Region IX office and at the following locations during normal business hours.

Rulemaking Office (AIR–4), Air Division, U.S. Environmental Protection Agency, Region IX, 75 Hawthorne Street, San Francisco, CA 94105

Air Docket (6102), U.S. Environmental Protection Agency, 401 ''M'' Street, SW, Washington, DC 20460

California Air Resources Board, Stationary Source Division, Rule Evaluation Section, 2020 ''L'' Street, Sacramento, CA 95812

San Diego County Air Pollution Control District, 9150 Chesapeake Drive, San Diego, California 92123–1096.

FOR FURTHER INFORMATION CONTACT: Julie A. Rose, Rulemaking Office (AIR–4), Air Division, U.S. Environmental Protection Agency, Region IX, 75 Hawthorne Street, San Francisco, CA 94105–3901 Telephone: (415) 744–1184.

SUPPLEMENTARY INFORMATION: This document concerns negative declarations for VOC source categories from the SDCAPCD. On February 25, 1998, the CARB submitted nine negative declarations for the SDCAPCD for the following VOC source categories: (1) synthetic organic chemical manufacturing (SOCMI)—distillation, (2) SOCMI—reactors, (3) wood furniture, (4) plastic parts coatings (business machines), (5) plastic parts coatings (other), (6) offset lithography, (7) industrial wastewater, (8) autobody refinishing, and (9) volatile organic liquid storage. These negative declarations confirm that the respective source categories are not present in the SDCAPCD. The negative declarations were adopted by the SDCAPCD on October 22, 1997 and submitted to EPA by CARB as revisions to the SIP on February 25, 1998.

For further information, please see the information provided in the Direct Final action which is located in the Rules Section of this **Federal Register**.

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

Dated: September 8, 1998.

Felicia Marcus,

Regional Administrator, Region IX.

[FR Doc. 98–25329 Filed 9–22–98; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[CA 206–0096b; FRL–6164–5]

Approval and Promulgation of State Implementation Plans; California State Implementation Plan Revision, Placer County Air Pollution Control District

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: EPA is approving a revision to the California State Implementation Plan (SIP) submitted by the California Air Resources Board (CARB). The revisions concern negative declarations from the Placer County Air Pollution Control District (PCAPCD) for seven source categories that emit volatile organic compounds (VOC) and five source categories that emit oxides of nitrogen (NO_X). The intended effect of this action is to include these negative declarations in the SIP and to meet the requirements of the Clean Air Act, as amended in 1990 (CAA or the Act). In the Final Rules Section of this **Federal Register**, EPA is approving the state's SIP submittal as a direct final rule without prior proposal because the Agency views this as a noncontroversial revision and anticipates no adverse comments. A rationale for this action is set forth in the direct final rule. If no adverse comments are received, no further activity is contemplated. If EPA receives adverse comments, the direct final rule will be withdrawn and all public comments received will be addressed in a subsequent final rule based on this proposed rule. The EPA will not institute a second comment period. Any parties interested in commenting on this action should do so at this time.

DATES: Written comments must be received by October 23, 1998.

ADDRESSES: Comments on this action should be addressed to: Andrew Steckel, Chief, Rulemaking Office (AIR–4), Air Division, U.S. Environmental Protection Agency, Region IX, 75 Hawthorne Street, San Francisco, CA 94105–3901.

Copies of the negative declarations are available for public inspection at EPA's Region IX office and at the following locations during normal business hours.

Rulemaking Office (AIR–4), Air Division, U.S. Environmental Protection Agency, Region IX, 75 Hawthorne Street, San Francisco, CA 94105

Air Docket (6102), U.S. Environmental Protection Agency, 40l ''M'' Street, S.W., Washington, D.C. 20460

California Air Resources Board, Stationary Source Division, Rule Evaluation Section, 2020 ''L'' Street, Sacramento, CA 95812

Placer County Air Pollution Control District, 11464 ''B'' Avenue, Auburn, CA 95603

FOR FURTHER INFORMATION CONTACT: Julie A. Rose, Rulemaking Office (AIR–4), Air Division, U.S. Environmental Protection Agency, Region IX, 75 Hawthorne Street, San Francisco, CA 94105–3901 Telephone: (415) 744–1184.

SUPPLEMENTARY INFORMATION: This document concerns negative declarations for seven VOC source categories from the PCAPCD: (1) aerospace coatings, (2) industrial waste water treatment, (3) plastic parts coatings (business machines), (4) plastic parts coatings (other), (5) shipbuilding and repair, (6) synthetic organic chemical manufacturing (SOCMI)-batch plants, and (7) SOCMI-reactors. This document also concerns negative declarations for five NO_x source categories from the PCAPCD: (1) Nitric and Adipic Acid Manufacturing Plants, (2) Utility Boilers, (3) Cement Manufacturing Plants, (4) Glass Manufacturing Plants, and (5) Iron and Steel Manufacturing Plants. These negative declarations certify that there are no major facilities for VOC or NO_x in the above source categories in the PCAPCD. They were adopted by the PCAPCD on October 9, 1997 and submitted to EPA on February 25, 1998 by the California Air Resources Board.

For further information, please see the information provided in the Direct Final action which is located in the Rules Section of this **Federal Register**.

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

Dated: September 8, 1998.

Felicia Marcus,

Regional Administrator, Region IX.

