



ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 60

[EPA-HQ-OAR-2010-0873; FRL-9630-7]

RIN 2060-AH23

Quality Assurance Requirements for Continuous Opacity Monitoring Systems at Stationary Sources

AGENCY: Environmental Protection Agency (EPA).

ACTION: Direct final rule.

SUMMARY: The EPA is taking direct final action to establish quality assurance and quality control (QA/QC) procedures for continuous opacity monitoring systems (COMS) used to demonstrate continuous compliance with opacity standards in federally enforceable regulations. This action is necessary because we do not currently have QA/QC procedures for COMS. This action would require COMS used to demonstrate continuous compliance to meet these procedures (referred to as Procedure 3).

DATES: This rule is effective on [Insert date 60 days from date of publication in the Federal Register] without further notice, unless the EPA receives adverse comment by [Insert date 30 days from date of publication in the Federal Register]. If the EPA receives adverse comment, we will publish a timely withdrawal in the Federal Register informing the public that the rule will not take effect.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-HQ-OAR-2010-0873 by one of the following methods:

- www.regulations.gov: Follow the on-line instructions for submitting comments.
- E-mail: a-and-r-docket@epa.gov.
- Fax: (202) 566-9744.
- Mail: Attention Docket ID No. EPA-HQ-OAR-2010-0873,
Environmental Protection Agency, Mailcode: 2822T, 1200
Pennsylvania Ave., NW, Washington, DC 20460.
- Hand Delivery: The EPA Docket Center, EPA West, Room 3334, 1301
Constitution Ave., NW, Washington, DC 20460. Such deliveries are
only accepted during the Docket's normal hours of operation, and
special arrangements should be made for deliveries of boxed
information.

Instructions: Direct your comments to Docket ID No. EPA-HQ-OAR-2010-0873. The EPA's policy is that all comments received will be included in the public docket without change and may be made available online at www.regulations.gov, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through www.regulations.gov or e-mail. The www.regulations.gov web site is an "anonymous access" system, which means the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to the EPA without going through www.regulations.gov, your e-mail address will be automatically

captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, the EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If the EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, the EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses. For additional information about the EPA's public docket, visit the EPA Docket Center homepage at <http://www.epa.gov/epahome/dockets.htm>.

Docket: All documents in the docket are listed in the www.regulations.gov index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in www.regulations.gov or in hard copy at the Procedure 3 - Quality Assurance Requirements for Continuous Opacity Monitoring Systems at Stationary Sources Docket, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave., NW, Washington, DC. The Docket Facility and Public Reading Room are open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Air Docket is (202) 566-1742, and the telephone number for the Public Reading Room is (202) 566-1744.

FOR FURTHER INFORMATION CONTACT: Ms. Lula H. Melton, U.S. EPA, Office of Air Quality Planning and Standards, Air Quality Assessment Division, Measurement Technology Group (Mail Code: E143-02), Research Triangle Park, NC 27711; telephone number: (919) 541-2910; fax number: (919) 541-0516; e-mail address: melton.lula@epa.gov.

SUPPLEMENTARY INFORMATION:

Table of Contents

- I. General Information
 - A. Why is the EPA using a direct final rule?
 - B. Does this action apply to me?
 - C. Where can I obtain a copy of this action?
 - D. Judicial Review
- II. This Action
- III. Statutory and Executive Order Reviews
 - A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review
 - B. Paperwork Reduction Act
 - C. Regulatory Flexibility Act
 - D. Unfunded Mandates Reform Act
 - E. Executive Order 13132: Federalism
 - F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments
 - G. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks
 - H. Executive Order 13211: Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use
 - I. National Technology Transfer and Advancement Act
 - J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations
 - K. Congressional Review Act

I. General Information

A. Why is the EPA using a direct final rule?

The EPA is publishing this rule without a prior proposed rule because we view this as a non-controversial action and anticipate no adverse comment. This action establishes QA/QC procedures for

continuous opacity monitoring systems used to demonstrate continuous compliance with opacity standards in federally enforceable regulations. We believe that these QA/QC procedures are reasonable and that they can be met by any well-maintained and operated COMS. Furthermore, the procedures were developed based on input provided by the affected parties. On May 8, 2003, we published a proposed rule to codify QA/QC procedures for COMS (i.e., Procedure 3). Due to other priorities, we did not finalize Procedure 3, but public comments received on the proposal have been considered in this action. This rule also takes into account changes in technology since 2003.

