PROCEDURE 2—QUALITY ASSURANCE REQUIREMENTS FOR PARTICULATE MATTER CONTINUOUS EMISSION MONITORING SYSTEMS AT STATIONARY SOURCES

1.0 What Are the Purpose and Applicability of Procedure 2?

The purpose of Procedure 2 is to establish the minimum requirements for evaluating the effectiveness of quality control (QC) and quality assurance (QA) procedures and the quality of data produced by your particulate matter (PM) continuous emission monitoring system (CEMS). Procedure 2 applies to PM CEMS used for continuously determining compliance with emission standards or operating permit limits as specified in an applicable regulation or permit. Other QC procedures may apply to diluent (*e.g.*, O_2) monitors and other auxiliary monitoring equipment included with your CEMS to facilitate PM measurement or determination of PM concentration in units specified in an applicable regulation.

1.1 What measurement parameter does Procedure 2 address? Procedure 2 covers the instrumental measurement of PM as defined by your source's applicable reference method (no Chemical Abstract Service number assigned).

1.2 For what types of devices must I comply with Procedure 2? You must comply with Procedure 2 for the total equipment that:

(1) We require you to install and operate on a continuous basis under the applicable regulation, and

(2) You use to monitor the PM mass concentration associated with the operation of a process or emission control device.

1.3 What are the data quality objectives (DQOs) of Procedure 2? The overall DQO of Procedure 2 is the generation of valid, representative data that can be transferred into useful information for determining PM CEMS concentrations averaged over a prescribed interval. Procedure 2 is also closely associated with Performance Specification 11 (PS-11).

(1) Procedure 2 specifies the minimum requirements for controlling and assessing the quality of PM CEMS data submitted to us or the delegated permitting authority.

(2) You must meet these minimum requirements if you are responsible for one or more PM CEMS used for compliance monitoring. We encourage you to develop and implement a more extensive QA program or to continue such programs where they already exist.

1.4 What is the intent of the QA/QC procedures specified in Procedure 2? Procedure 2 is intended to establish the minimum QA/QC requirements for PM CEMS and is presented in

general terms to allow you to develop a program that is most effective for your circumstances. You may adopt QA/QC procedures that go beyond these minimum requirements to ensure compliance with applicable regulations.

1.5 When must I comply with Procedure 2? You must comply with the basic requirements of Procedure 2 immediately following successful completion of the initial correlation test of PS-11.

2.0 What Are the Basic Requirements of Procedure 2?

Procedure 2 requires you to perform periodic evaluations of PM CEMS performance and to develop and implement QA/QC programs to ensure that PM CEMS data quality is maintained.

2.1 What are the basic functions of Procedure 2?

(1) Assessment of the quality of your PM CEMS data by estimating measurement accuracy;

(2) Control and improvement of the quality of your PM CEMS data by implementing QC requirements and corrective actions until the data quality is acceptable; and

(3) Specification of requirements for daily instrument zero and upscale drift checks and daily sample volume checks, as well as routine response correlation audits, absolute correlation audits, sample volume audits, and relative response audits.

3.0 What Special Definitions Apply to Procedure 2?

The definitions in Procedure 2 include those provided in PS-11 of Appendix B, with the following additions:

3.1 "Absolute Correlation Audit (ACA)" means an evaluation of your PM CEMS response to a series of reference standards covering the full measurement range of the instrument (*e.g.,* 4 mA to 20 mA).

3.2 "Correlation Range" means the range of PM CEMS responses used in the complete set of correlation test data.

3.3 "PM CEMS Correlation" means the site-specific relationship (*i.e.,* a regression equation) between the output from your PM CEMS (*e.g.,* mA) and the particulate concentration, as determined by the reference method. The PM CEMS correlation is expressed in the same units as the PM concentration measured by your PM CEMS (*e.g.,* mg/acm). You must derive this relation from PM CEMS response data and manual reference method data that were gathered simultaneously. These data must be representative of the full range of source and control device operating conditions that you expect to occur. You must develop the correlation by performing the steps presented in sections 12.2 and 12.3 of PS-11.

3.4 "Reference Method Sampling Location" means the location in your source's exhaust duct from which you collect manual reference method data for developing your PM CEMS

correlation and for performing relative response audits (RRAs) and response correlation audits (RCAs).