[FR Doc. 98–25331 Filed 9–22–98; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 60

[AD–FRL–6163–8]

RIN 2060–A622

Amendments to Standards of Performance for New Stationary Sources; Monitoring Requirements

AGENCY: Environmental Protection Agency (EPA).

ACTION: Supplemental proposal.

SUMMARY: Today's action proposes to incorporate by reference into Performance Specification 1 (PS–1): Specifications and Test Procedures for

Opacity Continuous Emission Monitoring Systems in Stationary Sources (40 CFR part 60, Appendix B) the standard practice developed by American Society for Testing and Materials (ASTM) entitled ''Standard Practice for Continuous Opacity Monitoring Manufacturers to Certify Design Conformance and Monitor Calibration,'' Document number D6216. This proposal is a supplement to actions published in the **Federal Register** on November 25, 1994 (59 FR 60585). ASTM D6216 helps to ensure that continuous opacity monitoring systems (COMS) meet the most current minimum design and calibration requirements. This proposal also contains revision to Subpart A, §§ 60.13 and 60.17, as well as editorial corrections to PS–1 other than the incorporations by reference.

DATES: *Comments.* Comments must be received on or before November 23, 1998.

Public Hearing. If anyone contacts EPA requesting to speak at a public hearing by October 14, 1998, a public hearing will be held on October 23, 1998 beginning at 10 a.m. Persons interested in attending the hearing should call the contact person mentioned under **ADDRESSES** to verify that a hearing will be held.

Request to Speak at Hearing. Persons wishing to present oral testimony at the public hearing must contact EPA by October 6, 1998.

ADDRESSES: *Comments.* Comments should be submitted (in duplicate if possible) to: Air Docket Section (LE–131), Attention: Docket No. A–91–07, U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460.

Public Hearing. If anyone contacts EPA requesting a public hearing, it will be held at EPA's Emission Measurement Center, Research Triangle Park, North Carolina. Persons interested in attending the hearing or wishing to present oral testimony should contact Mr. Solomon O. Ricks, Emission Measurement Center (MD–19), Emissions, Monitoring, and Analysis Division, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina, 27711, telephone number (919) 541–5242.

Background Information. The background information for this proposal may be obtained from: Air Docket Section (MC–6102), Attention: Docket No. A–91–07, U.S. Environmental Protection Agency, Room M–1500, First Floor, Waterside Mall, 401 M Street, SW., Washington, DC 20460. The background information contains correspondence between EPA and ASTM during the development of the ASTM standard practice.

Docket. A docket, No. A–91–07, containing information relevant to this rulemaking, is available for public inspection between 8:30 a.m. and noon and 1:30 p.m. and 3:30 p.m., Monday through Friday, at EPA's Air Docket Section, Room M–1500, First Floor, Waterside Mall, 401 M Street, SW., Washington, DC 20460. A reasonable fee may be charged for copying. A copy of the ASTM D6216 standard practice is included in the docket.

FOR FURTHER INFORMATION CONTACT: For information concerning the standard, contact Mr. Solomon Ricks at (919) 541–5242, Source Characterization Group A, Emissions, Monitoring, and Analysis Division (MD–19), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711.

SUPPLEMENTARY INFORMATION: The following outline is provided to aid in reading the preamble to the supplemental proposal:

I. Introduction

PS–1, Specifications and Test Procedures for Opacity Continuous Emission Monitoring Systems in Stationary Sources (40 CFR Part 60, Appendix B) was first published in the **Federal Register** on October 6, 1975 (40 FR 64250). An amendment to PS–1 was published on March 30, 1983 (48 FR 13322).

Additional experience with the procedures of PS–1 led EPA to propose a second set of revisions proposed in the **Federal Register** (59 FR 60585) on November 25, 1994. These revisions were intended to (1) clarify owner and operator and monitor vendor obligations, (2) reaffirm and update COMS design and performance requirements, and (3) provide EPA and affected facilities with equipment assurances for carrying out effective monitoring. Today's proposal supplements the November 25, 1994 proposal and will further contribute to the goal of updating COMS design and performance requirements.

These revisions to subpart A and PS–1 will apply to all COMS installed or replaced after the date of promulgation for purposes of monitoring opacity, as required in the Code of Federal Regulations (CFR). These requirements may also apply to stationary sources located in a State, District, Reservation, or Territory that have adopted these requirements into their implementation plan. Following promulgation, a source owner, operator, or manufacturer will be subject to these requirements if installing a new COMS, relocating a COMS, replacing a COMS, recertifying a COMS that has undergone substantial refurbishing (in the opinion of the enforcing agency), or has been specifically required to recertify the COMS with these revisions.

II. Summary of Changes

Section 12 of the National Technology Transfer and Advancement Act of 1995 (NTTAA) aims to reduce costs to the private and public sectors by requiring federal agencies to draw upon any existing, suitable technical standards used in commerce or industry. To comply with NTTAA, which went into effect in March 1996, EPA must consider and use voluntary consensus standards (VCS's), if available and applicable, unless such use is inconsistent with law or otherwise impractical.

