability of § 63.9 (Notification requirements). The following provisions of § 63.9 are applicable to HWCs:

(1) Paragraphs (a), (b), (c), (d), (e), (g), (i), and (j); and

(2) Paragraph (h), except as provided in paragraphs (a)(3) (iii) and (iv) of this section.

§ 63.1212 Recordkeeping and reporting requirements.

(a) The following provisions of § 63.10 are applicable to HWCs:

(1) Paragraph (a) (Applicability and general information), except (a)(2);

(2) Paragraph (b) (General recordkeeping requirements), except (b)(2) (iv) through (vi), and (b)(3); and

(3) Paragraph (c) (Additional recordkeeping requirements for sources with CMS), except (c)(6) through (8), (c)(13), and (c)(15).

(4) Paragraph (d) (General reporting requirements) applies as follows:

(i) Paragraphs (d)(1), (d)(4) apply; and

(ii) Paragraph (d)(2) applies, except that the report may be submitted up to 90 days after completion of the test; and

(5) In paragraph (e) (Additional reporting requirements for sources with CMS), paragraphs (e)(1) (General) and (e)(2) (Reporting results of CMS performance evaluations) apply.

(b) Additional reporting requirements. HWCs are also subject to the reporting requirements for excessive automatic waste feed cutoffs under § 63.1207(a)(2) and emergency safety vent openings under § 63.1207(a)(3).

(c) Additional recordkeeping requirements. HWCs must also retain the feedstream analysis plan required under § 63.1210(c) in the operating record.

Appendix to Subpart EEE—Quality Assurance Procedures for Continuous Emissions Monitors Used for Hazardous Waste Combustors

1. Applicability and Principle

1.1 Applicability. These quality assurance requirements are used to evaluate the effectiveness of quality control (QC) and quality assurance (QA) procedures and the quality of data produced by continuous emission monitoring systems (CEMS) that are used for determining compliance with the emission standards on a continuous basis as specified in the applicable regulation. The QA procedures specified by these requirements represent the minimum requirements necessary for the control and assessment of the quality of CEMS data used to demonstrate compliance with the emission standards provided under subpart EEE, part 63, of this chapter. Owners and operators must meet these minimum requirements and are encouraged to develop and implement a more extensive QA program. These requirements supersede those found in Part 60, Appendix F of this chapter. Appendix F does not apply to hazardous waste-burning devices.

Data collected as a result of the required QA and QC measures are to be recorded in the operating record. In addition, data collected as a result of CEM performance evaluations required by Section 5 in conjunction with an emissions performance test are to be submitted to the Director as provided by § 63.8(e)(5) of this chapter. These data are to be used by both the Agency and the CEMS operator in assessing the effectiveness of the CEMS QA and QC procedures in the maintenance of acceptable CEMS operation and valid emission data.

1.2 Principle. The QA procedures consist of two distinct and equally important functions. One function is the assessment of the quality of the CEMS data by estimating accuracy. The other function is the control and improvement of the quality of the CEMS data by implementing QC policies and corrective actions. These two functions form a control loop. When the assessment function indicates that the data quality is inadequate, the source must immediately stop burning hazardous waste. The CEM data control effort must be increased until the data quality is acceptable before hazardous waste burning can resume.

In order to provide uniformity in the assessment and reporting of data quality, this procedure explicitly specifies the assessment methods for response drift and accuracy. The methods are based on procedures included in the applicable performance specifications provided in Appendix B to Part 60. These procedures also require the analysis of the EPA audit samples concurrent with certain reference method (RM) analyses as specified in the applicable RM's.

Because the control and corrective action function encompasses a variety of policies, specifications, standards, and corrective measures, this procedure treats QC requirements in general terms to allow each source owner or operator to develop a QC system that is most effective and efficient for the circumstances.

2. Definitions

2.1 Continuous Emission Monitoring System (CEMS). The total equipment required for the determination of a pollutant concentration. The system consists of the following major subsystems:

2.1.1 Sample Interface. That portion of the CEMS used for one or more of the following: sample acquisition, sample transport, and sample conditioning, or protection of the monitor from the effects of the stack effluent.

2.1.2 Pollutant Analyzer. That portion of the CEMS that senses the pollutant concentration and generates a proportional output.

2.1.3 Diluent Analyzer. That portion of the CEMS that senses the diluent gas (O_2) and generates an output proportional to the gas concentration.

2.1.4 Data Recorder. That portion of the CEMS that provides a permanent record of the analyzer output. The data recorder may provide automatic data reduction and CEMS control capabilities.

2.2 Relative Accuracy (RA). The absolute mean difference between the pollutant concentration determined by the CEMS and the value determined by the reference method (RM) plus the 2.5 percent error confidence coefficient of a series of test divided by the mean of the RM tests or the applicable emission limit.

2.3 Calibration Drift (CD). The difference in the CEMS output readings from the established reference value after a stated

period of operation during which no unscheduled maintenance, repair, or adjustment took place.

2.4 Zero Drift (ZD). The difference in CEMS output readings at the zero pollutant level after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place.

2.5 Tolerance Interval. The interval with upper and lower limits within which are contained a specified percentage of the population with a given level of confidence.

2.6 Calibration Standard. Calibration standards produce a known and unchanging response when presented to the pollutant analyzer portion of the CEMS, and are used to calibrate the drift or response of the analyzer.

2.7 Relative Accuracy Test Audit (RATA). Comparison of CEMS measurements to reference method measurements in order to evaluate relative accuracy following procedures and specification given in the appropriate performance specification.

2.8 Absolute Calibration Audit (ACA). Equivalent to calibration error (CE) test defined in the appropriate performance specification using NIST traceable calibration standards to challenge the CEMS and assess accuracy.

2.9 Response Calibration Audit (RCA). For PM CEMS only, a check of stability of the calibration relationship determined by comparison of CEMS response to manual gravimetric measurements.

2.10 Fuel Type. For the purposes of PM CEMs, fuel type is defined as the physical state of the fuel: gas, liquid, or solid.

2.11 Rolling Average. The average emissions, based on some (specified) time period, calculated every minute from a one-minute average of four measurements taken at 15-second intervals.

3. QA/QC Requirements

3.1 QC Requirements. Each owner or operator must develop and implement a QC program. At a minimum, each QC program must include written procedures describing in detail complete, step-by-step procedures and operations for the following activities.

1. Checks for component failures, leaks, and other abnormal conditions.
2. Calibration of CEMS.
3. CD determination and adjustment of CEMS.
4. Integration of CEMS with the automatic waste feed cutoff (AWFCO) system.
5. Preventive Maintenance of CEMS (including spare parts inventory).
6. Data recording, calculations, and reporting.
7. Checks of record keeping.
8. Accuracy audit procedures, including sampling and analysis methods.
9. Program of corrective action for malfunctioning CEMS.
10. Operator training and certification.
11. Maintaining and ensuring current certification or naming of cylinder gasses, metal solutions, and particulate samples used for audit and accuracy tests, daily checks, and calibrations.

Whenever excessive inaccuracies occur for two consecutive quarters, the current written procedures must be revised or the CEMS modified or replaced to correct the deficiency causing the excessive inaccuracies. These written procedures must be kept on record and available for inspection by the enforcement agency.

3.2 QA Requirements. Each source owner or operator must develop and implement a QA plan that includes, at a minimum, the following.

1. QA responsibilities (including maintaining records, preparing reports, reviewing reports).
2. Schedules for the daily checks, periodic audits, and preventive maintenance.
3. Check lists and data sheets.
4. Preventive maintenance procedures.
5. Description of the media, format, and location of all records and reports.
6. Provisions for a review of the CEMS data at least once a year. Based on the results of the review, the owner or operator shall revise or update the QA plan, if necessary.

4. CD and ZD Assessment and Daily System Audit

4.1 CD and ZD Requirement. Owners and operators must check, record, and quantify the ZD and the CD at least once daily (approximately 24 hours) in accordance with the method prescribed by the manufacturer. The CEMS calibration must, at a minimum, be adjusted whenever the daily ZD or CD exceeds the limits in the Performance Specifications. If, on any given ZD and/or CD check the ZD and/or CD exceed(s) two times the limits in the Performance Specifications, or if the cumulative adjustment to the ZD and/or CD (see Section 4.2) exceed(s) three times the limits in the Performance Specifications, hazardous waste buring must immediately cease and the CEMS must be serviced and recalibrated. Hazardous waste burning cannot resume until the owner or operator documents that the CEMS is in compliance with the Performance Specifications by carrying out an ACA.

4.2 Recording Requirements for Automatic ZD and CD Adjusting Monitors. Monitors that automatically adjust the data to the corrected calibration values must record the unadjusted concentration measurement prior to resetting the calibration, if performed, or record the amount of the adjustment.

4.3 Daily System Audit. The audit must include a review of the calibration check data, an inspection of the recording system, an inspection of the control panel warning lights, and an inspection of the sample transport and interface system (e.g., flowmeters, filters, etc.) as appropriate.

4.4 Data Recording and Reporting. All measurements from the CEMS must be retained in the operating record for at least 5 years.

5. Performance Evaluation

5.1 Multi-Metals CEMS. The CEMS must be audited at least once each calendar year. In years when a performance test is also required under § 63.1208 of this chapter to document compliance with emission standards, the performance evaluation (i.e., audit) shall coincide with the performance test. Successive yearly audits shall be at least 9 months apart. The audits shall be conducted as follows.

5.1.1 Relative Accuracy Test Audit (RATA). The RATA must be conducted at least once every three years (five years for small on-site facilities defined in § 63.1208(b)(1)(ii)). Conduct the RATA as described in the RA test procedure (or alternate procedures section) described in the applicable Performance Specifications. In addition, analyze the appropriate performance audit samples received from the EPA as described in the applicable sampling methods (i.e., SW–846 method 0060).

5.1.2 Absolute Calibration Audit (ACA). The ACA must be conducted at least once each year except when a RATA is conducted instead. Conduct an ACA using NIST traceable calibration standards at three levels for each metal that is being monitored for compliance purposes. The levels must correspond to 0 to 20, 40 to 60, and 80 to 120 percent of the applicable emission limit for each metal. (For the SVM and LVM standards where the standard applies to combined emissions of several metals, the average annual emission concentration for each individual metal in a group for which a standard applies should be assumed by projecting emissions based on feedrate estimates determined from the waste management plan required under § 63.1210(c)(2) of this chapter. The estimated average annual emission concentration should be used as a surrogate metal emission limit for purposes of the ACA.) At each level and for each metal, make nine determinations of the RA as defined in Section 8 of the applicable Performance Specifications using the value of the calibration standard in the denominator of Equation (6).

5.1.3 Reference method. The reference method is SW–846 method 0060.

5.1.4 Excessive Audit Inaccuracy. If the RA using the RATA or ACA exceeds the criteria in Section 4.2 of the Performance Specifications, hazardous waste burning must immediately cease. Before hazardous waste burning can resume, the owner or operator must take necessary corrective action to eliminate the problem, and must audit the CEMS with a RATA to document that the CEMS is operating within the specifications.

5.2 Particulate Matter CEMS. The CEMS must be audited at least once each quarter (three calendar months.) A response calibration audit (RCA) shall be conducted every 18 months. An absolute calibration audit (ACA) shall be conducted quarterly, except when an RCA is conducted instead. The audits shall be conducted as follows.