3.5 “Response Correlation Audit (RCA)” means the series of tests specified in section 10.3(8) of this procedure that you conduct to ensure the continued validity of your PM CEMS correlation.

3.6 “Relative Response Audit (RRA)” means the brief series of tests specified in section 10.3(6) of this procedure that you conduct between consecutive RCAs to ensure the continued validity of your PM CEMS correlation.

3.7 “Sample Volume Audit (SVA)” means an evaluation of your PM CEMS measurement of sample volume if your PM CEMS determines PM concentration based on a measure of PM mass in an extracted sample volume and an independent determination of sample volume.

4.0 Interferences [Reserved]

5.0 What Do I Need To Know To Ensure the Safety of Persons Using Procedure 2?

People using Procedure 2 may be exposed to hazardous materials, operations, and equipment. Procedure 2 does not purport to address all of the safety issues associated with its use. It is your responsibility to establish appropriate safety and health practices and determine the applicable regulatory limitations before performing this procedure. You must consult your CEMS user's manual for specific precautions to be taken with regard to your PM CEMS procedures.

6.0 What Equipment and Supplies Do I Need? [Reserved]

7.0 What Reagents and Standards Do I Need?

You will need reference standards or procedures to perform the zero drift check, the upscale drift check, and the sample volume check.

7.1 What is the reference standard value for the zero drift check? You must use a zero check value that is no greater than 20 percent of the PM CEMS's response range. You must obtain documentation on the zero check value from your PM CEMS manufacturer.

7.2 What is the reference standard value for the upscale drift check? You must use an upscale check value that produces a response between 50 and 100 percent of the PM CEMS's response range. For a PM CEMS that produces output over a range of 4 mA to 20 mA, the upscale check value must produce a response in the range of 12 mA to 20 mA. You must obtain documentation on the upscale check value from your PM CEMS manufacturer.

7.3 What is the reference standard value for the sample volume check? You must use a reference standard value or procedure that produces a sample volume value equivalent to the normal sampling rate. You must obtain documentation on the sample volume value from your PM CEMS manufacturer.

8.0 What Sample Collection, Preservation, Storage, and Transport Are Relevant to This Procedure? [Reserved]

9.0 What Quality Control Measures Are Required by This Procedure for My PM CEMS?

You must develop and implement a QC program for your PM CEMS. Your QC program must, at a minimum, include written procedures that describe, in detail, complete step-by-step procedures and operations for the activities in paragraphs (1) through (8) of this section.

(1) Procedures for performing drift checks, including both zero drift and upscale drift and the sample volume check (see sections 10.2(1), (2), and (5)).

(2) Methods for adjustment of PM CEMS based on the results of drift checks, sample volume checks (if applicable), and the periodic audits specified in this procedure.

(3) Preventative maintenance of PM CEMS (including spare parts inventory and sampling probe integrity).

(4) Data recording, calculations, and reporting.

(5) RCA and RRA procedures, including sampling and analysis methods, sampling strategy, and structuring test conditions over the prescribed range of PM concentrations.

(6) Procedures for performing ACAs and SVAs and methods for adjusting your PM CEMS response based on ACA and SVA results.

(7) Program of corrective action for malfunctioning PM CEMS, including flagged data periods.

(8) For extractive PM CEMS, procedures for checking extractive system ducts for material accumulation.

9.1 What QA/QC documentation must I have? You are required to keep the written QA/QC procedures on record and available for inspection by us, the State, and/or local enforcement agency for the life of your CEMS or until you are no longer subject to the requirements of this procedure.

9.2 How do I know if I have acceptable QC procedures for my PM CEMS? Your QC procedures are inadequate or your PM CEMS is incapable of providing quality data if you fail two consecutive QC audits (*i.e.,* out-of-control conditions resulting from the annual audits, quarterly audits, or daily checks). Therefore, if you fail the same two consecutive audits, you must revise your QC procedures or modify or replace your PM CEMS to correct the deficiencies causing the excessive inaccuracies (see section 10.4 for limits for excessive audit inaccuracy).

10.0 What Calibration/Correlation and Standardization Procedures Must I Perform for My PM CEMS?

You must generate a site-specific correlation for each of your PM CEMS installation(s) relating response from your PM CEMS to results from simultaneous PM reference method testing. The PS-11 defines procedures for developing the correlation and defines a series of statistical parameters for assessing acceptability of the correlation. However, a critical component of your PM CEMS correlation process is ensuring the accuracy and precision of reference method data. The activities listed in sections 10.1 through 10.10 assure the quality of the correlation.