In the "Proposed Rules" section of this Federal Register, we are publishing a separate document that will serve as the proposed rule if relevant adverse comments are received on this direct final rule. We will not institute a second comment period on this action. Any parties interested in commenting, must do so at this time. For further information about commenting on this rule, see the **ADDRESSES** section of this document. If the EPA receives adverse comment, we will publish a timely withdrawal in the Federal Register informing the public that this direct final rule will not take effect. We would address all public comments in any subsequent final rule based on the proposed rule.

B. Does this action apply to me?

Procedure 3 applies to COMS used to demonstrate continuous compliance with opacity standards in federally enforceable regulations.

C. Where can I obtain a copy of this action?

In addition to being available in the docket, an electronic copy of this rule will also be available on the Worldwide Web (www) through the Technology Transfer Network (TTN). Following the Administrator's signature, a copy of the final rule will be placed on the TTN's policy and guidance page for newly proposed or promulgated rules at <http://www.epa.gov/ttn/oarpg>. The TTN provides information and technology exchange in various areas of air pollution control. A redline strikeout document that compares this final rule to the proposed rule has also been added to the docket.

D. Judicial Review

Under section 307(b)(1) of the Clean Air Act (CAA), judicial review of this direct final rule is available by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit by [Insert date 60 days from date of publication in the Federal Register]. Under section 307(d)(7)(B) of the CAA, only an objection to this direct final rule that was raised with reasonable specificity during the period for public comment can be raised during judicial review. Moreover, under section 307(b)(2) of the CAA, the requirements that are the subject of this direct final rule may not be challenged later in civil or criminal proceedings brought by the EPA to enforce these requirements.

II. This Action

This direct final rule codifies Procedure 3 in 40 CFR part 60, Appendix F. Procedure 3 establishes quality assurance and quality

control procedures for continuous opacity monitoring systems used to demonstrate continuous compliance with opacity standards in federally enforceable regulations. More specifically, Procedure 3 provides requirements for daily instrument zero and upscale drift checks, daily status indicator checks, quarterly performance audits, annual zero alignment audits, and corrective action for malfunctioning COMS. On May 8, 2003, we published a proposed rule to codify Procedure 3. However, due to other priorities, we did not finalize Procedure 3 after the comment period ended July 7, 2003. Public comments received on the May 8, 2003, proposal have been considered in this action.

Most of the comments on the 2003 proposal required us to provide clarifications and updates. For example, several commenters were confused by the wording of the applicability statement in the 2003 proposal. We revised the applicability statement in the direct final rule to remove the ambiguity. The direct final rule references the 1998, 2003, and 2007 versions of the American Society of Testing and Materials' Standard Practice for Opacity Monitor Manufacturers to Certify Conformance with Design and Performance Specifications, whereas the 2003 proposal referenced the 1998 version only.

III. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is not a "significant regulatory action" under the terms of Executive Order 12866 (58 FR 51735, October 4, 1993) and is

therefore not subject to review under Executive Orders 12866 and 13563 (76 FR 3821, January 21, 2011).

B. Paperwork Reduction Act

This action does not impose an information collection burden under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. Burden is defined at 5 CFR 1320.3(b). These quality assurance procedures do not add information collection requirements beyond those currently required under the applicable regulations.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of this rule on small entities, small entity is defined as: (1) a small business as defined by the Small Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of this rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. This final rule will not impose any requirements on small entities. This action establishes quality assurance procedures for continuous opacity monitoring systems used to demonstrate continuous compliance with opacity standards as specified in federally enforceable regulations and does not impose additional regulatory requirements on sources.

D. Unfunded Mandates Reform Act

This rule does not contain a federal mandate that may result in expenditures of \$100 million or more for State, local, and tribal governments, in the aggregate, or the private sector in any one year. Rules establishing quality assurance requirements impose no costs independent from national emission standards which require their use, and such costs are fully reflected in the regulatory impact assessment for those emission standards. Thus, this rule is not subject to the requirements of sections 202 or 205 of UMRA.

This rule is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. This action simply establishes quality assurance procedures for continuous opacity monitoring systems used to demonstrate continuous compliance with opacity standards as specified in federally enforceable regulations.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. This action establishes quality assurance procedures for continuous opacity monitoring systems used to demonstrate continuous compliance with opacity standards as specified in federally enforceable regulations. Thus, Executive Order 13132 does not apply to this action.