5.2.1 Response Calibration Audit (RCA). The RCA must be conducted at least every 18 months (30 months for small on-site facilities defined in § 63.1208(b)(1)(ii)). Conduct the RCA as described in the CEMS Response Calibration Procedure described in the applicable Performance Specifications (Sections 5 and 7). A minimum of nine tests are required at three particulate levels. The three particulate levels should be at the high-end, low-end, and midpoint of the particulate range spanned by the current calibration of the CEMS.

5.2.2 Absolute Calibration Audit (ACA). The ACA must be conducted at least

quarterly, except when an RCA is conducted instead. Conduct an ACA using NIST traceable calibration standards, making three measurements at three levels (nine measurements total). The levels must correspond to 10 to 50 percent, 80 to 120 percent, and 200 to 300 percent of the emission limit. At each level make a determination of the instrument response and compare it to the nominal response by calculating the calibration error CE:

Where:

R_{CEM} is the CEMS response;

R_N is the nominal response generated by the calibration standard, and

R_{EM} is the emission limit value.

5.2.3 Excessive Audit Inaccuracy.

5.2.3.1 RCA. If less than 75 percent percent of the test results from the RCA fall within the tolerance interval established for the current calibration (see Sections 7 and 8 of the Performance Specifications), then a new calibration relation is required. Hazardous waste burning must cease immediately, and may not be resumed until a new calibration relation is calculated from the RCA data according to the procedures specified in Section 8 of the Performance Specifications.

5.2.3.2 ACA. If the calibration error is greater than 2 percent of the emission limit for any of the calibration levels, hazardous waste burning must cease immediately. If adjustments to the instrument reduce the calibration error to less than 2 percent of the emission limit at all three levels, then hazardous waste burning can resume. If not, the instrument must be repaired and must pass a complete ACA before hazardous waste burning can resume.

5.2.4 Calibrating for Fuel Type. The owner or operator shall derive a sufficient number of calibration curves to use for all fuel type and mixtures of fuel type.

5.2.5 Reference Method. The reference method is Method 5 found in 40 CFR Part 60, Appendix A.

5.3 Total Mercury CEMS. An Absolute Calibration Audit (ACA) must be conducted quarterly, and a Relative Accuracy Test Audit (RATA) must be conducted every three years (five years for small on-site facilities defined in § 63.1208(b)(1)(ii)). An Interference Response Tests shall be performed whenever an ACA or a RATA is conducted. In years when a performance test is also required under § 63.1208 of this chapter to document compliance with emission standards, the RATA shall coincide with the performance test. The audits shall be conducted as follows.

5.3.1 Relative Accuracy Test Audit (RATA). The RATA must be conducted at least every three years (five years for small on-site facilities defined in § 63.1208(b)(1)(ii)). Conduct the RATA as described in the RA test procedure (or alternate procedures section) described in the applicable Performance Specifications. In addition, analyze the appropriate performance audit samples received from the EPA as described in the applicable sampling methods.

5.3.2 Absolute Calibration Audit (ACA). The ACA must be conducted at least quarterly except in a quarter when a RATA is conducted instead. Conduct an ACA as described in the calibration error (CE) test procedure described in the applicable Performance Specifications.

5.3.3 Interference Response Test. The interference response test shall be conducted whenever an ACA or RATA is conducted. Conduct an interference response test as described in the applicable Performance Specifications.

5.3.4 Excessive Audit Inaccuracy. If the RA from the RATA or the CE from the ACA exceeds the criteria in the applicable Performance Specifications, hazardous waste burning must cease immediately. Hazardous waste burning cannot resume until the owner or operator take corrective measures and audit the CEMS with a RATA to document that the CEMS is operating within the specifications.

5.3.5 Reference Methods. The reference method for mercury is SW–846 method 0060.

5.4 Hydrogen Chloride (HCl), Chlorine (Cl_2), Carbon Monoxide (CO), Oxygen (O_2), and Hydrocarbon (HC) CEMS. An Absolute Calibration Audit (ACA) must be conducted quarterly, and a Relative Accuracy Test Audit (RATA) (if applicable, see sections 5.4.1 and 5.4.2) must be conducted yearly. An Interference Response Tests shall be performed whenever an ACA or a RATA is conducted. In years when a performance test is also required under § 63.1208 of this chapter to document compliance with emission standards, the RATA shall coincide with the performance test. The audits shall be conducted as follows.

5.4.1 Relative Accuracy Test Audit (RATA). This requirement applies to O_2 and CO CEMS. The RATA must be conducted at least yearly. Conduct the RATA as described in the RA test procedure (or alternate procedures section) described in the applicable Performance Specifications. In addition, analyze the appropriate performance audit samples received from the EPA as described in the applicable sampling methods.

5.4.2 Absolute Calibration Audit (ACA). This requirements applies to all CEMS listed in 5.4. The ACA must be conducted at least quarterly except in a quarter when a RATA (if applicable, see section 5.4.1) is conducted instead. Conduct an ACA as described in the calibration error (CE) test procedure described in the applicable Performance Specifications.

5.4.3 Interference Response Test. The interference response test shall be conducted whenever an ACA or RATA is conducted. Conduct an interference response test as described in the applicable Performance Specifications.

5.4.4 Excessive Audit Inaccuracy. If the RA from the RATA or the CE from the ACA exceeds the criteria in the applicable Performance Specifications, hazardous waste burning must cease immediately. Hazardous waste burning cannot resume until the owner or operator take corrective measures and audit the CEMS with a RATA to document that the CEMS is operating within the specifications.

6. Other Requirements

6.1 Performance Specifications. CEMS used by owners and operators of HWCs must comply with the following performance specifications in Appendix B to Part 60:

TABLE I.—PERFORMANCE SPECIFICATIONS FOR CEMS

CEMS	Performance specification
Carbon monoxide	4B
Oxygen	4B
Total hydrocarbons	8A
Mercury, semivolatile metals, and low volatile metals.	10
Particulate matter	11
Mercury	12
Hydrochloric acid (hydrogen chloride).	13
Chlorine gas (diatomic chlorine)	14

6.2 Downtime due to Calibration. Facilities may continue to burn hazardous waste for a maximum of 20 minutes while calibrating the CEMS. If all CEMS are calibrated at once, the facility shall have twenty minutes to calibrate all the CEMS. If CEMS are calibrated individually, the facility shall have twenty minutes to calibrate each CEMS. If the CEMS are calibrated individually, other CEMS shall be operational while the individual CEMS is being calibrated.

6.3 Span of the CEMS.

6.3.1 Multi-metals, Particulate Matter, Mercury, Hydrochloric Acid, and Chlorine Gas CEMS. The span shall be at least 20 times the emission limit at an oxygen correction factor of 1.

6.3.2 CO CEMS. The CO CEM shall have two ranges, a low range with a span of 200 ppmv and a high range with a span of 3000 ppmv at an oxygen correction factor of 1. A one-range CEM may be used, but it must meet the performance specifications for the low range in the specified span of the low range.

6.3.3 O_2 CEMS. The O_2 CEM shall have a span of 25 percent. The span may be higher than 25 percent if the O_2 concentration at the sampling point is greater than 25 percent.

6.3.4 HC CEMS. The HC CEM shall have a span of 100 ppmv, expressed as propane, at an oxygen correction factor of 1.

6.3.5 CEMS Span Values When the Oxygen Correction Factor is Greater than 2. When a owner or operator installs a CEMS at a location of high ambient air dilution, i.e., where the maximum oxygen correction factor as determined by the permitting agency is greater than 2, the owner or operator shall install a CEM with a lower span(s), proportionate to the larger oxygen correction factor, than those specified above.

6.3.6 Use of Alternative Spans. Owner or operators may request approval to use alternative spans and ranges to those specified. Alternate spans must be approved in writing in advance by the Director. In considering approval of alternative spans and ranges, the Director will consider that measurements beyond the span will be recorded as values at the maximum span for purposes of calculating rolling averages.

6.3.7 Documentation of Span Values. The span value shall be documented by the CEMS manufacturer with laboratory data.

6.4.1 Oxygen Correction Factor. Measured pollutant levels shall be corrected for the amount of oxygen in the stack according to the following formula:

$P_c = P_m \times 14/(E-Y)$

where:

P_c=concentration of the pollutant or standard corrected to 7 percent oxygen;

P_m=measured concentration of the pollutant;

E=volume fraction of oxygen in the combustion air fed into the device, on a dry basis (normally 21 percent or 0.21 if only air is fed);

Y=measured fraction of oxygen on a dry basis at the sampling point.

The oxygen correction factor is:

$OCF = 14/(E-Y)$

6.4.2 Moisture Correction. Method 4 of appendix A of this Part shall be used to determine moisture content of the stack gasses.

6.4.3 Temperature Correction. Correction values for temperature are obtainable from standard reference materials.

6.5 Rolling Average. A rolling average is the arithmetic average of all one-minute averages over the averaging period.

6.5.1 One-Minute Average. One-minute averages are the arithmetic average of the four most recent 15-second observations and shall be calculated using the following equation:

$$\bar{c} = \sum_{i=1}^{4} \frac{c}{4}$$

Where:

$\bar{c}$=the one minute average

c_i=a fifteen-second observation from the CEM

Fifteen second observations shall not be rounded or smoothed. Fifteen-second observations may be disregarded only as a result of a failure in the CEMS and allowed in the source's quality assurance plan at the time of the CMS failure. One-minute averages shall not be rounded, smoothed, or disregarded.

6.5.2 Ten Minute Rolling Average Equation. The ten minute rolling average shall be calculated using the following equation:

$$C_{RA} = \sum_{i=1}^{10} \frac{\bar{c}_i}{10}$$

Where:

C_{RA}=The concentration of the standard, expressed as a rolling average

$\bar{c}_i$=a one minute average

6.5.3 n-Hourly Rolling Average Equation. The rolling average, based on a specific number integer of hours, shall be calculated using the following equation:

$$C_{RA} = \sum_{i=1}^{60*N} \frac{\bar{c}_i}{60*N}$$

Where:

C_{RA}=The concentration of the standard, expressed as a rolling average

N=The number of hours of the rolling average

$\bar{c}_i$=a one minute average

6.5.4 New rolling averages. When a rolling average begins due to the provisions of § 6.5.4.2 of this appendix or when no previous one-minute average have been recorded, the rolling average shall be the average all one-minute averages since the rolling average commenced. Then when sufficient time has passed such that there are enough one-minute averages to calculate a rolling average specified in § 6.5.2 or 6.5.3 of this appendix, i.e., when the period of time since the rolling average was started is equal to or greater than the averaging period, the average shall be calculated using the equation specified there.

6.5.4.1 Short term interruption of a rolling average. When rolling averages which are interrupted (such as for a calibration or failure of the CEMS), the rolling average shall be restarted with the one-minute averages prior to the interruption being the i=1 to (60*N–1) values and the i=60*N value being the one minute average immediately after the interruption. A short term interruption is one with a duration of less than the averaging period for the given standard or parameter.

6.5.4.2 Long term interruptions of the rolling average. When ten minute rolling averages are interrupted for periods greater than ten minutes, the rolling average shall be restarted as provided in § 6.5.4 of this appendix. When rolling averages with averaging periods in excess of the averaging period for the given standard or parameter, the rolling average shall be restarted as provided in § 6.5.4 of this appendix.