In compliance with NTTAA, this proposal incorporates by reference ASTM standard D6216. The ASTM D6216 will be referenced in 40 CFR part 60, § 60.17. The development of D6216 was undertaken as a result of discussions between representatives of ASTM and EPA during September 1996. The ASTM agreed to develop D6216 to assist EPA in overcoming technical issues with opacity monitors. The additional design and performance specifications and test procedures included in D6216 eliminate many of the performance problems that EPA encountered and contribute to ensuring the quality of opacity monitoring results without restricting future technological development. ASTM believes that purchasers of opacity monitoring equipment meeting all of the requirements of D6216 are assured that the opacity monitoring equipment meets all of the design requirements of PS–1 and additional design specifications that eliminate many of the operational problems that were encountered in the field. The standard will be incorporated as presented in the following sections A and B.

A. Design Specifications Verification Procedures

This proposal incorporates the design specification verification procedures from ASTM standard D6216 in their entirety. Included in ASTM D6216 are three new design specification verification procedures that will ensure the accuracy of opacity monitor data is not affected by fluctuations in supply voltage, ambient temperature, and ambient light. Therefore, EPA is proposing the addition of verification procedures for: (a) Insensitivity to supply voltage variations, (b) thermal stability, and (c) insensitivity to ambient light.

The proposed revisions would move the simulated zero and upscale calibration requirements from section 7 (Performance Specifications Verification Procedures) in November 25, 1994 proposal to section 6 (Design Specification Verification Procedures). ASTM standard D6216 provides procedures for calibration check devices, as well as automated mechanisms to determine simulated zero and upscale calibration drift. The Agency is requesting comments on these proposed revisions, and in particular on the use of ASTM standard D6216.

B. Performance Specifications Verification Procedures

In a reversal from the November 25, 1994 proposed revisions to PS–1 which placed the responsibility of some tests on the owner and operator, this proposal places the responsibility of performing the: (a) Calibration error test, (b) instrument response time test, and (c) optical alignment indicator test, on the manufacturer. Under this proposal, these tests and the equipment preparation would be performed prior to shipping the COMS to the owner or operator. ASTM explained to the EPA that the manufacturers would be conducting these tests on each monitor and also that the manufacturers were more adequately equipped with test stands for doing these tests than the owner and operator at the facility.

This proposal also incorporates by reference the procedures for these tests from ASTM standard D6216. The Agency requests comments on these proposed revisions, and in particular on the use of ASTM standard D6216.

C. Other Revisions

This proposal also contains some revisions to 40 CFR part 60, § 60.13(d)(1) and several revisions or corrections to PS–1. Those revisions and corrections are summarized below. The Agency requests comments on these proposed changes.

We propose the following two revisions to § 60.13(d)(1):

(1) Change the zero and span calibration levels to be based on the applicable opacity standard; therefore, proper operation of the monitor near the emission standard can be confirmed on a daily basis, and

(2) Revise the statement about calibration materials as defined in the applicable version of PS–1; EPA's intent is to have only one version of PS–1.

The Agency proposes the following revisions for section 2, Definitions, of PS–1:

(1) Replace section 2.3 Calibration Drift with Upscale Calibration Drift and being moved to section 2.23. This change causes the remaining definition subsection numbers to change.

(2) Modify several definitions to be consistent with ASTM D6216.

(3) Add definitions for the following three procedures to be consistent with ASTM D6216: External Adjustment, Intrinsic Adjustment, and Zero Compensation.

We propose the following modifications and corrections to section 4, Installation Specifications, of PS–1:

(1) Since a new design performance specification now requires that the opacity monitor exhibit no interference from ambient light, modify section 4.1 by removing 4.1(d).

(2) Reorganize section 4 because sections 4.1 and 4.2 were both titled Measurement Location.

We propose the following revisions to section 5, Design Specifications, of PS–1:

(1) Add design specifications criteria for,
(a) insensitivity to supply voltage variation,
(b) thermal stability, and
(c) insensitivity to ambient light.

(2) Revise the requirement to display and record changes to the pathlength correction factor (PLCF) such that the PLCF must not be changeable and an alarm must activate when the PLCF is changed.

(3) Update table 1–1 to reflect the revised and added design specifications.

We also propose to revise section 7 as follows:

(1) Revise table 1–3 in section 7 so that the opacity values used for the calibration error test ensure the accuracy of the opacity monitor near the opacity standard. The November 25, 1994 proposed revisions did not check the accuracy of the COMS at or near the applicable standard.

(2) Revise section 7.1.3.1.3 to reduce the calibration frequency of primary attenuators used for calibration of secondary attenuators. ASTM assured EPA that when primary attenuators are used only to calibrate secondary attenuators, and they are stored in a protective case, scratching or other degradation of their surface is virtually eliminated.

(3) Revise section 7.1.3.2 to reduce the calibration frequency of secondary attenuators. ASTM explained to EPA that unless a secondary filter was severely damaged, the calibration would not change over a six-month period.

(4) Revise section 7.3, operational test period, to clarify the sources operating status during the 336-hour test period. During the operational test period, the source should operate in its normal operating mode. Therefore, if normal operations contain routine source shutdowns, the source's down periods are included in the 336-hour operational test period. Also, the interval between when external zero and calibration adjustments can be made has been extended from 24 hours to 168 hours.

III. Administrative Requirements

A. Docket

The docket is an organized and complete file of all information submitted or otherwise considered by EPA in the development of this proposed rulemaking. The principal purposes of the docket are: (1) to allow interested parties to identify and locate documents so that they can effectively participate in the rulemaking process, and (2) to serve as the record in case of judicial review (except for interagency review materials) [Clean Air Act Section 307(d)(7)(A)].