10.1 When should I use paired trains for reference method testing? Although not required, we recommend that you should use paired-train reference method testing to generate data used to develop your PM CEMS correlation and for RCA testing. Guidance on the use of paired sampling trains can be found in the PM CEMS Knowledge Document (see section 16.5 of PS-11).

10.2 What routine system checks must I perform on my PM CEMS? You must perform routine checks to ensure proper operation of system electronics and optics, light and radiation sources and detectors, and electric or electro-mechanical systems. Necessary components of the routine system checks will depend on design details of your PM CEMS. As a minimum, you must verify the system operating parameters listed in paragraphs (1) through (5) of this section on a daily basis. Some PM CEMS may perform one or more of these functions automatically or as an integral portion of unit operations; for other PM CEMS, you must initiate or perform one or more of these functions manually.

(1) You must check the zero drift to ensure stability of your PM CEMS response to the zero check value. You must determine system output on the most sensitive measurement range when the PM CEMS is challenged with a zero reference standard or procedure. You must, at a minimum, adjust your PM CEMS whenever the daily zero drift exceeds 4 percent.

(2) You must check the upscale drift to ensure stability of your PM CEMS response to the upscale check value. You must determine system output when the PM CEMS is challenged with a reference standard or procedure corresponding to the upscale check value. You must, at a minimum, adjust your PM CEMS whenever the daily upscale drift check exceeds 4 percent.

(3) For light-scattering and extinction-type PM CEMS, you must check the system optics to ensure that system response has not been altered by the condition of optical components, such as fogging of lens and performance of light monitoring devices.

(4) You must record data from your automatic drift-adjusting PM CEMS before any adjustment is made. If your PM CEMS automatically adjusts its response to the corrected calibration values (*e.g.*, microprocessor control), you must program your PM CEMS to record the unadjusted concentration measured in the drift check before resetting the calibration. Alternately, you may program your PM CEMS to record the amount of adjustment.

(5) For extractive PM CEMS that measure the sample volume and use the measured sample volume as part of calculating the output value, you must check the sample volume on a daily basis to verify the accuracy of the sample volume measuring equipment. This sample volume check must be done at the normal sampling rate of your PM CEMS. You must adjust your PM

CEMS sample volume measurement whenever the daily sample volume check error exceeds 10 percent.

10.3 What are the auditing requirements for my PM CEMS? You must subject your PM CEMS to an ACA and an SVA, as applicable, at least once each calendar quarter. Successive quarterly audits must occur no closer than 2 months apart. You must conduct an RCA and an RRA at the frequencies specified in the applicable regulation or facility operating permit. An RRA or RCA conducted during any calendar quarter can take the place of the ACA required for that calendar quarter. An RCA conducted during the period in which an RRA is required can take the place of the RRA for that period.

(1) When must I perform an ACA? You must perform an ACA each quarter unless you conduct an RRA or RCA during that same quarter.

(2) How do I perform an ACA? You perform an ACA according to the procedure specified in paragraphs (2)(i) through (v) of this section.

(i) You must challenge your PM CEMS with an audit standard or an equivalent audit reference to reproduce the PM CEMS's measurement at three points within the following ranges:

Audit point	**Audit range**
1	0 to 20 percent of measurement range
2	40 to 60 percent of measurement range
3	70 to 100 percent of measurement range

(ii) You must then challenge your PM CEMS three times at each audit point and use the average of the three responses in determining accuracy at each audit point. Use a separate audit standard for audit points 1, 2, and 3. Challenge the PM CEMS at each audit point for a sufficient period of time to ensure that your PM CEMS response has stabilized.

(iii) Operate your PM CEMS in the mode, manner, and range specified by the manufacturer.

(iv) Store, maintain, and use audit standards as recommended by the manufacturer.

(v) Use the difference between the actual known value of the audit standard and the response of your PM CEMS to assess the accuracy of your PM CEMS.

(3) When must I perform an SVA? You must perform an audit of the measured sample volume (*e.g.*, the sampling flow rate for a known time) once per quarter for applicable PM CEMS with an extractive sampling system. Also, you must perform and pass an SVA prior to initiation of any of the reference method data collection runs for an RCA or RRA.