6.6 Units of the Standards for the Purposes of Recording and Reporting Emissions. Emissions shall be recorded and reported expressed after correcting for oxygen, temperature, and moisture. Emissions shall be reported in metric, but may also be reported in the English system of units, at 7 percent oxygen, 20 °C, and on a dry basis.

6.7 Rounding and Significant Figures. Emissions shall be rounded to two significant figures using ASTM procedure E–29–90 or its successor. Rounding shall be avoided prior to rounding for the reported value.

7. Bibliography

1. 40 CFR Part 60, Appendix F, "Quality Assurance Procedures: Procedure 1. Quality Assurance Requirements for Gas Continuous Emission Monitoring Systems Used For Compliance Determination".

PART 260—HAZARDOUS WASTE MANAGEMENT SYSTEM: GENERAL

III. In part 260:

1. The authority citation for part 260 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6921–6927, 6930, 6934, 6935, 6937, 6938, 6939, and 6974.

2. Subpart B of part 260 is amended by revising the definition of "industrial furnace" and adding the following definitions to read as follows:

§ 260.10 Definitions.

When used in parts 260 through 270 of this chapter, the following terms have the meanings given below:

* * * * *

Air pollution control system means the equipment used to reduce the release of particulate matter and other pollutants to the atmosphere.

Automatic waste feed cutoff (AWFCO) system means a system comprised of cutoff valves, actuator, sensor, data manager, and other necessary components and electrical circuitry designed, operated and maintained to stop the flow of hazardous waste to the combustion unit automatically and immediately when any of the parameters to which the system is interlocked exceed the limits established in compliance with applicable standards, the operating permit, or safety considerations.

* * * * *

Cement kiln means a rotary kiln and any associated preheater or precalciner devices that produces clinker by heating limestone and other materials for subsequent production of cement for use in commerce.

* * * * *

Combustion chamber means the area in which controlled flame combustion of hazardous waste occurs.

* * * * *

Continuous monitor means a device which continuously samples the regulated parameter without interruption except during allowable periods of calibration, and, for CEMS, except as defined otherwise by the applicable performance specification.

* * * * *

Dioxins and furans (D/F) means tetra, penta, hexa, hepta, and octa-chlorinated dibenzo dioxins and furans.

* * * * *

Feedstream means any material fed into a HWC, including, but not limited to, any pumpable or nonpumpable solid or gas.

* * * * *

Flowrate means the rate at which a feedstream is fed into a HWC.

* * * * *

Fugitive combustion emissions means particulate or gaseous matter generated by or resulting from the burning of hazardous waste that is not collected by a capture system and is released to the atmosphere prior to the exit of the stack.

* * * * *

Industrial furnace means any of the following enclosed devices that are integral components of manufacturing processes and that use thermal

treatment to accomplish recovery of materials or energy:

(1) Cement kilns

(2) Lime kilns

(3) Lightweight aggregate kilns

* * * * *

Lightweight aggregate kiln means a rotary kiln that produces for commerce (or for manufacture of products for commerce) an aggregate with a density less than 2.5 g/cc by slowly heating organic-containing geologic materials such as shale and clay.

* * * * *

One-minute average means the average of detector responses calculated at least every 60 seconds from responses obtained at least each 15 seconds.

* * * * *

Operating record means all information required by the standards to document and maintain compliance with the applicable regulations, including data and information, reports, notifications, and communications with regulatory officials.

* * * * *

Rolling average means the average of all one-minute averages over the averaging period.

Run means the net period of time during which an air emission sample is collected under a given set of operating conditions. Three or more runs constitutes an emissions test. Unless otherwise specified, a run may be either intermittent or continuous.

* * * * *

Synthesis gas fuel means a gaseous fuel produced by the thermal treatment of hazardous waste and which meets the specification provided by § 261.4(a)(12)(ii).

* * * * *

TEQ means the international method of expressing toxicity equivalents for dioxins and furans as defined in U.S. EPA, Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and -Dibenzofurans (CDDs and CDFs) and 1989 Update, March 1989.

* * * * *

PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

IV. In part 261:

1. The authority citation for part 261 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6921, 6922, and 6938.

2. Section 261.4 is amended by adding paragraph (a)(13) to read as follows:

§ 261.4 Exclusions.

(a) * * *

(13) Wastes that meet the following comparable fuel specifications, under the conditions of paragraph (a)(13)(iv):

(i) Generic comparable fuel specification. (A) Constituent specifications. For compounds listed below, the specification levels and, where non-detect is the specification, maximum allowable detection limits are: [values to be determined].

(B) Physical specifications. (1) Heating value. The heating value must exceed 11,500 J/g (5,000 BTU/lbm).

(2) Flash point. The flash point must not be less than [value to be determined].

(3) Viscosity. The viscosity must not exceed [value to be determined]

(ii) Synthesis gas fuel specification.

(A) Synthesis gas (syngas) which is generated from hazardous waste and which:

(*1*) Has a minimum Btu value of 11,500 J/g (5,000 Btu/lb);

(*2*) Contains less than 1 ppmv of each hazardous constituent listed in Appendix VIII of this part that could reasonably be expected to be in the gas, except the limit for hydrogen sulfide (H_2S) is 10 ppmv; and

(*3*) Which contains less than 1 ppmv each of total chlorine and total nitrogen other than diatomic nitrogen (N_2).

(B) Measurements of concentrations of constituents specified in paragraph (a)(13)(ii)(A) are to be taken at the temperature and pressure of the gas at the point that the exclusion is first claimed.

(iii) Implementation. Waste that meets the comparable fuel specifications provided by paragraphs (a)(13)(i) or (ii) of this section is excluded from the definition of solid waste provided that:

(A) The person who generates the waste or produces the syngas must claim the exclusion. For purposes of this paragraph, that person is called the waste-derived fuel producer;

(B) (*1*) The producer must submit a one-time notice to the Director claiming the exclusion and certifying compliance with the conditions of the exclusion.

(*2*) If the producer is a company which produces comparable fuel at more than one facility, the producer shall specify at which sites the comparable fuel will be produced and each specified site must be in compliance with the conditions of the exclusion at each point of production;

(C) Sampling and analysis. (*1*) The producer must obtain information by sampling and analysis as often as necessary to document that fuel claimed to be excluded meets the comparable fuel specification provided by paragraphs (a)(13)(i) or (ii) of this section. At a minimum, the producer must sample and analyze the fuel for all constituents for which specifications are established when the exclusion is first claimed, and at least annually thereafter, for all constituents that, using the results of the initial test and process knowledge, the producer reasonably expects to be found in the comparable fuel.

(*2*) The producer must develop and implement a comparable fuel sampling and analysis plan, using the same protocols used to develop waste analysis plans, to document that the comparable fuel meets the specifications.

(*3*) Analytical methods provided by SW–846 must be used unless prior written approval is obtained from the Director to use an equivalent method;

(*4*) If a waste-derived fuel is blended in order to meet the flash point and kinematic viscosity specifications, the producer shall analyze the fuel as produced to ensure that it meets the constituent and heating value specifications and then analyze the fuel again after blending to ensure that it meets all specifications.

(*5*) If not blended, the comparable fuel shall be analyzed as produced.

(D) (*1*) Comparable fuel shall be burned on-site or shipped directly to a person who burns the waste.

(*2*) No person other than the producer and the burner shall manage a comparable fuel other than incidental transportation related handling.

(E) Treatment to meet the specification. (*1*) Bona fide treatment of hazardous waste to remove or destroy constituents listed in the specifications or to raise the heating value by removing constituents or materials can be used to meet the specification.

(*2*) Owners and operators of RCRA permitted hazardous waste treatment facilities qualify as producers of waste-derived fuel eligible for the exclusion provided that the newly generated waste results from bona fide treatment to remove or destroy constituents listed in the specifications or to increase the heating value.

(*3*) Residuals resulting from the treatment of a hazardous waste listed in subpart D of this part to generate a comparable fuel remain a hazardous waste.

(*4*) Treatment by incidental settling during storage or blending operations is not bona fide treatment for purposes of this exclusion; and

(F) Blending to meet the specification. Blending a waste containing, as generated, higher concentration(s) of hazardous constituent(s) than allowed in the comparable fuel specifications with materials with lower

concentrations of such constituents to meet the specifications is prohibited. (An excluded comparable fuel, however, may be blended with other materials without restriction.)

(G) Speculative Accumulation. Producers and burners are subject to the speculative accumulation test under § 261.2(c)(4).

(H) Recordkeeping. Producers claiming the exclusion must keep records of:

(*1*) One-time notification to the Director required by paragraph (a)(13)(ii)(B) of this section;

(*2*) Sampling and analysis or other information documenting that the fuel meets the comparable fuel specification;

(*3*) The comparable fuel sampling and analysis plan; and

(*4*) For waste that is treated before meeting particular constituent limits of the comparable fuel specification, documentation that the treatment resulted in removal or destruction of those constituents to meet the specification.

(I) Records Retention. Records must be retained for three years. The sampling and analysis plan and all revisions to the plan shall be retained for as long as the producer claims the exclusion, plus three years.

PART 264—STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

V. In part 264:

1. The authority citation for part 264 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6924, and 6925.

2. Section 264.340 is amended by redesignating paragraphs (b), (c), and (d) as paragraphs (c), (d), and (e), respectively, and adding paragraph (b), to read as follows:

§ 264.340 Applicability.

* * * * *

(b) Incorporation of MACT standards. (1) The requirements applicable to hazardous waste incinerators under subpart EEE, part 63, of this chapter are incorporated by reference.

(2) When an owner and operator begin compliance (i.e., submit a notification of compliance) with the requirements of subpart EEE, part 63, of this chapter:

(i) The applicability provisions of § 264.340(b) and (c) no longer apply;

(ii) The performance standards provided by § 264.343(b) and (c) are superseded (i.e., replaced) by the subpart EEE, part 63, standards such that an operating permit issued or reissued under part 270 of this chapter must ensure compliance with the subpart EEE, part 63, standards as well as the DRE performance standard under § 264.343;

(iii) The operating requirements of § 264.345(b)(1) through (4) and the monitoring requirements of § 264.347(a)(1) and (2) are superseded (i.e., replaced) by the operating and monitoring requirements of § 63.1210 of this chapter such that an operating permit issued or reissued under part 270 of this chapter must ensure compliance with the subpart EEE, part 63, standards as well as the remaining standards under §§ 264.345 and 264.347; and

(iv) The operating requirements of § 264.345(d)(1)–(3) and § 264.345(e) are superseded (i.e., replaced) by the operating and monitoring requirements of § 63.1207 of this chapter such that an operating permit issued or reissued under part 270 of this chapter must ensure compliance with the subpart EEE, part 63, standards as well as the remaining applicable standards under § 264.345.

* * * * *

3. Section 264.345 is amended by revising paragraph (a) and adding paragraph (g) to read as follows:

§ 264.345 Operating Requirements

(a) An incinerator must be operated in accordance with operating requirements specified in the permit and meet the applicable emissions standards at all times that hazardous waste remains in the combustion chamber. These will be specified on a case-by-case basis as those demonstrated (in a trial burn or in alternative data as specified in § 264.344(b) and included with part B of the facility's permit application) to be sufficient to comply with the performance standards of § 264.343.

* * * * *

(g) ESV Openings. (1) Violation. If an emergency safety vent opens when hazardous waste is fed or remains in the combustion chamber, such that combustion gases are not treated as during the most recent performance test, it is a violation of the emission standards of this subpart.