F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments

This action does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). This action establishes quality assurance procedures for continuous opacity monitoring systems used to demonstrate continuous compliance with opacity standards as specified in federally enforceable regulations. It does not add any emission limits and does not affect pollutant emissions or air quality. Thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks

The EPA interprets EO 13045 (62 FR 19885, April 23, 1997) as applying only to those regulatory actions that concern health or safety risks, such that the analysis required under section 5-501 of the EO has the potential to influence the regulation. This action is

not subject to EO 13045 because it does not establish an environmental standard intended to mitigate health or safety risks.

H. Executive Order 13211: Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use

This action is not subject to Executive Order 13211 (66 FR 28355 (May 22, 2001)) because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 ("NTTAA"), Public Law No. 104-113, 12(d) (15 U.S.C. 272 note) directs the EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs the EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This action does not involve technical standards. Therefore, the EPA did not consider the use of any voluntary consensus standards.

J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order (EO) 12898 (59 FR 7629 (Feb. 16, 1994)) establishes federal executive policy on environmental justice. Its

main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

The EPA has determined that this direct final rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it does not affect the level of protection provided to human health or the environment. This rule does not relax the control measures on sources regulated by the rule and, therefore, will not cause emissions increases from these sources.

K. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 et seq., as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the Federal Register. A major rule cannot take effect until 60 days after it is published in the Federal Register. This action is not a "major

rule" as defined by 5 U.S.C. 804(2). This rule will be effective
[insert date 60 days from date of publication in the Federal
Register].

List of Subjects in 40 CFR Part 60

Air pollution control, Environmental protection, Continuous opacity monitoring.

February 6, 2012

Dated:

Lisa P. Jackson,
Administrator.

For the reasons stated in the preamble, title 40, chapter I of the Code of Federal Regulations is amended as follows:

Part 60 - [AMENDED]

1. The authority citation for part 60 continues to read as follows:

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

2. Appendix F of part 60 is amended by adding Procedure 3 to read as follows:

Appendix F to Part 60 - Quality Assurance Procedures

* * * * *

Procedure 3 - Quality Assurance Requirements for Continuous Opacity Monitoring Systems at Stationary Sources

1.0 What are the Purpose and Applicability of Procedure 3?

The purpose of Procedure 3 is to establish quality assurance and quality control (QA/QC) procedures for continuous opacity monitoring systems (COMS). Procedure 3 applies to COMS used to demonstrate continuous compliance with opacity standards in federally enforceable regulations.

1.1 What are the data quality objectives of Procedure 3? The overall data quality objective (DQO) of Procedure 3 is the generation of valid and representative opacity data. Procedure 3 specifies the minimum requirements for controlling and assessing the quality of COMS data submitted to us or the delegated regulatory agency. Procedure 3 requires you to perform periodic evaluations of a COMS

performance and to develop and implement QA/QC programs to ensure that COMS data quality is maintained.

1.2 What is the intent of the QA/QC procedures specified in Procedure 3? Procedure 3 is intended to establish the minimum QA/QC requirements to verify and maintain an acceptable level of quality of the data produced by COMS. It is presented in general terms to allow you to develop a program that is most effective for your circumstances.

1.3 When must I comply with Procedure 3? You must comply with Procedure 3 after your COMS has been initially certified.

2.0 What are the Basic Functions of Procedure 3?

The basic functions of Procedure 3 are assessment of the quality of your COMS data and control and improvement of the quality of the data by implementing QC requirements and corrective actions.

Procedure 3 provides requirements for:

(1) Daily instrument zero and upscale drift checks, as well as, daily status indicators checks;

(2) Quarterly performance audits which include the following assessments:

- (i) Optical alignment,
 - (ii) Calibration error,
 - (iii) Zero compensation; and
- (3) Annual zero alignment.

Sources that consistently achieve quality assured data may request a semi-annual audit frequency by submitting the request in writing to the Administrator.

3.0 What Special Definitions Apply to Procedure 3?

The definitions in Procedure 3 include those provided in Performance Specification 1 (PS-1) of Appendix B and ASTM D 6216-98, 03, 07 and the following additions.

3.1 Out-of-control periods. Out-of-control periods mean that one or more COMS parameters falls outside of the acceptable limits established by this rule.