(4) How do I perform an SVA? You perform an SVA according to the procedure specified in paragraphs (4)(i) through (iii) of this section.

(i) You perform an SVA by independently measuring the volume of sample gas extracted from the stack or duct over each batch cycle or time period with a calibrated device. You may make this measurement either at the inlet or outlet of your PM CEMS, so long as it measures the sample gas volume without including any dilution or recycle air. Compare the measured volume with the volume reported by your PM CEMS for the same cycle or time period to calculate sample volume accuracy.

(ii) You must make measurements during three sampling cycles for batch extractive monitors (*e.g.*, Beta-gauge) or during three periods of at least 20 minutes for continuous extractive PM CEMS.

(iii) You may need to condense, collect, and measure moisture from the sample gas prior to the calibrated measurement device (*e.g.*, dry gas meter) and correct the results for moisture content. In any case, the volumes measured by the calibrated device and your PM CEMS must be on a consistent temperature, pressure, and moisture basis.

(5) How often must I perform an RRA? You must perform an RRA at the frequency specified in the applicable regulation or facility operating permit. You may conduct an RCA instead of an RRA during the period when the RRA is required.

(6) How do I perform an RRA? You must perform the RRA according to the procedure specified in paragraphs (6)(i) and (ii) of this section.

(i) You perform an RRA by collecting three simultaneous reference method PM concentration measurements and PM CEMS measurements at the as-found source operating conditions and PM concentration.

(ii) We recommend that you use paired trains for reference method sampling. Guidance on the use of paired sampling trains can be found in the PM CEMS Knowledge Document (see section 16.5 of PS-11).

(7) How often must I perform an RCA? You must perform an RCA at the frequency specified in the applicable regulation or facility operating permit.

(8) How do I perform an RCA? You must perform the RCA according to the procedures for the PM CEMS correlation test described in PS-11, section 8.6, except that the minimum number of runs required is 12 in the RCA instead of 15 as specified in PS-11.

(9) What other alternative audits can I use? You can use other alternative audit procedures as approved by us, the State, or local agency for the quarters when you would conduct ACAs.

10.4 What are my limits for excessive audit inaccuracy? Unless specified otherwise in the applicable subpart, the criteria for excessive audit inaccuracy are listed in paragraphs (1) through (6) of this section.

(1) What are the criteria for excessive zero or upscale drift? Your PM CEMS is out of control if the zero drift check or upscale drift check either exceeds 4 percent for five consecutive daily periods or exceeds 8 percent for any one day.

(2) What are the criteria for excessive sample volume measurement error? Your PM CEMS is out of control if sample volume check error exceeds 10 percent for five consecutive daily periods or exceeds 20 percent for any one day.

(3) What are the criteria for excessive ACA error? Your PM CEMS is out of control if the results of any ACA exceed ±10 percent of the average audit value, as calculated using Equation 2-1a, or 7.5 percent of the applicable standard, as calculated using Equation 2-1b, whichever is greater.

(4) What is the criterion for excessive SVA error? Your PM CEMS is out of control if results exceed ±5 percent of the average sample volume audit value.

(5) What are the criteria for passing an RCA? To pass an RCA, you must meet the criteria specified in paragraphs (5)(i) through (iii) of this section. If your PM CEMS fails to meet these RCA criteria, it is out of control.

(i) For all 12 data points, the PM CEMS response value can be no greater than the greatest PM CEMS response value used to develop your correlation curve.

(ii) For 9 of the 12 data points, the PM CEMS response value must lie within the PM CEMS output range used to develop your correlation curve.

(iii) At least 75 percent of a minimum number of 12 sets of PM CEMS and reference method measurements must fall within a specified area on a graph of the correlation regression line. The specified area on the graph of the correlation regression line is defined by two lines parallel to the correlation regression line, offset at a distance of ±25 percent of the numerical emission limit value from the correlation regression line.

(6) What are the criteria to pass an RRA? To pass an RRA, you must meet the criteria specified in paragraphs (6)(i) and (ii) of this section. If your PM CEMS fails to meet these RRA criteria, it is out of control.

(i) For all three data points, the PM CEMS response value can be no greater than the greatest PM CEMS response value used to develop your correlation curve.

(ii) For two of the three data points, the PM CEMS response value must lie within the PM CEMS output range used to develop your correlation curve.

(iii) At least two of the three sets of PM CEMS and reference method measurements must fall within the same specified area on a graph of the correlation regression line as required for the RCA and described in paragraph (5)(iii) of this section.