(2) ESV Operating Plan. The ESV Operating Plan shall explain detailed procedures for rapidly stopping waste feed, shutting down the combustor, maintaining temperature in the combustion chamber until all waste exits the combustor, and controlling emissions in the event of equipment malfunction or activation of any ESV or other bypass system including calculations demonstrating that emissions will be controlled during such an event (sufficient oxygen for combustion and maintaining negative pressure), and the procedures for executing the plan whenever the ESV is used, thus causing an emergency release of emissions.

(3) Corrective measures. After any ESV opening that results in a violation, the owner or operator must investigate the cause of the ESV opening, take appropriate corrective measures to minimize future ESV violations, and record the findings and corrective measures in the operating record.

(4) Reporting requirement. The owner or operator must submit a written report within 5 days of a ESV opening violation documenting the result of the investigation and corrective measures taken.

4. Section 264.347 is amended by adding paragraphs (e), (f), and (g).

§ 264.347 Monitoring and inspections.

* * * * *

(e) Fugitive emissions. (1) Fugitive emissions must be controlled by:

(i) Keeping the combustion zone totally sealed against fugitive emissions; or

(ii) Maintaining the maximum combustion zone pressure lower than ambient pressure using an instantaneous monitor; or

(iii) Upon prior written approval of the Administrator, an alternative means of control to provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than ambient pressure;

(2) The owner or operator must specify in the operating record the method used for fugitive emissions control.

(f) Continuous emissions monitors (CEMS). (1) Hazardous waste incinerators shall be equipped with CEMS for compliance monitoring.

(2) At all times that hazardous waste is fed into the hazardous waste incinerator or remains in the combustion chamber, CEMS must be operated in compliance with the requirements of the appendix to subpart EEE, part 63, of this chapter.

(g) Other continuous monitoring systems. (1) CMS other than CEMS (e.g., thermocouples, pressure transducers, flow meters) must be used to document compliance with the applicable operating limits.

(2) Non-CEM CMS must be installed and operated in conformance with § 63.8(c)(3) of this chapter requiring the owner and operator, at a minimum, to comply with the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system.

(3) Non-CEM 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 detector must not be exceeded. Span limits shall be interlocked into the automatic waste feed cutoff system.

PART 265—INTERIM STATUS STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

VI. In part 265:

1. The authority citation for part 265 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6924, 6925, 6935, and 6936, unless otherwise noted.

2. Section 265.340 is amended by redesignating paragraph (b) as paragraph (c), and adding paragraph (b), to read as follows:

§ 265.340 Applicability.

* * * * *

(b) Incorporation of MACT standards. (1) The requirements applicable to hazardous waste incinerators under subpart EEE, part 63, of this chapter are incorporated by reference.

(2) When an owner and operator begin to comply (i.e., submit a notification of compliance) with the requirements of subpart EEE, part 63, of this chapter, those requirements apply in addition to those of this subpart, and the provisions of § 265.340(b) no longer apply.

* * * * *

3. Section 265.347 is amended by adding paragraphs (c), (d), and (e), to read as follows:

§ 265.347 Monitoring and inspections.

* * * * *

(c) Fugitive emissions. (1) Fugitive emissions must be controlled by:

(i) Keeping the combustion zone totally sealed against fugitive emissions; or

(ii) Maintaining the maximum combustion zone pressure lower than ambient pressure using an instantaneous monitor; or

(iii) Upon prior written approval of the Administrator, an alternative means of control to provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than ambient pressure;

(2) The owner or operator must specify in the operating record the method used for fugitive emissions control.

(d) Continuous emissions monitoring systems (CEMS). (1) Hazardous waste incinerators shall be equipped with CEMS for compliance monitoring.

(2) At all times that hazardous waste is fed into the hazardous waste incinerator or remains in the combustion chamber, CEMS must be operated in compliance with the requirements of the appendix to subpart EEE, part 63, of this chapter.

(e) Other continuous monitoring systems. (1) CMS other than CEMS (e.g., thermocouples, pressure transducers, flow meters) must be used to document compliance with the applicable operating limits.

(2) Non-CEM CMS must be installed and operated in conformance with § 63.8(c)(3) of this chapter requiring the owner and operator, at a minimum, to comply with the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system.

(3) Non-CEMS 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 detector must not be exceeded. Span limits shall be interlocked into the automatic waste feed cutoff system.

PART 266—STANDARDS FOR THE MANAGEMENT OF SPECIFIC HAZARDOUS WASTES AND SPECIFIC TYPES OF HAZARDOUS WASTE MANAGEMENT FACILITIES

VII. In part 266:

1. The authority citation for part 266 continues to read as follows:

Authority: Secs. 1006, 2002(a), 3004, and 3014 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912(a), 6924, and 6934).

2. Section 266.100 is amended by redesignating paragraphs (b), (c), (d), (e), and (f) as paragraphs (c), (d), (e), (f), and (g), adding paragraph (b), revising introductory text to paragraph (d)(1), revising paragraphs (d)(2) (i) and (ii), revising the introductory text to paragraph (d)(3), revising paragraphs (d)(3)(i)(B) and (d)(3)(ii), and adding paragraph (h), to read as follows:

§ 266.100 Applicability.

* * * * *

(b) Incorporation of MACT standards. (1) The requirements applicable to cement kilns and lightweight aggregate kilns under subpart EEE, part 63, of this chapter are incorporated by reference.

(2) When an owner and operator begin to comply (i.e., submit a notification of compliance) with the requirements of subpart EEE, part 63, of this chapter, those requirements apply in addition to those of this subpart.

* * * * *

(d) * * *

(1) To be exempt from §§ 266.102 through 266.111, an owner or operator of a metal recovery furnace or mercury recovery furnace must comply with the following requirements, except that an owner or operator of a lead or a nickel-chromium recovery furnace, or a metal recovery furnace that burns baghouse bags used to capture metallic dusts emitted by steel manufacturing, must comply with the requirements of paragraph (d)(3) of this section, and owners or operators of lead recovery furnaces that are subject to regulation under the Secondary Lead Smelting NESHAP must comply with the requirements of paragraph (h) of this section.

* * * * *

(2) * * *

(i) The hazardous waste has a total concentration of nonmetal compounds listed in part 261, appendix VIII, of this chapter exceeding 500 ppm by weight, as fired, and so is considered to be burned for destruction. The concentration of nonmetal compounds in a waste as generated may be reduced to the 500 ppm limit by bona fide treatment that removes or destroys nonmetal constituents. Blending for dilution to meet the 500 ppm limit is prohibited and documentation that the waste has not been impermissibly diluted must be retained in the records required by paragraph (d)(1)(iii) of this section; or

(ii) The hazardous waste has a heating value of 5,000 Btu/lb or more, as fired, and so is considered to be burned as fuel. The heating value of a waste as generated may be reduced to below the 5,000 Btu/lb limit by bona fide treatment that removes or destroys nonmetal constituents. Blending for dilution to meet the 5,000 Btu/lb limit is prohibited and documentation that the waste has not been impermissibly diluted must be retained in the records required by paragraph (d)(1)(iii) of this section.

(3) To be exempt from § 266.102 through 266.111, an owner or operator of a lead or nickel-chromium or mercury recovery furnace, except for owners or operators of lead recovery furnaces subject to regulation under the Secondary Lead Smelting NESHAP,

* * *

(i) * * *

(B) The waste does not exhibit the Toxicity Characteristic of § 261.24 of

this chapter for a nonmetal constituent; and

* * * * *

(ii) The Director may decide on a case-by-case basis that the toxic nonmetal constituents in a material listed in appendix XI or XII of this part that contains a total concentration of more than 500 ppm toxic nonmetal compounds listed in appendix VIII, part 261, of this chapter, may pose a hazard to human health and the environment when burned in a metal recovery furnace exempt from the requirements of this subpart. In that situation, after adequate notice and opportunity for comment, the metal recovery furnace will become subject to the requirements of this subpart when burning that material. In making the hazard determination, the Director will consider the following factors;

(A) The concentration and toxicity on nonmetal constituents in the material; and

(B) The level of destruction of toxic nonmetal constituents provided by the furnace; and

(C) Whether the acceptable ambient levels established in appendices IV or V of this part may be exceeded for any toxic nonmetal compound that may be emitted based on dispersion modeling to predict the maximum annual average off-site ground level concentration.

* * * * *

(h) Starting June 23, 1997, owners or operators of lead recovery furnaces that process hazardous waste for recovery of lead and that are subject to regulation under the Secondary Lead Smelting NESHAP, are conditionally exempt from regulation under this subpart, except for § 266.101. To be exempt, an owner or operator must provide a one-time notice to the Director identifying each hazardous waste burned and specifying that the owner or operator claims an exemption under this paragraph. The notice also must state that the waste burned has a total concentration of non-metal compounds listed in part 261, appendix VIII, of this chapter of less than 500 ppm by weight, as fired and as provided in paragraph (d)(2)(i) of this section, or is listed in appendix XI, part 266.

3. Section 266.101 is amended by revising paragraph (c)(1) to read as follows:

§ 266.101 Management prior to burning.

* * * * *

(c) Storage and treatment facilities. (1) Owners and operators of facilities that store or treat hazardous waste that is burned in a boiler or industrial furnace are subject to the applicable provisions of parts 264, 265, and 270 of this chapter, except as provided by paragraph (c)(2) of this section. These standards apply to storage and treatment by the burner as well as to storage and treatment facilities operated by intermediaries (processors, blenders, distributors, etc.)

* * * * *

4. Section 266.102 is amended by redesignating paragraph (a)(2) as (a)(3), adding paragraph (a)(2), revising the introductory text to paragraph (d)(4), adding paragraph (d)(5), revising paragraphs (e)(4)(i) (A) and (C), (e)(5)(i) (A) and (C), (e)(6)(i) (A), (B), and (C), and (e)(6)(iii), revising the introductory text to (e)(7)(i), and revising paragraphs (e)(7)(i)(C), (e)(8)(i) (A) and (C), and (e)(10), to read as follows:

§ 266.102 Permit standards for burners.

(a) Applicability. (1) * * *

(2) Applicability of MACT standards to cement and lightweight aggregate kilns. When an owner and operator of a cement or lightweight aggregate kiln that burns hazardous waste begin to comply (i.e., submit a notification of compliance) with the requirements of subpart EEE, part 63, of this chapter:

(i) The emission standards provided by §§ 266.104 through 266.107 are superseded (i.e., replaced) by the standards under subpart EEE, part 63, except that the DRE requirement provided by § 266.104(a) and the enforcement provisions of those sections (i.e., §§ 266.104(i), 266.105(c), 266.106(i), and 266.107(h)) continue to apply;

(ii) The specific operating requirements (and associated monitoring requirements) provided by paragraphs (e)(2)(ii), (e)(3), (e)(4), and (e)(5) of this section are superseded by the standards under subpart EEE, part 63, except that the provisions of paragraphs (e)(2)(i)(G), (e)(3)(i)(E), (e)(4)(ii)(J), (e)(4)(iii)(J), and (e)(5)(i)(G) of this section continue to apply to enable the permitting authority to establish such other operating requirements as are necessary to ensure compliance with the standards of subpart EEE, Part 63.;

(iii) An operating permit that is issued or reissued under part 270 of this chapter must ensure compliance with the subpart EEE, part 63, standards as well as those § 266.102 standards that continue to apply.