(1) Daily Assessments. Whenever the calibration drift (CD) exceeds twice the specification of PS-1, the COMS is out-of-control. The beginning of the out-of-control period is the time corresponding to the completion of the daily calibration drift check. The end of the out-of-control period is the time corresponding to the completion of appropriate adjustment and subsequent successful CD assessment.

(2) Quarterly and Annual Assessments. Whenever an annual zero alignment or quarterly performance audit indicates noncompliance with the criteria established in paragraphs (2) and (3) of section 10.4, the COMS is out-of-control. The beginning of the out-of-control period is the time corresponding to the completion of the performance audit indicating noncompliance. The end of the out-of-control period is the time corresponding to the completion of appropriate corrective actions and the subsequent successful audit (or, if applicable, partial audit).

4.0 What Interferences Must I Avoid?

Opacity cannot be measured accurately in the presence of water droplets. Thus, COMS opacity compliance determinations cannot be made when water droplets are present, such as downstream of a wet scrubber without a reheater or at other saturated flue gas locations.

5.0 What Do I Need to Know to Ensure the Safety of Persons Using Procedure 3?

People using Procedure 3 may be exposed to hazardous materials, operations and equipment. Procedure 3 does not purport to address all of the safety issues associated with its use. It is your responsibility to establish appropriate health and safety practices and determine the applicable regulatory limitations before performing this procedure. You should consult the COMS user's manual for specific precautions to take.

6.0 What Equipment and Supplies Do I Need?

The equipment and supplies that you need are specified in PS-1.

7.0 What Reagents and Standards Do I Need?

The reagents and standards that you need are specified in PS-1.

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 COMS?

You must develop and implement a QC program for your COMS. Your QC program must, at a minimum, include written procedures which

describe in detail complete step-by-step procedures and operations for the activities in paragraphs (1) through (4):

- (1) Procedures for performing drift checks, including both zero and upscale drift and the status indicators check,
- (2) Procedures for performing quarterly performance audits,
- (3) A means of checking the zero alignment of the COMS, and
- (4) A program of corrective action for a malfunctioning COMS. The corrective action must include, at a minimum, the requirements specified in section 10.5.

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

9.2 What are the consequences of failing QC audits? Your QC procedures are deemed to be inadequate or your COMS incapable of providing quality data if you fail two consecutive annual audits, two consecutive quarterly audits, or five consecutive daily checks. If this occurs, you must either revise your QC procedures or repair or replace the COMS to correct the deficiencies causing the audit failures. If you determine that your COMS requires extensive repairs, you may use a substitute COMS provided the substitute meets the requirements in section 10.6.

10.0 What Calibration and Standardization Procedures Must I Perform for My COMS?

(1) You must perform routine system checks to ensure proper operation of system electronics and optics, light and radiation sources and detectors, electric or electro-mechanical systems, and general stability of the system calibration.

(2) You must subject your COMS to a performance audit to include checks of the individual COMS components and factors affecting the accuracy of the monitoring data at least once per calendar quarter.

(3) At least annually, you must perform a zero alignment by comparing the COMS simulated zero to the actual clear path zero. The simulated zero device produces a simulated clear path condition or low-level opacity condition, where the energy reaching the detector is between 90 and 110 percent of the energy reaching the detector under actual clear path conditions.

10.1 What routine system checks must I perform on my COMS?

Necessary components of the routine system checks will depend on the design details of your COMS. At a minimum, you must verify the system operating parameters listed in paragraphs (1) through (3) of this section on a daily basis. Some COMS may perform one or more of these functions automatically or as an integral portion of unit operations; other COMS may perform one or more of these functions manually.

(1) You must check the zero drift to ensure stability of your COMS response to the simulated zero device. The simulated zero device, an automated mechanism within the transmissometer that produces a simulated clear path condition or low-level opacity condition, is used to check the zero drift. You must, at a minimum, take corrective

action on your COMS whenever the daily zero drift exceeds twice the applicable drift specification in PS-1.

(2) You must check the upscale drift to ensure stability of your COMS response to the upscale drift value. The upscale calibration device, an automated mechanism (employing a filter or reduced reflectance device) within the transmissometer that produces an upscale opacity value is used to check the upscale drift. You must, at a minimum, take corrective action on your COMS whenever the daily upscale drift check exceeds twice the applicable drift specification in PS-1.