B. Executive Order 12866

Under Executive Order 12866 (58 FR 51735 October 4, 1993), the EPA is required to judge whether a regulatory action is ''significant'' and therefore subject to Office of Management and Budget (OMB) review and the requirements of this Executive Order. The Order defines ''significant regulatory action'' as one that is likely to result in a rule that may: (1) Have an annual effect on the economy of $100 million or more, or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities; (2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs, or the rights and obligation of recipients thereof; or (4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of Executive Order 12866, it has been determined that this rule is not ''significant'' because none of the listed criteria apply to this action. Consequently, this action was not submitted to OMB for review under Executive Order 12866.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to conduct a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements 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 not-for-profit enterprises, and small governmental jurisdictions. This proposed rule would not have a significant impact on a substantial number of small entities because no additional cost will be incurred by such entities because of the changes specified by the rule. The requirements of the proposal reaffirm the existing requirements for demonstrating conformance with the COMS PS's. Small entities will be affected to the same degree that they are affected under existing requirements. Therefore, I certify that this action will not have a significant economic impact on a substantial number of small entities.

D. Paperwork Reduction Act

This proposed rule does not contain any information collection requirements subject to the Office of Management and Budget review under the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et seq.*

E. Unfunded Mandates Act

Under Section 202 of the Unfunded Mandates Reform Act of 1995 (''Unfunded Mandates Act''), the EPA must prepare a budgetary impact statement to accompany any proposed rule, or any final rule for which a notice of proposed rulemaking was published, that includes a Federal mandate that may result in estimated costs to State, local, or tribal governments in the aggregate, or to the private sector, of $100 million or more in any one year. Under Section 205, if a budgetary impact statement is required under section 202, the EPA must select the least costly, most cost-effective, or least burdensome alternative that achieves the objective of the rule, unless the Agency explains why this alternative is not selected or the selection of this alternative is inconsistent with law. Section 203 requires the EPA to establish a plan for informing and advising any small governments that may be significantly or uniquely impacted by the rule. Section 204 requires the Agency to develop a process to allow elected state, local, and tribal government officials to provide input in the development of any proposal containing a significant Federal intergovernmental mandate.

The EPA has determined that this proposed rule does not include a Federal mandate that may result in estimated costs of $100 million or more to either State, local, or tribal governments in the aggregate, or to the private sector. The EPA has also determined that this proposed rule does not significantly or uniquely impact small governments. Therefore, the requirements of the Unfunded Mandates Act do not apply to this action.

F. Executive Order 12875

Executive Order 12875 applies to the promulgation of any regulation that is not required by statute and that creates a mandate upon a State, local, or tribal government. Today's action does not impose any unfunded mandate upon any State, local, or tribal government; therefore, Executive Order 12875 does not apply to this rulemaking.

G. National Technology Transfer and Advancement Act

The National Technology Transfer and Advancement Act of 1995 (NTTAA), section 12(d), Pub. L. 104–113, generally requires federal agencies and departments to use technical standards that are developed or adopted by voluntary consensus standards bodies, using such technical standards as a means to carry out policy objectives or activities determined by the agencies and departments. If use of such technical standards is inconsistent with applicable law or otherwise impractical, a federal agency or department may elect to use technical standards that are not developed or adopted by voluntary consensus standards bodies if the head of the agency or department transmits to the Office of Management and Budget an explanation of the reasons for using such standards.

To comply with NTTA, which went into effect in March 1996, EPA must consider and use voluntary consensus standards (VCS's) if available and applicable. Today's action proposes to incorporate a VCS developed and adopted by ASTM, standard D6216. ASTM agreed to develop D6216 to assist EPA in overcoming technical issues with opacity monitors.

H. Executive Order 13045

Executive Order 13045 applies to any rule that EPA determines (1) is ''economically significant'' as defined under Executive Order 12866, and (2) addresses an environmental health or safety risk that has a disproportionate effect on children. If the regulatory action meets both criteria, the Agency must evaluate the environmental health or safety effects of the planned rule on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency. This proposed rule is not subject to Executive Order 13045 because this is not an economically significant regulatory action as defined by E.O. 12866.

I. Executive Order 13084

Under Executive Order 13084, EPA may not issue a regulation that is not required by statute, that significantly or uniquely affects the communities of Indian tribal governments, and that imposes substantial direct compliance costs on those communities, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by the tribal governments. If the mandate is unfunded, EPA must provide to the Office of Management and Budget, in a separately identified section of the preamble to the rule, a description of the extent of EPA's proper consultation with representatives of affected tribal governments, a summary of the nature of their concerns, and a statement supporting the need to issue the regulation. In addition, Executive Order 13084 requires EPA to develop an effective process permitting elected and other representatives of Indian tribal governments ''to provide meaningful and timely input in the development of regulatory policies on matters that significantly or uniquely affect their communities.'' Today's rule does not significantly or uniquely affect the communities of Indian tribal governments. Accordingly, the requirements of section 3(b) of Executive Order 13084 do not apply to this rule.

List of Subjects in 40 CFR Part 60

Environmental protection, Air pollution control, Continuous emission monitoring, Opacity, Particulate matter, Performance specification, Preparation, Transmissometer.

Dated: September 15, 1998.

Carol M. Browner,

Administrator.

BILLING CODE 6560–50–M

The EPA proposes that 40 CFR part 60 be amended as follows:

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

Authority: 42 U.S.C. 7401, 7411, 7413, 7414, 7416, 7601, and 7602.