* * * * *

(d) * * *

(4) Except as provided by paragraph (d)(5) of this section, * * *

(5) When a cement or lightweight aggregate kiln becomes subject to the standards of subpart EEE, Part 63, of this chapter, the provisions of paragraph (d)(4) of this section continue to apply, except that the operating requirements established under that paragraph will be those sufficient to ensure compliance with the emission standards of subpart EEE and the DRE requirement of § 266.104(a).

(e) * * *

(4) * * *

(i) * * *

(A) Total feedrate of each metal in every feedstream measured and specified under provisions of paragraph (e)(6) of this section;

* * * * *

(C) A sampling and metals analysis program for every feedstream;

* * * * *

(5) * * *

(i) * * *

(A) Feedrate of total chloride and chlorine in every feedstream measured and specified as prescribed in paragraph (e)(6) of this section;

* * * * *

(C) A sampling and analysis program for total chloride and chlorine for every feedstream:

* * * * *

(6) * * *

(i) * * *

(A) One-minute average. The limit for a parameter shall be established and continuously monitored on a one-minute average basis, and the permit limit specified as the time-weighted average during all valid runs of the trial burn of the one-minute averages.

(B) Hourly rolling average. The limit for a parameter shall be established and continuously monitored on an hourly rolling average basis. The permit limit for the parameter shall be established based on trial burn data as the average over all valid test runs of the highest (or lowest, as appropriate) hourly rolling average value for each run.

(C) Instantaneous limit for combustion chamber pressure. Combustion chamber pressure shall be continuously sampled, detected, and recorded without use of an averaging period.

(ii) * * *

(iii) Feedrate limits for metals, total chloride and chlorine, and ash. Feedrate limits for metals, total chlorine and chloride, and ash are established and monitored by knowing the concentration of the substance (i.e., metals, chloride/chlorine, and ash) in each feedstream and the flow rate of the feedstreams. To monitor the feedrate of these substances, the flowrate of each feedstream must be monitored under the

monitoring requirements of paragraphs (e)(6) (i) and (ii) of this section.

* * * * *

(7) * * *

(i) Fugitive emissions. Fugitive emissions must be controlled by the following and it must specify in the operating record the method used for fugitive emissions control:

* * * * *

(C) Upon prior written approval of the Administrator, an alternative means of control to provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than ambient pressure.

* * * * *

(8) * * *

(i) * * *

(A) If specified by the permit, feedrates and composition of every feedstream and feedrates of ash, metals, and total chloride and chlorine;

* * * * *

(C) Upon the request of the Director, sampling and analysis of any feedstream, residues, and exhaust emissions must be conducted to verify that the operating requirements established in the permit achieve the applicable standards of §§ 266.105, 266.106, 266.107, and 266.108.

* * * * *

(10) Recordkeeping. The owner or operator shall maintain files of all information (including all reports and notifications) required by this section recorded in a form suitable and readily available for expeditious inspection and review. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.

* * * * *

6. Section 266.103 is amended by redesignating paragraphs (a)(2) through (a)(7) as paragraphs (a)(3) through (a)(8), adding paragraph (a)(2), revising the introductory text to paragraph (b)(2)(ii), revising paragraphs (b)(2)(ii)(A), (b)(2)(iii), and (b)(5)(i) and (iii), revising the introductory text to paragraphs (c) and (c)(4), revising paragraphs (c)(4)(iv)(A) through (D), revising the introductory text to paragraph (c)(7), adding a sentence at the end of paragraph (d), revising the introductory text to paragraph (h), revising paragraphs (h)(3) and (i), revising the introductory text to paragraph (j)(1), and revising paragraphs (j)(1)(i) and (iii), and (k), to read as follows:

§ 266.103 Interim status standards for burners.

(a) * * *

(2) Compliance with subpart EEE, part 63. When an owner and operator begin to comply (i.e., submit a notification of compliance) with the requirements of subpart EEE, part 63, of this chapter (and that are incorporated by reference), those requirements apply in lieu of the requirements of paragraphs (b) through (k) of this section.

* * * * *

(b) * * *

(2) * * *

(ii) Except for facilities complying with the Tier I or Adjusted Tier I feedrate screening limits for metals or total chlorine and chloride provided by §§ 266.106(b) or (e) and 266.107(b)(1) or (e), respectively, the estimated uncontrolled (at the inlet to the air pollution control system) emissions of particulate matter, each metal controlled by § 266.106, and hydrochloric acid and chlorine, and the following information supporting such determinations:

(A) The feedrate (lb/hr) of ash, chlorine, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, and thallium in each feedstream;

* * * * *

(iii) For facilities complying with the Tier I or Adjusted Tier I feedrate screening limits for metals or total chlorine and chloride provided by §§ 266.106(b) or (e) and 266.107(b)(1) or (e), the feedrate (lb/hr) of total chloride and chlorine, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, and thallium in each feedstream.

* * * * *

(5) * * *

(i) General requirements. Limits on each of the parameters specified in paragraph (b)(3) of this section (except for limits on metals concentrations in collected particulate matter (PM) for industrial furnaces that recycle collected PM) shall be established and monitored under either of the following methods:

(A) One-minute average. The limit for a parameter shall be established and continuously monitored on a one-minute average basis, and the permit limit specified as the time-weighted average during all valid runs of the trial burn of the one-minute averages.

(B) Hourly rolling average. The limit for a parameter shall be established and continuously monitored on an hourly rolling average basis. The permit limit for the parameter shall be established based on trial burn data as the average over all valid test runs of the highest (or lowest, as appropriate) hourly rolling average value for each run.

(C) Instantaneous limit for combustion chamber pressure. Combustion chamber pressure shall be continuously sampled, detected, and recorded without use of an averaging period.

* * * * *

(iii) Feedrate limits for metals, total chloride and chlorine, and ash. Feedrate limits for metals, total chlorine and chloride, and ash are established and monitored by knowing the concentration of the substance (i.e., metals, chloride/chlorine, and ash) in each feedstream and the flow rate of the feedstream. To monitor the feedrate of these substances, the flowrate of each feedstream must be monitored under the monitoring requirements of paragraphs (b)(5)(i) and (ii) of this section.

* * * * *

(c) Certification of Compliance. The owner or operator shall conduct emissions testing to document compliance with the emissions standards of §§ 266.104(b) through (e), 266.105, 266.106, 266.107 and paragraph (a)(5)(i)(D) of this section, under the procedures prescribed by this paragraph, except under extensions of time provided by paragraph (c)(7). Based on the compliance test, the owner or operator shall submit to the Director on or before August 21, 1992, a complete and accurate "certification of compliance" (under paragraph (c)(4) of this section) with those emission standards establishing limits on the operating parameters specified in paragraph (c)(1).

* * * * *

(4) Certification of compliance. Within 90 days of completing compliance testing, the owner or operator must certify to the Director compliance with the emission standards of §§ 266.104(b), (c), and (e), 266.105, 266.106, 266.107 and paragraph (a)(5)(i)(D) of this section. The certification of compliance must include the following information:

* * * * *

(iv) * * *

(A) One-minute average. The limit for a parameter shall be established and continuously monitored on a one-minute average basis, and the permit limit specified as the time-weighted average during all valid runs of the trial burn of the one-minute averages.

(B) Hourly rolling average. The limit for a parameter shall be established and continuously monitored on an hourly rolling average basis. The permit limit for the parameter shall be established based on trial burn data as the average

over all valid test runs of the highest (or lowest, as appropriate) hourly rolling average value for each run.

(C) Instantaneous limit for combustion chamber pressure. Combustion chamber pressure shall be continuously sampled, detected, and recorded without use of an averaging period.

(D) Feedrate limits for metals, total chloride and chlorine, and ash. Feedrate limits for metals, total chlorine and chloride, and ash are established and monitored by knowing the concentration of the substance (i.e., metals, chloride/chlorine, and ash) in each feedstream and the flow rate of the feedstream. To monitor the feedrate of these substances, the flow rate of each feedstream must be monitored under the monitoring requirements of paragraphs (c)(4)(iv)(A) through (C) of this section.

* * * * *

(7) Extensions of time. If the owner or operator does not submit a complete certification of compliance for all of the applicable emission standards of § 266.104, 266.105, 266.106, and 266.107 as specified in § 266.103(C)(1), or as required pursuant to § 266.103(d), he/she must either:

* * * * *

(d) * * *. The extensions of time provisions of paragraph (c)(7) of this section apply to recertifications.

* * * * *

(h) Fugitive emissions. Fugitive emissions must be controlled by one of the following methods. The operator must specify in the operating record the method selected.

* * * * *

(3) Upon prior written approval of the Administrator, an alternative means of control to provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than ambient pressure.

(i) Changes. A boiler or industrial furnace must cease burning hazardous waste when changes in combustion properties, or feedrates of any feedstream, or changes in the boiler or industrial furnace design or operating conditions deviate from the limits specified in the certification of compliance.

(j) Monitoring and Inspections. (1) The owner or operator must monitor and record the following, at a minimum, while burning hazardous waste. All monitoring and recording shall be in units corresponding to the units on the operating limits established in the certification of precompliance and certification of compliance.

(i) Applicable operating parameters of paragraphs (b) and (c) of this section shall be monitored and recorded under the requirements of paragraphs (b)(5) (i) and (ii) of this section;

* * * * *

(iii) Upon request of the Director, sampling and analysis of any feedstream and the stack gas emissions must be conducted to verify that the operating conditions established in the certification of precompliance or certification of compliance achieve the applicable standards of §§ 266.104, 266.105, 266.106, and 266.107.

(k) Recordkeeping. The owner or operator shall maintain files of all information (including all reports and notifications) required by this section recorded in a form suitable and readily available for expeditious inspection and review. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.

* * * * *

7. Section 266.104 is amended by removing paragraph (f), and redesignating paragraphs (g) and (h) as paragraphs (f) and (g), respectively.

8. Section 266.105 is amended by revising paragraph (b), redesignating paragraph (c) as paragraph (d) and adding paragraph (c), to read as follows:

§ 266.105 Standards to control particulate matter.

* * * * *

(b) An owner or operator meeting the requirements of § 266.109(b) for the low risk exemption is exempt from the particulate matter standard. Owners and operators of cement or lightweight aggregate kilns are not eligible for this exemption, however, upon compliance with the emission standards of subpart EEE, Part 63, of this chapter.

(c) Oxygen correction. (1) Measured pollutant levels shall be corrected for the amount of oxygen in the stack gas according to the formula:

$$Pc = Pm \times 14/(E - Y)$$

where Pc is the corrected concentration of the pollutant in the stack gas, Pm is the measured concentration of the pollutant in the stack gas, E is the oxygen concentration on a dry basis in the combustion air fed to the device, and Y is the measured oxygen concentration on a dry basis in the stack.

(2) For devices that feed normal combustion air, E will equal 21 percent. For devices that feed oxygen-enriched air for combustion (that is, air with an oxygen concentration exceeding 21 percent), the value of E will be the concentration of oxygen in the enriched air.

(3) Compliance with all emission standards provided by this subpart shall be based on correcting to 7 percent oxygen using this procedure.

* * * * *

9. Section 266.108 is amended by revising paragraph (a)(2), to read as follows:

§ 266.108 Small quantity on-site burner exemption.

(a) * * *

(2) The quantity of hazardous waste burned in a device for a calendar month does not exceed 27 gallons.