(3) You must, at a minimum, check the status indicators, data acquisition system error messages, and other system self-diagnostic indicators. You must take appropriate corrective action based on the manufacturer's recommendations when the COMS is operating outside preset limits. All COMS data recorded during periods in which the fault status indicators are illuminated are to be considered invalid.

10.2 What are the quarterly auditing requirements for my COMS? At a minimum, the parameters listed in paragraphs (1) through (3) of this section must be included in the quarterly performance audit.

(1) For units with automatic zero compensation, you must determine the zero compensation for the COMS. The value of the zero compensation applied at the time of the audit must be calculated as equivalent opacity and corrected to stack exit conditions according to the procedures specified by the manufacturer. The compensation

applied to the effluent recorded by the monitor system must be recorded.

(2) You must conduct a three-point calibration error test of the COMS. For either calibration error test method identified below, three neutral density filters meeting the requirements of PS-1 must be placed in the COMS light beam path for at least three nonconsecutive readings. All monitor responses must then be independently recorded from the COMS permanent data recorder. Additional guidance for conducting this test is included in section 8.1(3)(ii) of PS-1. The low-, mid-, and high-range calibration error results must be computed as the mean difference and 95 percent confidence interval for the difference between the expected and actual responses of the monitor as corrected to stack exit conditions. The equations necessary to perform the calculations are found in section 12.0 of PS-1. For the calibration error method, you must use the external audit device. You must confirm that the external audit device produces a zero value within one percent opacity.

(3) You must check the optical alignment of the COMS. The optical alignment should be checked when the stack temperature is ± 50 percent of the typical operating temperature in degrees Fahrenheit.

10.3 What are the annual auditing requirements for my COMS?

(1) You must perform the primary zero alignment method under clear path conditions. The COMS may be removed from its installation and setup under clear path conditions or, if the process is not operating

and the monitor path is free of particulate matter, the zero alignment may be conducted at the installed site. Determining if the monitor path is free of particulate matter can be accomplished by, but is not limited to, the following procedure: observe the instantaneous or one-minute average opacity for at least two hours prior to the clear path adjustment; open the reflector or detector housing and observe the projected light beam and look for the presence of forward scattered light (halo-effect); if the beam observation reveals no perceptible particulate, and the 2-hour readings do not vary more than ± 3 percent opacity, adjust the clear path zero based on the lowest opacity reading recorded during the 2-hour period. There must be no adjustments to the monitor other than the establishment of the proper monitor path length and correct optical alignment of the COMS components. You must record the COMS response to a clear condition and to the COMS's simulated zero condition as percent opacity corrected to stack exit conditions. For a COMS with automatic zero compensation, you must disconnect or disable the zero compensation mechanism or record the amount of correction applied to the COMS's simulated zero condition. The response difference in percent opacity to the clear path and simulated zero conditions must be recorded as the zero alignment error. You must adjust the COMS's simulated zero device to provide the same response as the clear path condition as specified in paragraph (3) of section 10.0. You must perform the zero alignment audits with the COMS off the stack at least every three years.

(2) As an alternative, monitors capable of allowing the installation of an external zero device (commonly referred to as zero-jig) may use the device for the zero alignment provided that: the zero-jig setting has been established for the monitor path length and recorded for the specific COMS by comparison of the COMS responses to the installed zero-jig and to the clear path condition, and the zero-jig is demonstrated to be capable of producing a consistent zero response when it is repeatedly (i.e., three consecutive installations and removals prior to conducting the final zero alignment check) installed on the COMS. This can be demonstrated by either the MCOC or actual on-site performance. The zero-jig setting must be permanently set at the time of initial zeroing to the clear path zero value and protected when not in use to ensure that the setting equivalent to zero opacity does not change. The zero-jig response must be checked and recorded prior to initiating the zero alignment. If the zero-jig setting has changed, you must remove the COMS from the stack in order to reset the zero-jig. If you employ a zero-jig, you must perform the zero alignment audits with the COMS off the stack at least every three years. If the zero-jig is adjusted within the three-year period, you must perform the zero alignment with the COMS off the stack no later than three years from the date of adjustment.

(3) The procedure in section 6.8 of ASTM D 6216-98, 03, 07 is allowed.

(4) Other alternatives that verify that the zero optical adjustment is ± 3 percent opacity are also allowed.