2. Section 60.13 is amended by revising paragraph (d)(1) as follows:

§ 60.13 Monitoring requirements.

* * * * *

(d)(1) Owners and operators of continuous emission monitoring systems (CEMS's) installed in accordance with the provisions of this part, shall automatically check the zero (or low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts (CD's) at least once daily. For CEMS's used to measure opacity in accordance with the provisions of this part, owners and operators shall automatically, intrinsic to the continuous opacity monitoring system (COMS), check the zero and upscale calibration drifts at least once daily. For a COMS, the acceptable range of zero and upscale calibration values shall be as defined in PS–1 in appendix B of this part. Where an opacity standard of 10 percent or less, corrected to stack exit conditions, has been specified, a surrogate 10 percent opacity standard shall be used for determining the daily calibration values for the drift assessments required above. The zero and upscale value shall, as a minimum, be adjusted whenever either the 24-hour zero drift or the 24-hour span drift exceeds two times the limit of the applicable PS in appendix B of this part. The system must allow the amount of the excess zero and span drift to be recorded and quantified whenever specified. For COMS's, the optical surfaces, exposed to the effluent gases, shall be cleaned prior to performing the zero and span drift adjustments, except for systems using automatic zero adjustments. The optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.

* * * * *

3. Section 60.17 is amended by adding (a)(64) as follows:

§ 60.17 Incorporation by reference.

* * * * *

(a) * * *

(64) ASTM D6216–97 Standard Practice for Continuous Opacity Monitoring Manufacturers to Certify Design Conformance and Monitor Calibration, IBR approved _____ (date of publication of final rule in the **Federal Register**) for appendix B, PS–1.

* * * * *

3. Appendix B, Part 60, Performance Specification 1 is amended by revising sections 1. introductory text, 1.1, 1.1.2, 1.1.3, 2, 3 introductory text, 3.1 introductory text, 4, 5 introductory text, 5.1.2, 5.1.3, 5.1.4, 5.1.5, 5.1.6, 5.1.7, 5.1.8, 5.1.9, 5.1.10, 5.1.11, 5.1.12, 5.1.13, 6.7 introductory text, 7.1, 7.1.1, 7.1.2, 7.1.3 introductory text, 7.1.3.1.3, 7.1.3.2, 7.1.4, 7.1.5, 7.1.6, 7.2 introductory text, 7.3, 7.3.1, 7.3.2, 7.3.3, 7.3.4 introductory text, 9 introductory text, 9.1 introductory text, 9.1.b., h. k & l, 9.2 introductory text, 9.2g, h., i, j, k, l, m, & n, 9.3 introductory text, 9.3a, c, e, & f, 9.4, 9.5, 9.5.1 introductory text, 9.5.1 (4), (5), (6), (7), 9.6, 10.6 & 10.7 to read as follows:

APPENDIX B—PERFORMANCE SPECIFICATIONS

* * * * *

PERFORMANCE SPECIFICATION 1—Specifications and Test Procedures for Continuous Opacity Monitoring Systems in Stationary Sources

1. Applicability and Principle.

1.1 Applicability.

* * * * *

1.1.2 Performance Specification 1 (PS–1) applies to COMS's installed on or after _____ (30 days after the date of publication of the final rule in the **Federal Register**).

1.1.3 A COMS installed before _____ (30 days after the date of publication of the final rule in the **Federal Register**) need not be re-tested to demonstrate compliance with these PS's unless specifically required by regulatory action other than the promulgation of PS–1. If a COMS installed prior to _____ (30 days after the date of publication of the final rule in the **Federal Register**) is replaced or relocated, this PS–1 shall apply to the COMS replacement or as relocated.

* * * * *

2. Definitions.

In addition to the definitions listed below, this specification also includes the definitions found in ASTM standard D6216 (incorporated by reference—see 40 CFR 60.17)

2.1 Angle of Projection (AOP). The angle that contains all of the radiation projected from the light source of the analyzer at a level of greater than 2.5 percent of the peak illuminance.

2.2 Angle of View (AOV). The angle that contains all of the radiation detected by the photodetector assembly of the analyzer at a level greater than 2.5 percent of the peak detector response.

2.3 Calibration Error. The sum of the absolute value of the mean difference and confidence coefficient for the opacity values indicated by an opacity monitoring system as compared to the known values of three calibration attenuators under clear path conditions when the monitor is optically aligned.

2.4 Centroid 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.

2.5 Continuous Opacity Monitoring System. The total equipment required for continuous monitoring of effluent opacity, averaging of emission measurement data, and permanently recording monitor results. The system consists of the following major subsystems:

2.5.1 Opacity Monitor. The measurement instrument used for the continuous determination of the opacity of the effluent released to the atmosphere. An opacity monitor includes a transmissometer, a means to correct opacity measurements to equivalent single pass opacity values that would be observed at the emission outlet pathlength, and all other interface and peripheral equipment necessary for continuous operation.

2.5.2 Data Recorder. That portion of the installed COMS that provides a permanent record of the opacity monitor output in terms of opacity. The data recorder may include automatic data reduction capabilities.

2.6 Dust Compensation. A method or procedure for systematically adjusting the output of a transmissometer to account for reduction in transmitted light reaching the detector (apparent increase in opacity) that is specifically due to the accumulation of dust on the exposed optical surfaces of the transmissometer.