10.5 What do I do if my PM CEMS is out of control? If your PM CEMS is out of control, you must take the actions listed in paragraphs (1) and (2) of this section.

(1) You must take necessary corrective action to eliminate the problem and perform tests, as appropriate, to ensure that the corrective action was successful.

(i) Following corrective action, you must repeat the previously failed audit to confirm that your PM CEMS is operating within the specifications.

(ii) If your PM CEMS failed an RRA, you must take corrective action until your PM CEMS passes the RRA criteria. If the RRA criteria cannot be achieved, you must perform an RCA.

(iii) If your PM CEMS failed an RCA, you must follow procedures specified in section 10.6 of this procedure.

(2) You must report both the audit showing your PM CEMS to be out of control and the results of the audit following corrective action showing your PM CEMS to be operating within specifications.

10.6 What do I do if my PM CEMS fails an RCA? After an RCA failure, you must take all applicable actions listed in paragraphs (1) through (3) of this section.

(1) Combine RCA data with data from the active PM CEMS correlation and perform the mathematical evaluations defined in PS-11 for development of a PM CEMS correlation, including examination of alternate correlation models (*i.e.,* linear, polynomial, logarithmic, exponential, and power). If the expanded data base and revised correlation meet PS-11 statistical criteria, use the revised correlation.

(2) If the criteria specified in paragraph (1) of this section are not achieved, you must develop a new PM CEMS correlation based on revised data. The revised data set must consist of the test results from only the RCA. The new data must meet all requirements of PS-11 to develop a revised PM CEMS correlation, except that the minimum number of sets of PM CEMS and reference method measurements is 12 instead of the minimum of 15 sets required by PS-11. Your PM CEMS is considered to be back in controlled status when the revised correlation meets all of the performance criteria specified in section 13.2 of PS-11.

(3) If the actions in paragraphs (1) and (2) of this section do not result in an acceptable correlation, you must evaluate the cause(s) and comply with the actions listed in paragraphs (3)(i) through (iv) of this section within 90 days after the completion of the failed RCA.

(i) Completely inspect your PM CEMS for mechanical or operational problems. If you find a mechanical or operational problem, repair your PM CEMS and repeat the RCA.

(ii) You may need to relocate your PM CEMS to a more appropriate measurement location. If you relocate your PM CEMS, you must perform a new correlation test according to the procedures specified in PS-11.

(iii) The characteristics of the PM or gas in your source's flue gas stream may have changed such that your PM CEMS measurement technology is no longer appropriate. If this is the case, you must install a PM CEMS with measurement technology that is appropriate for your source's flue gas characteristics. You must perform a new correlation test according to the procedures specified in PS-11.

(iv) If the corrective actions in paragraphs (3)(i) through (iii) of this section were not successful, you must petition us, the State, or local agency for approval of alternative criteria or an alternative for continuous PM monitoring.

10.7 When does the out-of-control period begin and end? The out-of-control period begins immediately after the last test run or check of an unsuccessful RCA, RRA, ACA, SVA, drift check, or sample volume check. The out-of-control period ends immediately after the last test run or check of the subsequent successful audit or drift check.

10.8 Can I use the data recorded by my PM CEMS during out-of-control periods? During any period when your PM CEMS is out of control, you may not use your PM CEMS data to calculate emission compliance or to meet minimum data availability requirements described in the applicable regulation.

10.9 What are the QA/QC reporting requirements for my PM CEMS? You must report the accuracy results for your PM CEMS, specified in section 10.4 of this procedure, at the interval specified in the applicable regulation. Report the drift and accuracy information as a Data Assessment Report (DAR), and include one copy of this DAR for each quarterly audit with the report of emissions required under the applicable regulation. An example DAR is provided in Procedure 1, Appendix F of this part.

10.10 What minimum information must I include in my DAR? As a minimum, you must include the information listed in paragraphs (1) through (5) of this section in the DAR:

(1) Your name and address.

(2) Identification and location of monitors in your CEMS.

(3) Manufacturer and model number of each monitor in your CEMS.