10.4 What are my limits for excessive audit inaccuracy? Unless specified otherwise in the applicable subpart, the criteria for excessive inaccuracy are listed in paragraphs (1) through (4) of this section.

(1) What is the criterion for excessive zero or upscale drift? Your COMS is out-of-control if either the zero drift check or upscale drift check exceeds twice the applicable drift specification in PS-1 for any one day.

(2) What is the criterion for excessive zero alignment? Your COMS is out-of-control if the zero alignment error exceeds 2 percent opacity.

(3) What is the criterion to pass the quarterly performance audit? Your COMS is out-of-control if the results of a quarterly performance audit indicate noncompliance with the following criteria:

(i) The optical alignment misalignment error exceeds 3 percent opacity,

(ii) The zero compensation exceeds 4 percent opacity, or

(iii) The calibration error exceeds 3 percent opacity.

(4) What is the criterion for data capture? The data capture will be considered insufficient if your COMS fails to obtain valid opacity data for at least 95 percent of your operating hours per calendar quarter, considering COMS downtime for all causes (e.g., monitor malfunctions, data system failures, preventative maintenance, unknown

causes, etc.) except for downtime associated with routine zero and upscale checks and QA/QC activities required by this procedure. Whenever less than 95 percent of the valid data averages are obtained, you must either:

(i) Perform additional QA/QC activities as deemed necessary to ensure acceptable data capture, or

(ii) Determine if the COMS is functioning properly. If your COMS is malfunctioning, you may use a substitute COMS until repairs are made, provided the substitute meets the requirements in section 10.6.

10.5 What corrective action must I take if my COMS is malfunctioning? You must have a corrective action program in place to address the repair and/or maintenance of your COMS. There are four classes of maintenance and repair procedures to be considered as described in paragraphs (1) through (4) of this section. They may be performed at the manufacturer's facility, a service provider's facility, the user's instrument laboratory, or at the stack/duct at the discretion of the owner/operator and within the recommendation of the manufacturer. They must be performed by persons either skilled and/or trained in the operation and maintenance of the analyzer. After the repair/maintenance of your COMS, you must ensure that the COMS is still in compliance with PS-1. Table 17-1 outlines the tests required to maintain PS-1 certification.

(1) Routine/Preventative Maintenance. Routine/preventative maintenance includes the routine replacement of consumables, cleaning of optical surfaces, and adjustment of monitor operating parameters

as needed to maintain normal operation. Replacement of consumables that have the possibility of adversely affecting the performance of an analyzer may cause the nature of the maintenance procedure to fall within one of the classifications described below.

(2) Measurement Non-Critical Repairs. Measurement non-critical repairs include repair and/or replacement of standard non-critical components, the unique characteristics of which do not materially affect the performance of the monitor. These components include, but are not limited to, resistors, capacitors, inductors, transformers, semiconductors, such as discrete components and integrated circuits, brackets and machined parts (not associated with internal optical components), cabling and connectors, electro mechanical components, such as relays, solenoids, motors, switches, blowers, pressure/flow indicators, tubing, indicator lights, software with the same version and/or revision level, glass windows (uncoated or anti-reflection coated, but with no curvature), lenses with mounts where such mounts are not adjustable as installed, circuit boards where such boards are interchangeable and without unique adjustments (except offset and gain adjustments) for the specific analyzer of the same model, with such repairs to include the maintenance procedures required to ensure that the analyzer is appropriately setup.

(3) Primary Measurement Light Source. Repair or replace the primary measurement light source.

(4) Measurement Critical Repairs. Measurement critical repairs include repair and/or replacement of measurement sensitive

components, the unique characteristics of which may materially affect the performance of the monitor. These components include, but are not limited to, optical detectors associated with the opacity measurement/reference beam(s), spectrally selective optical filters, beam splitters, internal zero and/or upscale reference reflective or transmissive materials, electro optical light switches, retro reflectors, adjustable apertures used on external zero devices or reflectors, lenses which have an adjustable mount, circuit boards which are not completely interchangeable and/or require unique adjustments for the specific analyzer, with such repairs to include the maintenance procedures required to ensure that the analyzer is appropriately setup.

(5) Rebuilt or Refurbished Analyzers. Rebuilt or refurbished analyzers include analyzers for which a major sub-assembly has been replaced or multiple lesser sub-assemblies with different revision levels from the original have been replaced and/or modified. This also includes major changes to the analyzer measurement detection and processing hardware or software.