2.7 External Adjustment. Either a manual, physical adjustment made by the user (operator) to a component of the COMS that affects the COMS's response or performance, or an adjustment applied by the data acquisition system which is external to the opacity monitor.

2.8 External Audit Device. The inherent design, equipment, or accommodation of the opacity monitor allowing the independent assessment of the COMS's calibration and operation.

2.9 External Zeroing Device (Zero-Jig). An external, removable device for simulating or checking the across stack zero of the COMS.

2.10 Full Scale. The maximum data display output of the COMS. For purposes of recordkeeping and reporting, full scale shall be greater than 80 percent opacity.

2.11 Intrinsic Adjustment. An automatic and essential feature of an opacity monitor that provides for the internal control of specific components or adjustment of the monitor response in a manner consistent with the manufacturer's design of the instrument and its intended operation.

2.12 Mean Spectral Response. The mean response wavelength of the wavelength distribution for the effective spectral response curve of the transmissometer.

2.13 Opacity. The fraction of incident light that is attenuated, due to absorption, reflection, and scattering, by an optical medium. Opacity (Op) and transmittance (Tr) are related by: Op = 1-Tr.

2.14 Operational Test Period. A period of time (336 hours) during which the COMS is expected to operate within the established performance specifications without any unscheduled maintenance, repair, or adjustment.

2.15 Optical Density. A logarithmic measure of the amount of incident light attenuated. Optical Density (OD) is related to the transmittance and opacity as follows: $OD = -\log_{10}(1\text{-}Op)$.

2.16 Pathlength. The depth of effluent in the light beam between the receiver and the transmitter of a single-pass transmissometer, or the depth of effluent between the transceiver and reflector of a double-pass transmissometer. Three pathlengths are referenced by this specification as follows:

2.16.1 Emission Outlet Pathlength. The pathlength (depth of effluent) at the location where emissions are released to the atmosphere. For circular stacks, the emission outlet pathlength is the internal diameter at the stack exit. For noncircular outlets, the emission outlet pathlength is the hydraulic diameter. For square stacks: D = (2LW)/(L + W), where L is the length of the outlet and W is the width of the outlet. Note that this definition does not apply to positive pressure baghouse outlets with multiple stacks, side discharge vents, ridge roof monitors, etc.

2.16.2 Installation Pathlength. The installation flange-to-flange distance between the receiver and the transmitter of a single-pass transmissometer or between the transceiver and reflector of a double-pass transmissometer. The installation pathlength is to be used for the optical alignment, response, and calibration error tests of section 7.

2.16.3 Monitoring Pathlength. The effective depth of effluent (the distance over which the light beam is actually evaluating the stack effluent) measured by the COMS at the installation location. Monitoring pathlength is to be used for calculation of the pathlength correction factor (PLCF). The effective depth of effluent measured by the COMS must be equal to or greater than 90 percent of the distance between duct or stack walls.

2.17 Peak Spectral Response. The wavelength of maximum sensitivity of the transmissometer.

2.18 Primary Attenuators. Primary attenuators are those calibrated by the National Institute of Standards and Technology (NIST).

2.19 Response Time. The amount of time it takes the COMS to display on the data recorder 95 percent of a step change in opacity.

2.20 Secondary Attenuators. Secondary attenuators are those calibrated against primary attenuators according to procedures in section 7.1.3.

2.21 Transmissometer. An instrument used for the in-situ measurement of light transmittance in a particulate-laden gas stream. Single pass transmissometers consist of a light source and detector components mounted on opposite ends of the measurement path. Double pass instruments consist of a transceiver (including both light source and detector components) and a reflector mounted on opposite ends of the measurement path.

2.22 Transmittance. The fraction of incident light that is transmitted through an optical medium.

2.23 Upscale Calibration Drift (CD). The difference in the COMS output readings from the upscale calibration value after a stated period of normal continuous operation during which no unscheduled maintenance, repair, or adjustment took place.

2.24 Upscale Calibration Value. The opacity value at which a calibration check of the COMS is performed by simulating an upscale opacity condition as viewed by the detector. An opacity value (corrected for pathlength) that is 150 to 190 percent of the applicable opacity standard.

2.25 Zero Calibration Drift. The difference in the COMS output readings from the zero calibration value after a stated period of normal continuous operation during which no unscheduled maintenance, repair, or adjustment had taken place.

2.26 Zero Calibration Value. A value at which a calibration check of the COMS is performed by simulating a zero opacity condition as viewed by the detector. An opacity value (corrected for pathlength) that is 0 to 10 percent of the applicable opacity standard.

2.27 Zero and Upscale Calibration Value Attenuator System. An inherent system of the COMS that can be an automatic electro-mechanical and filter system used for simulating both a zero and upscale calibration value and providing an assessment and record on the calibration of the instrument. Optical filters or screens with neutral spectral characteristics, or other device that produces a zero or an upscale calibration value shall be used.

2.28 Zero Compensation. An automatic adjustment of the transmissometer to achieve the correct response to the zero calibration value.

3. Apparatus.

3.1 Continuous Opacity Monitoring System. A COMS includes an opacity monitor that meets the design and PS's of PS–1 and a suitable data recorder, such as an analog strip chart recorder or other suitable device (e.g., digital computer), with an input signal range compatible with the analyzer output.