* * * * *

10. Section 266.109 is amended by revising the introductory text to paragraph (b) and adding paragraph (b)(3), to read as follows:

§ 266.109 Low risk waste exemption.

* * * * *

(b) Waiver of particulate matter standard. Except as provided in paragraph (b)(3) of this section, the particulate matter standard of § 266.105 does not apply if:

* * * * *

(3) When the owner and operator of a cement or lightweight aggregate kiln become subject to the standards of subpart EEE, part 63, of this chapter (i.e., upon submittal of the initial notification of compliance), the source is no longer eligible for waiver of the PM standard provided by this paragraph. At that time, the source is subject to the PM standard provided by subpart EEE, part 63.

11. Section 266.112 is amended by adding a sentence at the end of the introductory text to paragraph (b)(1), adding a sentence at the beginning of paragraph (b)(1)(ii), adding a sentence before the last sentence of paragraph (b)(2)(i), revising the first sentence of paragraph (b)(2)(iii), redesignating paragraph (c) as paragraph (d), and adding paragraph (c), to read as follows:

§ 266.112 Regulation of residues.

* * * * *

(b) * * *

(1) * * * For polychlorinated dibenzo-p-dioxins and polychlorinated dibenzo-furans, specific congeners and homologues must be measured and converted to 2,3,7,8–TCDD equivalent values using the calculation procedure specified in appendix IX, section 4.0 of this part.

(ii) Waste-derived residue. Waste-derived residue shall be sampled and

analyzed as required by this paragraph and paragraph (c) of this section to determine whether the residue generated during each 24 hour period has concentrations of toxic constituents that are higher than the concentrations established for the normal residue under paragraph (b)(1)(i) of this section. * * *

(2) * * *

(i) * * * In complying with the alternative levels for polychlorinated dibenzo-p-dioxins and polychlorinated dibenzo-furans, only the tetra-, penta-, and hexa- homologues need to be measured. * * *

* * * * *

(iii) Sampling and analysis. Waste-derived residue shall be sampled and analyzed as required by this paragraph and paragraph (c) of this section to determine whether the residue generated during each 24-hour period has concentrations of toxic constituents that are higher than the health-based levels. * * *

(c) Sampling and analysis frequency. (1) The owner or operator must sample and analyze residues at least once each 24-hour period when burning hazardous waste, unless written, advance approval is obtained from the Regional Administrator under paragraph (c)(2) of this section for less frequent sampling and analysis.

(2) Requests for approval for less frequent sampling and analysis (that is, less than once each 24-hour period) must be based on and justified by a statistical analysis.

(i) The Regional Administrator shall not grant approval for a sampling and analysis frequency of less than once each month.

(ii) At a minimum, the following information to support the request for reduced sampling and analysis frequency must be submitted to the Regional Administrator and must be contained in the facility's waste analysis plan for residue sampling:

(A) The statistical methodology selected, reason for selection, and the statistical procedures for calculating the sampling frequency;

(B) Analytical results used to generate the statistical database; and

(C) A description of how the statistical database is to be maintained and updated.

* * * * *

12. Appendix VIII to part 266 is revised to read as follows:

Appendix VIII to Part 266—Organic Compounds for Which Residues Must Be Analyzed for Bevill Determinations

Volatiles	Semivolatiles
Benzene	Bis(2-ethylhexyl)phthalate.
Toluene	Naphthalene.
Carbon tetrachloride	Phenol.
Chloroform	Diethyl phthalate.
Methylene chloride	Butyl benzyl phthalate.
Trichloroethylene	2,4-Dimethylphenol.
Tetra chloroethylene	o-Dichlorobenzene.
1,1,1-Trichloroethane	m-Dichlorobenzene.
Chlorobenzene	p-Dichlorobenzene.
cis-1,4-Dichloro-2-butene	Hexachlorobenzene.
Bromochloromethane	2,4,6-Trichlorophenol.
Bromodichloromethane	Fluoranthene.
Bromoform	o-Nitrophenol.
Bromomethane	1,2,4-Trichlorobenzene.
Methylene bromide	o-Chlorophenol.
Methyl ethyl ketone	Pentachlorophenol.
	Pyrene.
	Dimethyl phthalate.
	Mononitrobenzene.
	2,6-Toluene diisocyanate.
	Polychlorinated dibenzo-p-dioxins.
	Polychlorinated dibenzo-furans.

13. In Appendix IX to Part 266, Section 2.0 of the Table of Contents and the Appendix is revised to read as follows:

Appendix IX to Part 266—Methods Manual for Compliance With the BIF Regulations

Table of Contents

* * * * *

2.0 Performance Specifications and Quality Assurance Requirements for Continuous Monitoring Systems

2.1 Continuous emissions monitors (CEMS).

2.2 Other continuous monitoring systems.

* * * * *

Section 2.0 Performance Specifications and Quality Assurance Requirements for Continuous Monitoring Systems

2.1 Continuous emissions monitors (CEMS).

2.1.1 BIFs shall be equipped with CEMS for compliance monitoring.

2.1.2 At all times that hazardous waste is fed into the BIF or remains in the combustion chamber, CEMS must be operated in compliance with the requirements of the appendix to subpart EEE, part 63, of this chapter.

2.2 Other continuous monitoring systems.

2.2.1 CMS other than CEMS (e.g., thermocouples, pressure transducers, flow meters) must be used to document compliance with the applicable operating limits provided by this section.

2.2.2 Non-CEM CMS must be installed and operated in conformance with § 63.8(c)(3) of this chapter requiring the owner and operator, at a minimum, to comply with the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system.

2.2.3 Non-CEM 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.

2.2.4 The span of the detector must not be exceeded. Span limits shall be interlocked into the automatic waste feed cutoff system.

* * * * *

PART 270—EPA ADMINISTERED PERMIT PROGRAMS: THE HAZARDOUS WASTE PERMIT PROGRAM

VIII. In part 270:

1. The authority citation for part 270 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912, 6924, 6925, 6927, 6939, and 6974.

2. Section 270.19 is amended by adding a sentence at the end of the introductory text to the section.

§ 270.19 Specific part B information requirements for incinerators

* * * When an owner and operator begin to comply (i.e., submit a notification of compliance) with the requirements of subpart EEE, part 63, of this chapter, specific requirements of §§ 264.343, 264.345, and 264.347 are superseded by the subpart EEE standards as provided by § 264.340(b).

* * * * *

3. Section 270.22 is amended by adding introductory text to read as follows:

§ 270.22 Specific part B information requirements for boilers and industrial furnaces burning hazardous waste.

When an owner and operator of a cement or lightweight aggregate kiln begin to comply (i.e., submit a notification of compliance) with the requirements of subpart EEE, part 63, of this chapter, specific requirements of §§ 266.104 through 266.107 are superseded by the subpart EEE standards as provided by § 266.102(a)(2).

* * * * *

4. In Appendix I to § 270.42, an entry is added to section L.

Appendix I to § 270.42—Classification of Permit Modification

* * * * *

Modification	Class
* * * * *	
L. Incinerators, Boilers, and Industrial Furnaces	
* * * * *	
9.[2] Initial Technology Changes Needed to Meet Standards under 40 CFR Part 63 (Subpart EEE—National Emission Standards for Hazardous Air Pollutants From Hazardous Waste Combustors)"	[1]1
* * * * *	

[1] Class 1 modifications requiring prior Agency approval.

[2] Denotes that this section will be dropped from Appendix I 4 years following promulgation of this rule.

5. Section 270.62 is amended by adding introductory text and revising paragraph (b)(2)(vii), to read as follows:

§ 270.62 Hazardous waste incinerator permits.

When an owner and operator begin to comply (i.e., submit a notification of compliance) with the requirements of subpart EEE, part 63, of this chapter, specific requirements of §§ 264.343, 264.345, and 264.347 are superseded by the subpart EEE standards as provided by § 264.340(b).

* * * * *

(b) * * *

(2) * * *

(vii) Procedures for rapidly stopping waste feed, shutting down the combustor, maintaining temperature in the combustion chamber until all waste exits the combustor, and controlling emissions in the event of equipment malfunction or activation of any ESV or other bypass system including calculations demonstrating that emissions will be controlled during such an event (sufficient oxygen for combustion and maintaining negative pressure), and the procedures for executing the "Contingency Plan" whenever the ESV is used, thus causing an emergency release of emissions.

* * * * *

6. Section 270.66 is amended by adding introductory text to read as follows:

§ 270.66 Permits for boilers and industrial furnaces burning hazardous waste.

When an owner and operator of a cement or lightweight aggregate kiln begin to comply (i.e., submit a notification of compliance) with the requirements of subpart EEE, part 63 of this chapter, specific requirements of § 266.104 through 266.107 are superseded by the subpart EEE standards as provided by § 266.102(a)(2).

* * * * *

7. Section 270.72 is amended by adding paragraph (b)(8) to read as follows:

§ 270.72 Changes during interim status.

(b) * * *

(8) Changes necessary to comply with standards under subpart EEE, part 63, of this chapter (National Emission Standards for Hazardous Air Pollutants From Hazardous Waste Combustors).

* * * * *

PART 271—REQUIREMENTS FOR AUTHORIZATION OF STATE HAZARDOUS WASTE PROGRAMS

IX. In part 271:

1. The authority citation for part 271 continues to read as follows:

Authority: 42 U.S.C. 9602; 33 U.S.C. 1321 and 1361.

Subpart A—Requirements for Final Authorization

2. Section 271.1(j) is amended by adding the following entries to Table 1 in chronological order by date of publication in the **Federal Register** to read as follows:

§ 271.1 Purpose and scope.

* * * * *

(j) * * *

TABLE 1.—REGULATIONS IMPLEMENTING THE HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984

Promulgation date	Title of regulation	Federal Register reference	Effective date
* *	*	* *	* *
[*Insert date of publication of final rule in the Federal Register (FR)*]..	Revised Standards for Hazardous Waste Combustion Facilities.	[*Insert FR page numbers*].	[*Insert date of publication of final rule*].
* *	*	* *	* *

* * * * *

[FR Doc. 96–7872 Filed 4–18–96; 8:45 am]

BILLING CODE 6560–50–U

Friday
April 19, 1996

Part III

Department of Housing and Urban Development

24 CFR Part 990

Low-Income Public Housing Performance Funding System; Streamlining; Final Rule

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

24 CFR Part 990

[Docket No. FR–3760–F–01]

RIN 2577–AB50

Office of the Assistant Secretary for Public and Indian Housing; Low-Income Public Housing Performance Funding System—Streamlining

AGENCY: Office of the Assistant Secretary for Public and Indian Housing, HUD.

ACTION: Final rule.

SUMMARY: This final rule eliminates obsolete provisions from part 990 that had been retained solely for historical purposes. Additionally, revisions have been made to part 990 to reflect recent policy actions relating to the submission of operating budgets and the elimination of the maximum operating reserve.

EFFECTIVE DATE: May 20, 1996.

FOR FURTHER INFORMATION CONTACT: MaryAnn Russ, Deputy Assistant Secretary, Office of Public and Assisted Housing Operations, Public and Indian Housing, Room 4204, Department of Housing and Urban Development, 451 Seventh Street, SW, Washington, DC 20410, telephone (202) 708–0614. For hearing or speech-impaired persons, this number may be accessed via TDD by contacting the Federal Information Relay Service at 1–800–877–8339.