10.6 What requirements must I meet if I use a substitute opacity monitor? In the event that your certified opacity monitor has to be removed for extended service, you may install a temporary replacement monitor to obtain required opacity emissions data provided that:

(1) The temporary monitor has been certified according to ASTM D 6216-98, 03, 07 for which a manufacturer's certificate of conformance (MCOC) has been provided;

(2) The use of the temporary monitor does not exceed 720 hours (30 days) of operation per year as a replacement for a fully certified opacity monitor. After that time, the analyzer must complete a full certification according to PS-1 prior to further use as a temporary replacement monitor. Once a temporary replacement monitor has been installed and required testing and adjustments have been successfully completed, it cannot be replaced by another temporary replacement monitor to avoid the full PS-1 certification testing required after 720 hours (30 days) of use;

(3) The temporary monitor has been installed and successfully completed an optical alignment assessment and status indicator assessment;

(4) The temporary monitor has successfully completed an off-stack clear path zero assessment and zero calibration value adjustment procedure;

(5) The temporary monitor has successfully completed an abbreviated zero and upscale drift check consisting of seven zero and upscale calibration value drift checks which may be conducted within a 24-hour period with not more than one calibration drift check every three hours and not less than one calibration drift check every 25 hours. Calculated zero and upscale drift requirements are the same as specified for the normal PS-1 certification;

(6) The temporary monitor has successfully completed a three-point calibration error test;

(7) The upscale reference calibration check value of the new monitor has been updated in the associated data recording equipment;

(8) The overall calibration of the monitor and data recording equipment has been verified; and

(9) The user has documented all of the above in the maintenance log or in other appropriate permanently maintained records.

10.7 When do out-of-control periods begin and end? The out-of-control periods are as specified in section 3.1.

10.8 What are the limitations on the use of my COMS data collected during out-of-control periods? During the period your COMS is out-of-control, you may not use your COMS data to calculate emission compliance or to meet minimum data capture requirements in this procedure or the applicable regulation.

10.9 What are the QA/QC reporting requirements for my COMS? You must report the accuracy results from section 10.0 for your COMS at the interval specified in this procedure or the applicable regulation. You must 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? At 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 your COMS(s),
- (3) Manufacturer, model, and serial number of your COMS(s),
- (4) Assessment of COMS data accuracy/acceptability and date of assessment as determined by a performance audit described in section 10.0. If the accuracy audit results show your COMS to be out-of-control, you must report both the audit results showing your COMS to be out-of-control and the results of the audit following corrective action showing your COMS to be operating within specifications, and
- (5) Summary of all corrective actions you took when you determined your COMS was out-of-control.

10.11 Where and how long must I retain the QA data that this procedure requires me to record for my COMS? You must keep the records required by this procedure for your COMS onsite and available for inspection by us, the State, and/or the local enforcement agency for the period specified in the regulations requiring the use of COMS.

11.0 What Analytical Procedures Apply to this Procedure? [Reserved]

12.0 What Calculations and Data Analysis Must I Perform for My COMS?

The calculations required for the performance audit are in section 12.0 of PS-1.

13.0 Method Performance [Reserved]

(1) Replace or repair components described as routine and/or preventative maintenance.	x	---	x	---	x	---	x	---	---	---
(2) Replace or repair primary measurement light.	x	X	x	x	x	x	x	---	---	---
(3) Replace or repair components which are measurement noncritical.	x	---	x	---	x		x	---	---	---

affect MCOC- specified performance parameters.										
---	--	--	--	--	--	--	--	--	--	--

Notes: (1) Optical alignment indicator assessment requires the operator to verify during an off the stack clear path zero assessment that the beam is centered on the reflector/retro reflector when the alignment indicator indicates on-axis centered alignment. If not, the analyzer optical train must be adjusted until this condition is met.

(2) 7-day zero and upscale drift assessment. Opacity measurement data recorded prior to completion of the 7-day drift test will be considered as valid provided that the first 7-day drift test is successful, that it is completed within 14 days of completion of the repair, and that other QA requirements are met during this time period.

(3) Requires verification of the external zero-jig response, or recalibration of the same, after the off-stack clear path zero has been re-established.

**[FR Doc. 2012-3379 Filed 02/13/2012 at
8:45 am; Publication Date: 02/14/2012]**