* * * * *

4. Installation Specifications.

Install the COMS at a location where the opacity measurements are representative of the total emissions from the affected facility. This requirement can be met as follows:

4.1 Measurement Location. Select a measurement location that is (a) at least 4 duct diameters downstream from all particulate control equipment or flow disturbance, (b) at least 2 duct diameters upstream of a flow disturbance, (c) where condensed water vapor is not present, and (d) accessible in order to permit maintenance.

4.1.1 The primary concern in locating a COMS is determining a location of well-mixed stack gas. Two factors contribute to complete mixing of emission gases: turbulence and sufficient mixing time. The criteria listed below define conditions under which well-mixed emissions can be expected. Select a light beam path that passes through the centroidal area of the stack or duct. Additional requirements or modifications must be met for the following locations:

4.1.1.1 If the location is in a straight vertical section of stack or duct and is less than 4 equivalent diameters downstream from a bend, use a light beam path that is in the plane defined by the upstream bend (see figure 1–1).

4.1.1.2 If the location is in a straight vertical section of stack or duct and is less than 4 equivalent stack or duct diameters upstream from a bend, use a light beam path that is in the plane defined by the downstream bend (see figure 1–2).

4.1.1.3 If the location is in a straight vertical section of stack or duct and is less than 4 equivalent stack or duct diameters downstream and is also less than 1 diameter upstream from a bend, use a light beam path in the plane defined by the upstream bend (see figure 1–3).

4.1.1.4 If the location is in a horizontal section of stack or duct and is at least 4 equivalent stack or duct diameters downstream from a vertical bend, use a light beam path in the horizontal plane that is between ⅓ and ½ the distance up the vertical axis from the bottom of the duct (see figure 1–4).

4.1.1.5 If the location is in a horizontal section of duct and is less than 4 diameters downstream from a vertical bend, use a light beam path in the horizontal plane that is between ½ and ⅔ the distance up the vertical axis from the bottom of the duct for upward flow in the vertical section, and is between ⅓ and ½ the distance up the vertical axis from the bottom of the duct for downward flow (figure 1–5).

4.2 Alternative Locations and Light Beam Paths. Locations and light beam paths, other than those cited above, may be selected by demonstrating, to the Administrator or delegated agent, that the average opacity measured at the alternative location or path is equivalent to the opacity as measured at a location meeting the criteria of section 4.1. The opacity at the alternative location is considered equivalent if the average opacity value measured at the alternative location is within ±10 percent of the average opacity value measured at the location meeting the installation criteria in section 4.1, and the difference between any two average opacity values is less than 2 percent opacity (absolute). To conduct this demonstration, simultaneously measure the opacities at the two locations or paths for a minimum period of time (e.g., 180-minutes) covering the range of normal operating conditions and compare the results. The opacities of the two locations or paths may be measured at different times, but must represent the same process operating conditions. Alternative procedures for determining acceptable locations may be used if approved by the Administrator.

4.3 Slotted Tube. For COMS that uses a slotted tube, the slotted tube must be of sufficient size and orientation so as not to interfere with the free flow of effluent through the entire optical volume of the COMS photodetector. The manufacturer must also present information in the certificate of conformance that the slotted tube minimizes light reflections. As a minimum, this demonstration shall consist of laboratory operation of the COMS both with, and without the slotted tube in position. The slotted portion must meet the monitoring pathlength requirements of 2.16.3.

5. Design Specifications.

* * * * *

5.1.2 Angle of View. The total AOV shall be no greater than 4 degrees for all radiation above 2.5 percent of peak.

5.1.3 Angle of Projection. The total AOP shall be no greater than 4 degrees for all radiation above 2.5 percent of peak.

5.1.4 Optical Alignment Indicator. Each opacity monitor must provide some method for visually or electronically determining that each separate portion of the COMS, the transmitter or transceiver and detector or

reflector, is optically aligned with respect to the optical axis of the system. The method provided must be capable of clearly indicating that the unit is misaligned when an error of no greater than ±2 percent opacity occurs due to misalignment at the installation pathlength. Instruments that are capable of providing a clear path zero check while in operation on a stack or duct with effluent present, and while maintaining the same optical alignment during measurement and calibration, need not meet this requirement (e.g., some ''zero pipe'' units). The owner and operator shall insure that the COMS manufacturer's written procedures and the certificate of conformance depict the correct alignment and the misalignment corresponding to a ±2 percent opacity shift as viewed using the alignment sight.

5.1.5 Insensitivity to Supply Voltage Variation. The opacity monitor output shall not deviate more than ±1.0 percent single pass opacity for variations in the supply voltage over ±10 percent from nominal or the range specified by the manufacturer, whichever is greater. The zero and upscale calibration responses at the minimum and maximum supply voltages shall not vary by more than ±1.0 percent single pass opacity relative to the responses at the nominal supply voltage.

5.1.6 Thermal Stability. The opacity monitor output shall not deviate more than ±2.0 percent single pass opacity per 40°F change in ambient temperature over the range specified by the manufacturer. The zero and upscale calibration responses at the minimum and maximum temperatures shall not vary by more than ±2.0 percent single pass opacity per 40°F change in temperature relative to the responses at the initial temperature.

5.1.7 Insensitivity to Ambient Light. The opacity monitor output shall not deviate more than ±2.0 percent single pass opacity relative to the initial response for any six-minute period from sunrise to sunset.