SUPPLEMENTARY INFORMATION:

I. Background

On March 4, 1995, President Clinton issued a memorandum on regulatory reform wherein he directed all Federal departments and agencies to, among other things, delete obsolete and unnecessary regulations, and revise necessary regulations. The memorandum built on the regulatory philosophy set forth in the President's Executive Order 12866 of September 30, 1993, Regulatory Planning and Review, which is premised on the recognition of the legitimate role of government to govern, but to do so in a focused and sensible way.

This final rule accomplishes the President's goal by eliminating obsolete sections in 24 CFR part 990, and revising several other sections.

In addition to the removal of obsolete provisions which had been retained in the regulation for historical purposes, the rule has been changed to reflect the following policy changes:

(1) In 1994, as part of HUD's reinvention efforts and recommendations made as a result of the Public and Indian Housing Statutory and Regulatory Review Program on financial management, a streamlined operating budget submission procedure was adopted. HUD waived the requirement in Section 407 of the Annual Contributions Contract for the submission of annual operating budgets and revisions for certain housing authorities (HAs) which have successfully passed performance measures found in the Public Housing Management Assessment Program.

(2) In 1995, HUD administratively removed the maximum allowable operating reserve for the Low Rent Public Housing and Turnkey III programs. As a result of this step, the requirement (for applicable programs) to remit to HUD residual receipts generated out of operations of HAs is inoperative because such residual receipts were created by a maximum allowable operating reserve.

II. Summary of Amendments

Section 990.101 has been revised to remove a general discussion of the background leading to the development of the Performance Funding System (PFS) in 1975. It also removes an overview of the PFS which summarized in a general way the basic elements of the PFS.

The following changes have been made to the definitions found in § 990.102. The statement that the Formula is subject to annual update has been removed because the Formula published in this regulation in 1992 is not updated annually. The definition of Interim Formula has been removed because it is a historical reference to the formula used before PFS. The definition of Local Inflation Factor has been simplified to remove language describing the adoption of a revised factor in 1982. The definition of Operating Budget has been revised to reflect the fact that some HAs are no longer required to submit operating budgets for HUD approval. Top of Range, which has changed over time, is now defined here and will no longer have to be defined each time it is referenced in § 990.105.

Section 990.103 has been revised to eliminate a reference to the starting dates for commencement of the PFS in 1975.

The following changes have been made to § 990.105. Section 990.105(a) has been revised to drop two references to budgets being "approved" because some HAs are no longer required to obtain HUD approval of their operating budgets. The detailed description of the current PFS formula has been moved to § 990.105 from § 990.110(f), the FY 1992 Formal Review Process section. The Top of Range is now defined in § 990.102, and its definition has been removed from § 990.105. Sections describing the Allowable Expense Level calculations before 1992 have been removed.

Section 990.107 has been revised to eliminate a general discussion of the reasons behind the PFS treatment of utilities. It has also been revised to reflect that there is no longer a heating degree day adjustment and to remove reference to the 1983 starting date for the current provisions.

References to Residual Receipts have been eliminated from § 990.108 to reflect the fact that the requirement to remit residual receipts is no longer operative. A sentence on the proration of audit costs has been removed because it only discussed proration of development costs and proration to other programs is also often appropriate. The limitation on approval of costs attributable to changes in Federal law or regulation has been revised to remove the requirement for a determination that sufficient other funds are not available. The Section on Costs beyond Control has been removed because this provision is statutory and does not need to be repeated in regulation.

The revisions to § 990.109 have been made to simplify the reference to the Tenant Rent Roll and to reflect the fact that some HAs are no longer required to submit an operating budget.

Section 990.110 has also been changed to reflect elimination of a universal requirement to submit operating budgets. The phrase "independent audit" has been substituted for "IPA audit." The section on utility adjustments has been simplified so that separate discussions of upward and downward adjustments are combined into one paragraph. This section has also been revised to reflect the fact that the requirement to remit residual receipts is no longer operative. The discussion of rental income adjustments has been shortened by removing examples of two of the reasons for these adjustments. The paragraph covering the Formal Review Process which took place in 1992 has been removed.

Section 990.111, Operating Reserves, has been removed to reflect the elimination of a maximum operating reserve.

The entire description of operating budget submission and approval has been rewritten to reflect the fact that some HAs are no longer required to submit an operating budget.

Section 990.113 has been revised to eliminate specific regulatory citations for occupancy regulations.

A one-time 1982 Energy Conservation procedure has been removed by deleting § 990.116.

A change in a regulatory reference has been made in § 990.401(a) to reflect the revision to § 990.105.

III. Justification for Final Rulemaking

The Department has determined that it is unnecessary to subject this rule to public comment. Since this rule is limited to removing obsolete provisions and updating provisions in part 990 to reflect current practices, prior public comment was determined to be unnecessary. Section 10.1 of 24 CFR part 10 states that notice and public procedure can be omitted if the Department determines in a particular case or class of cases that notice and public procedure are impracticable, unnecessary, or contrary to the public interest.

IV. Findings and Certifications

Executive Order 12866

The Office of Management and Budget reviewed this final rule under Executive Order 12866, Regulatory Planning and Review. Any changes made to the rule as a result of that review are clearly identified in the docket file, which is available for public inspection at the Office of General Counsel, Room 10276, Department of Housing and Urban Development, 451 Seventh Street, SW, Washington, DC 20410–0500.

Environmental Impact

In accordance with 40 CFR 1508.4 of the regulations of the Council on Environmental Quality and 24 CFR 50.20(o) of the HUD regulations, the policies and procedures contained in this final rule relate only to operating costs that do not affect a physical structure or property and, therefore, are categorically excluded from the requirements of the National Environmental Policy Act.

Impact on Small Entities

The Secretary, in accordance with the Regulatory Flexibility Act (5 U.S.C. 605(b)), has reviewed this rule before publication and by approving it certifies that this rule would not have a significant economic impact on a substantial number of small entities. This rule eliminates obsolete provisions which had been retained solely for historical purposes.

Federalism Impact

The General Counsel, as the Designated Official under section 6(a) of Executive Order 12612, Federalism, has determined that the policies contained in this rule do not have federalism implications and, thus, are not subject to review under the Order.

Impact on the Family

The General Counsel of HUD, as the Designated Official under Executive Order 12606, The Family, has determined that this rule does not have potential for significant impact on formation, maintenance, and general well-being of families, and thus, is not subject to review under the Order. No significant change in existing HUD policies or programs will result from promulgation of this rule, as those policies and programs relate to family concerns.

List of Subjects in 24 CFR Part 990

Grant programs—housing and community development; Public housing, Reporting and record keeping requirements.

Accordingly, 24 CFR part 990 is amended as follows:

PART 990—ANNUAL CONTRIBUTIONS FOR OPERATING SUBSIDY

1. The authority citation for part 990 continues to read as follows:

Authority: 42 U.S.C. 11437(g) and 3535(d).

2–3. Section 990.101 is revised to read as follows:

§ 990.101 Purpose.

Implementation of Section 9(a). The purpose of this subpart is to establish standards and policies for the determination of operating subsidy eligibility in accordance with section 9(a) of the U.S. Housing Act of 1937, 42 U.S.C. 1437g. Section 9(a) authorizes the Secretary of Housing and Urban Development (HUD) to make annual contributions for the operation of PHA-owned rental housing (operating subsidy).

4. In § 990.102, the following definitions are amended:

(a) The last sentence of the definition of *Formula* is removed;

(b) The definition of "*Interim Formula*" is removed;

(c) The definition for *Local Inflation Factor* is revised:

* * * * *

Local Inflation Factor. The HUD-supplied weighted average percentage increase in local government wages and salaries for the area in which the PHA is located and non-wage expenses;

* * * * *

(d) The definition for "*Operating budget*" is revised:

* * * * *

Operating budget. The PHA's operating budget and all related documents, as required by HUD, approved by the PHA Board of Commissioners;

* * * * *

and

(e) The definition of "*Top of Range*" is added:

* * * * *

Top of Range. Formula Expense Level multiplied by 1.15.

* * * * *

5. In § 990.103, paragraph (a) is revised; paragraph (b) is removed; and paragraph (c) is redesignated as paragraph (b), to read as follows:

§ 990.103 Applicability of PFS.

(a) PFS has been and will be utilized in determining the amounts of operating subsidy payable to PHAs. PFS is applicable to all PHA-owned rental units under Annual Contributions Contracts. PFS applies to PHAs that have not received operating subsidy payments previously, but are eligible for such payments under PFS. PFS, as described in this part, is not applicable to Indian Housing, the Section 23 Leased Housing Program, the Section 23 Housing Assistance Payments Program, the Section 8 Housing Assistance Payments Program, or the Turnkey III or Turnkey IV Homeownership Opportunity Programs. PFS is not applicable to housing owned by the PHAs of the Virgin Islands, Puerto Rico, Guam, and Alaska. Operating subsidy payments to these PHAs are made in accordance with subpart B of this part. PFS for Indian Housing is described in 24 CFR part 950.

* * * * *

6. Section 990.105 is amended by revising the introductory text, paragraph (a), introductory text, paragraph (c), paragraph (d), introductory text, paragraphs (d)(1) and (d)(2), introductory text, paragraph (d)(4), and (d)(5), to read as follows:

§ 990.105 Computation of allowable expense level.

The PHA shall compute its Allowable Expense Level using forms prescribed by HUD, as follows:

(a) *Computation of Base Year Expense Level.* The Base Year Expense Level includes Payments in Lieu of Taxes (PILOT) required by a Cooperation Agreement even if PILOT is not included in the Operating Budget for the Base Year because of a waiver of the requirements by the local taxing jurisdiction(s). The Base Year Expense Level includes all other operating expenditures as reflected in the PHA's

Operating Budget for the Base Year except the following:

* * * * *

(c) *Computation of Formula Expense Level.* The PHA shall compute its Formula Expense Level in accordance with a HUD-prescribed formula that estimates the cost of operating an average unit in a particular PHA's inventory. It uses weights and a Local Inflation Factor assigned each year to derive a Formula Expense Level for the current year and the requested budget year. The formula is the sum of the following six numbers and the weights of the formula and the formula are subject to updating by HUD:

(1) The number of pre-1940 rental units occupied by poor households in 1980 as a percentage of the 1980 population of the community multiplied by a weight of 7.954. This Census-based statistic applies to the county of the PHA, except that, if the PHA has 80 percent or more of its units in an incorporated city of more than 10,000 persons, it uses city-specific data. County data will exclude data for any incorporated cities of more than 10,000 persons within its boundaries.

(2) The Local Government Wage Rate multiplied by a weight of 116.496. The wage rate used is a figure determined by the Bureau of Labor Statistics. It is a county-based statistic, calibrated to a unit-weighted PHA standard of 1.0. For multi-county PHAs, the local government wage is unit-weighted. For this formula, the local government wage index for a specific county cannot be less than 85 percent or more than 115 percent of the average local government wage for counties of comparable population and metro/non-metro status, on a state-by-state basis. In addition, for counties of more than 150,000 population in 1980, the local government wage cannot be less than 85 percent or more than 115 percent of the wage index of private employment determined by the Bureau of Labor Statistics and the rehabilitation cost index of labor and materials determined by the R.S. Means Company.

(3) The lesser of the current number of the PHA's two or more bedroom units available for occupancy, or 15,000 units, multiplied by a weight of .002896.