(4) Assessment of PM CEMS data accuracy/acceptability, and date of assessment, as determined by an RCA, RRA, ACA, or SVA described in section 10, including the acceptability determination for the RCA or RRA, the accuracy for the ACA or SVA, the reference method results, the audit standards, your PM CEMS responses, and the calculation results as defined in section 12. If the accuracy audit results show your PM CEMS to be out of control, you must report both the audit results showing your PM CEMS to be out of control and the results of the audit following corrective action showing your PM CEMS to be operating within specifications.

(5) Summary of all corrective actions you took when you determined your PM CEMS to be out of control, as described in section 10.5, or after failing on RCA, as described in section 10.6.

10.7 Where and how long must I retain the QA data that this procedure requires me to record for my PM CEMS? You must keep the records required by this procedure for your PM CEMS onsite and available for inspection by us, the State, and/or local enforcement agency for a period of 5 years.

11.0 What Analytical Procedures Apply to This Procedure?

Sample collection and analysis are concurrent for this procedure. You must refer to the appropriate reference method for the specific analytical procedures.

12.0 What Calculations and Data Analysis Must I Perform for my PM CEMS?

(1) How do I determine RCA and RRA acceptability? You must plot each of your PM CEMS and reference method data sets from an RCA or RRA on a graph based on your PM CEMS correlation line to determine if the criteria in paragraphs 10.4(5) or (6), respectively, are met.

(2) How do I calculate ACA accuracy? You must use either Equation 2-1a or 2-1b to calculate ACA accuracy for each of the three audit points. However, when calculating ACA accuracy for the first audit point (0 to 20 percent of measurement range), you must use Equation 2-1b to calculate ACA accuracy if the reference standard value (R_v) equals zero.

$$\text{ACA Accuracy} = \frac{|R_{CEM} - R_V|}{R_V} \times 100\% \qquad \text{Eq. 2-1a}$$

Where:

ACA Accuracy = The ACA accuracy at each audit point, in percent,

R_{CEM} = Your PM CEMS response to the reference standard, and

R_V = The reference standard value.

$$\text{ACA Accuracy} = \frac{|C_{CEM} - C_{RV}|}{C_s} \times 100\% \qquad \text{Eq. 2-1b}$$

Where:

ACA Accuracy = The ACA accuracy at each audit point, in percent,

C_{CEM} = The PM concentration that corresponds to your PM CEMS response to the reference standard, as calculated using the correlation equation for your PM CEMS,

C_{RV} = The PM concentration that corresponds to the reference standard value in units consistent with C_{CEM}, and

C_s = The PM concentration that corresponds to the applicable emission limit in units consistent with C_{CEM}.

(3) How do I calculate daily upscale and zero drift? You must calculate the upscale drift using Equation 2-2 and the zero drift using Equation 2-3:

$$UD = \frac{|R_{CEM} - R_U|}{R_r} \times 100 \qquad \text{Eq. 2-2}$$

Where:

UD = The upscale drift of your PM CEMS, in percent,

R_{CEM} = Your PM CEMS response to the upscale check value,

R_U = The upscale check value, and

R_r = The response range of the analyzer.

$$ZD = \frac{|R_{CEM} - R_L|}{R_r} \times 100 \qquad \text{Eq. 2-3}$$

Where:

ZD = The zero (low-level) drift of your PM CEMS, in percent,

R_{CEM} = Your PM CEMS response of the zero check value,

R_L = The zero check value, and

R_r = The response range of the analyzer.

(4) How do I calculate SVA accuracy? You must use Equation 2-4 to calculate the accuracy, in percent, for each of the three SVA tests or the daily sample volume check:

$$\text{SVA Accuracy} = \frac{|V_M - V_R|}{V_R} \times 100 \qquad \text{Eq. 2-4}$$

Where:

SVA Accuracy = The SVA accuracy at each audit point, in percent,

V_M = Sample gas volume determined/reported by your PM CEMS (e.g., dscm), and

V_R = Sample gas volume measured by the independent calibrated reference device (e.g., dscm) for the SVA or the reference value for the daily sample volume check.

NOTE: Before calculating SVA accuracy, you must correct the sample gas volumes measured by your PM CEMS and the independent calibrated reference device to the same basis of temperature, pressure, and moisture content. You must document all data and calculations.

13.0 Method Performance [Reserved]

14.0 Pollution Prevention [Reserved]

15.0 Waste Management [Reserved]

16.0 Which References are Relevant to This Method? [Reserved]

17.0 What Tables, Diagrams, Flowcharts, and Validation Data Are Relevant to This Method? [Reserved]