(4) The current ratio of the number of the PHA's two or more bedroom units available for occupancy in high-rise family projects to the number of all the PHA's units available for occupancy multiplied by a weight of 37.294. For this indicator, a high-rise family project is defined as averaging 1.5 or more bedrooms per unit available for occupancy and averaging 35 or more units available for occupancy per building and containing at least one building with units available for occupancy that is 5 or more stories high.

(5) The current ratio of the number of the PHA's three or more bedroom units available for occupancy to the number of all the PHA's units available for occupancy multiplied by a weight of 22.303.

(6) An equation calibration constant of −.2344.

(d) *Computation of Allowable Expense Level.* The PHA shall compute its Allowable Expense Level as follows:

(1) *Allowable Expense Level for first budget year under PFS where Base Year Expense Level does not exceed the top of the range.* Every PHA whose Base Year Expense Level is less than the top of the range shall compute its Allowable Expense Level for the first budget year under the PFS by adding the following to its Base Year Expense Level (before adjustments under § 990.110):

* * * * *

(2) *Allowable Expense Level for first budget year under PFS where Base Year Expense Level exceeds the top of the range.* Every PHA whose Base Year Expense Level exceeds the top of the range shall compute its Allowable Expense Level for the first budget year under PFS by adding the following to the top of the range (not to its Base Year Expense Level, as in paragraph (d)(1) of this section):

* * * * *

(4) *Allowable Expense Level for budget years after the first budget year under PFS.* For each budget year after the first budget year under PFS, the AEL shall be computed as follows:

(i) The Allowable Expense Level shall be increased by any increase to the AEL approved by HUD under § 990.108(c);

(ii) The AEL for the Current Budget Year also shall be adjusted as follows:

(A) Increased by one-half of one percent (.5 percent); and

(B) If the PHA has experienced a change in the number of units in excess of 5 percent or 1,000 units, whichever is less, since the last adjustment to the AEL based on this paragraph, it shall use the increase (decrease) between the Formula Expense Level calculated using the PHA's characteristics that applied to the Requested Year when the last adjustment to the AEL was made based on this paragraph and the Formula Expense Level calculated using the PHA's characteristics for the Requested Budget Year.

(iii) The amount computed in accordance with paragraphs (d)(4) (i) and (ii) of this section shall be multiplied by the Local Inflation Factor.

(5) *Adjustment of Allowable Expense Level for budget years after the first budget year under PFS.* HUD may adjust the Allowable Expense Level of budget years after the first year under PFS under the provisions of § 990.105(b) or § 990.108(c).

7. Section 990.107 is amended by revising paragraphs (a) and (c)(1), introductory text, to read as follows:

§ 990.107 Computation of utilities expense level.

(a) The PHA's Utilities Expense Level for the requested Budget Year shall be computed by multiplying the AUCL per unit per month for each utility, determined as provided in paragraph (c) of this section, by the projected utility rate determined as provided in paragraph (b) of this section.

(c) * * *

(1) *Rolling Base Period System.* For project utilities with consumption data for the entire Rolling Base Period, the AUCL is the average amount consumed per unit per month during the Rolling Base Period adjusted in accordance with paragraph (d) of this section. The PHA shall determine the average amount of each of the utilities consumed during the Rolling Base period (i.e., the 36-month period ending 12 months prior to the first day of the Requested Budget Year). An example of a rolling base is as follows:

* * * * *

8. In § 990.108, paragraphs (a) (1) and (2) and (c) are revised, paragraph (d) is removed, paragraph (e) is redesignated as paragraph (d), paragraph (f) is redesignated as paragraph (e), and paragraph (g) is redesignated as paragraph (f).

§ 990.108 Other costs.

(a) *Cost of independent audits.* (1) Eligibility to receive operating subsidy for independent audits is considered separately from the PFS. However, the PHA shall not request, nor will HUD approve, an operating subsidy for the cost of an independent audit if the audit has already been funded by subsidy in a prior year. The PHA's estimate of cost of the independent audit is subject to adjustment by HUD. If the PHA requires assistance in determining the amount of cost to be estimated, the HUD Field Office should be contacted.

(2) A PHA that is required by the Single Audit Act (see 24 CFR part 44) to conduct a regular independent audit may receive operating subsidy to cover the cost of the audit. The estimated cost of an independent audit, applicable to the operations of PHA-owned rental housing, is not included in the Allowable Expense Level, but it is

allowed in full in computing the amount of operating subsidy under § 990.104, above.

* * * * *

(c) *Costs attributable to changes in Federal law or regulation.* In the event that HUD determines that enactment of a Federal law or revision in HUD or other Federal regulation has caused or will cause a significant increase in expenditures of a continuing nature above the Allowable Expense Level and Utilities Expense Level, HUD may in HUD's sole discretion decide to prescribe a procedure under which the PHA may apply for or may receive an increase in operating subsidy.

* * * * *

9. In § 990.109, paragraphs (b), introductory text, (b)(1), and (d) are revised to read as follows:

§ 990.109 Projected operating income level.

* * * * *

(b) *Computation of projected average monthly dwelling rental income.* The projected average monthly dwelling rental income per unit for the PHA is computed as follows:

(1) *Average monthly dwelling rental charge per unit.* The dollar amount of the average monthly dwelling rental charge per unit shall be computed on the basis of the total dwelling rental charges (total of the adjusted rent roll amounts) for all Project Units, as shown on the Tenant Rent Rolls which the PHA is required to maintain, for the first day of the month which is six months prior to the first day of the Requested Budget Year, except that if a change in the total of the Rent Rolls has occurred in a subsequent month which is prior to the beginning of the Requested Budget Year and prior to the submission of the Requested Budget Year calculation of operating subsidy eligibility, the PHA shall use the latest changed Rent Roll for the purpose of the computation. This aggregate dollar amount shall be divided by the number of occupied dwelling units as of the same date.

* * * * *

(d) *Estimate of additional dwelling rental income.* After implementation of the provisions of any legislation enacted or any HUD administrative action taken subsequent to the effective date of these regulations, which affects rents paid by tenants of Projects, each PHA shall submit a revision of its calculation of operating subsidy eligibility showing an estimate of any change in rental income which it anticipates as the result of the implementation of said provisions. HUD shall have complete discretion to adjust the projected average monthly dwelling rental charge per unit to reflect such change or in the absence of this submission, if HUD has knowledge of such change. HUD also shall have complete discretion to reduce or increase the operating subsidy approved for the PHA current fiscal year in an amount equivalent to the change in the rental income.

* * * * *

§ 990.110 [Amended]

10. Section 990.110 is amended as follows:

(a) The first sentence of the introductory text is amended by removing the phrase "operating budget" and adding the phrase "calculation of operating subsidy eligibility";

(b) Paragraph (a)(1) is amended by removing the phrase "IPA" and adding the word "independent" in its place; paragraph (a)(2) is amended by removing the phrase "operating budget" and adding the phrase "calculation of operating subsidy eligibility" in its place;

(c) Paragraph (c) is amended by removing the phrase "IPA" in two places and adding the word "independent" in its place;

(d) Paragraph (c)(1)(i) is amended by removing the "(i)" and the first sentence and adding the sentence "A change in the Utilities Expense Level because of changes in utility rates-to the extent funded by the operating subsidy-will result in an adjustment of future operating subsidy payments." in its place;

(e) Paragraph (c)(1)(ii) is removed;

(f) Paragraph (c)(2)(ii) is amended by removing the sentence "The decreased consumption is to be determined by adjusting for any utility rate changes." and adding "The decreased consumption is to be determined by adjusting for any utility rate changes and may be adjusted, subject to HUD approval, using a heating degree day adjustment for space heating utilities." in its place;

(g) Paragraph (c)(2)(iii) is amended by removing the phrase, "then 50 percent of the amount will be funded by increased operating subsidy payment, subject to the availability of funds." and the following phrase is added in its place "fifty percent of an increase in the Utilities Expense Level attributable to increased consumption, after adjustment for any utility rate change, will be funded by HUD by adjusting future operating subsidy payments.";

(h) The first sentence of paragraph (d)(1) is amended by removing the phrase ", such as a substantial increase in general unemployment in the locality, or because of a revision of the PHA's rent schedule which has been approved by HUD";

(i) Paragraph (e) is amended by removing the phrase "990.107(g)(2)" and adding "990.107(f)(2)" in its place;

(j) Paragraph (e)(1)(i) is revised:

* * * * *

(e) * * *

(1) * * *

(i) The consumption level that would have been expected if the energy conservation measure had not been undertaken would be adjusted for any change in utility rate and may be adjusted, subject to HUD approval, using a heating degree day adjustment for space heating utilities;

* * * * *

(k) Paragraph (f) is removed; and

(l) Paragraph (g) is redesignated as paragraph (f).

11. Section 990.111 is revised to read as follows:

§ 990.111 Submission and Approval of Operating Subsidy Calculations and Budgets.

(a) *Required Documentation.* (1) Prior to the beginning of its fiscal year, the PHA shall prepare an operating budget in a manner prescribed by HUD. The Board of Commissioners shall review and approve the budget by resolution. Each fiscal year, the PHA shall submit to the HUD Field Office, in a time and manner prescribed by HUD, the approved board resolution and the required operating subsidy eligibility calculation forms. The PHA shall submit revised calculations in support of mandatory or other adjustments based on procedures prescribed by HUD.

(2) HUD may direct the PHA to submit its complete operating budget if the PHA has failed to achieve certain specified operating standards, or for other reasons which in HUD's determination threaten the PHA's future serviceability, efficiency, economy, or stability.

(b) *HUD operating budget review.* (1) The HUD Field Office will perform a detailed review on operating budgets that are subject to HUD review and approval. If the HUD Field Office finds that an operating budget is incomplete, includes illegal or ineligible expenditures, mathematical errors, errors in the application of accounting procedures, or is otherwise unacceptable, the HUD Field Office may at any time require the submission by the PHA of further information regarding an operating budget or operating budget revision.

(2) When the PHA no longer is operating in a manner that threatens the future serviceability, efficiency,

economy, or stability of the housing it operates, HUD will notify the PHA that it no longer is required to submit an operating budget to HUD for review and approval.

12. Section 990.112 is removed and the present § 990.113 is redesignated as § 990.112.

13. Section 990.115 is redesignated as § 990.113 and paragraphs (a) and (b) are revised to read as follows:

§ 990.113 Payments of operating subsidy conditioned upon reexamination of income of families in occupancy.

(a) *Policy.* The income of each family must be reexamined at least annually. PHAs must be in compliance with this reexamination requirement to be eligible to receive full operating subsidy payments.

(b) *PHAs in compliance with requirements.* Each submission of the original calculation of operating subsidy eligibility for a fiscal year shall be accompanied by a certification by the PHA that it is in compliance with the annual income reexamination requirements and that rents have been or will be adjusted in accordance with current HUD requirements.

* * * * *

§ 990.116 [Removed]

14. Section 990.116 is removed.

§ 990.401 [Amended]

15. Section 990.401(a) is amended by removing from the last sentence the phrase § 990.105(e)(5) and adding the phrase § 990.105(e)(4) in its place.

Dated: March 14, 1996.

Michael B. Janis,

General Deputy Assistant Secretary for Public and Indian Housing.

[FR Doc. 96–9613 Filed 4–18–96; 8:45 am]

BILLING CODE 4210–33–P