5.1.8 Simulated Zero and Upscale Calibration System. Each analyzer must include a calibration system for simulating a zero and upscale calibration value. This calibration system must provide, as a minimum, a simultaneous system check of all of the active analyzer internal optics, all active electronic circuitry including the primary light source (lamp) and photodetector assembly, and electro-mechanical systems used during normal measurement operation.

5.1.9 Automated Zero and Upscale Value Compensation Recorder, Indicator, and Alarm. The COMS shall provide an automated means for determining and recording the actual amount of 24-hour zero compensation on a daily basis. The COMS also shall provide an alarm (visual or audible) when a ±4 percent opacity zero compensation has been exceeded. This indicator shall be at a location which can be seen or heard by the operator (e.g., process control room) and accessible to the operator (e.g., the data output terminal).

5.1.9.1 During the operational test period, the COMS also must provide a means for determining and automatically recording the actual amount of upscale calibration value compensation at specified 2-hour intervals so that the actual 2-hour upscale calibration value shift can be determined (see section 7.3.3).

5.1.9.2 The determination of dirt accumulation on all surfaces exposed to the effluent being measured shall include only those surfaces in the direct path of the measuring light beam under normal opacity measurement and with the zero calibration value in place or equivalent mechanism necessary for the dirt compensation measurement. The dust accumulation must actually be measured.

5.1.10 External Calibration Filter Access. The COMS must be designed to accommodate an independent assessment of the total systems response to external audit filters. An adequate design shall permit the use of external (i.e., not intrinsic to the instrument) neutral density filters to assess monitor operation during performance audits. The external audit filter access design shall ensure that the entire beam received by the detector will pass through the attenuator and that the attenuator is inserted in a manner which minimizes interference from the reflected light. This system may include an external audit zero-jig as identified in section 2.9.

5.1.11 Pathlength Correction Factor Recording and Indicating System. The COMS shall display and record all opacity values corrected to the emission outlet pathlength. Equations 1–7 or 1–8 may be used. The system shall be designed and constructed so that the PLCF cannot be changed by the end user, or is recorded during each calibration check cycle, or provides an alarm when the value is changed.

5.1.12 External Fault Indicator. The installed COMS must provide a means to automatically alert the owner or operator when a component or performance parameter has failed or been exceeded (e.g., projector lamp failure, zero or upscale calibration error, purge air blower failure, data recorder failure). Indicator lights or alarms must be visible or audible to the operator(s).

5.1.13 Data recorder resolution. The data recorder and data acquisition system shall record and display opacity values to 0.5 percent opacity.

TABLE 1–1.—COMS DESIGN SPECIFICATIONS

1. Peak and mean spectral response.
2. Angle of view.
3. Angle of projection.
4. Optical alignment indicator.
5. Insensitivity to supply voltage variation.
6. Thermal stability.
7. Insensitivity to ambient light.
8. Simulated zero and upscale calibration system.
9. Automated zero and upscale value compensation recorder, indicator, and alarm.
10. External calibration filter access.
11. Pathlength correction factor recording and indicating system.
12. External fault indicator.
13. Data recorder resolution.

6. Design Specifications Verification Procedures.

These procedures apply to all instruments installed for purposes of complying with opacity monitoring requirements (see section 1.1, Applicability). The source owner or operator is responsible for the overall COMS performance demonstration required by the applicable standards. As an alternative, the COMS manufacturer may conduct the COMS design verification procedures called for in this section and provide to the source owner or operator a Manufacturer's Certificate of Conformance (MCOC). These procedures will be conducted, detailed, and the results submitted in the MCOC (section 9.5) as an integral part of each COMS demonstration required by the applicable standards. In order to assure that the design and procedures to demonstrate conformance with this section coincide with the design procedures as stated in the MCOC, the manufacturer is encouraged to seek an evaluation by the Administrator of the manufacturer's conformance demonstration practices. The procedures to demonstrate conformance with this section may require modification to accommodate instrument designs. All procedural modifications required to demonstrate conformance with the specifications of this section must be approved, in writing, by the Administrator. The owner and operator or the manufacturer, as appropriate, will obtain any approvals of modifications to the specifications of this section before regulatory agency review and acceptance of the overall COMS performance evaluations.

6.1 Selection of Analyzer. A representative analyzer for each analyzer design will be selected for testing according to ASTM D6216 (incorporated by reference—see 40 CFR § 60.17), sections 6.1.1, 6.1.2, and 6.1.3.

6.2 Spectral Response. The spectral response test will be performed according to ASTM D6216 (incorporated by reference—see 40 CFR § 60.17), section 6.2.

6.3 Angle of View and Angle of Projection. The procedures for verifying the AOV and AOP will be performed according to ASTM D6216 (incorporated by reference—see 40 CFR § 60.17), section 6.3.

6.4 Insensitivity to Supply Voltage Variations. This design specification is to ensure that the accuracy of opacity monitoring data is not affected by supply voltage variations over the range specified by the manufacturer or ±10 percent from nominal, whichever is greater. The test will be performed according to ASTM D6216 (incorporated by reference—see 40 CFR § 60.17), section 6.4.

6.5 Thermal Stability. This design specification is to ensure that the accuracy of opacity monitoring data is not affected by ambient temperature variations over the range specified by the manufacturer. This test procedure will be performed according to ASTM D6216 (incorporated by reference—see 40 CFR § 60.17), section 6.5.

6.6 Insensitivity to Ambient Light. This design specification is to ensure that the accuracy of opacity monitoring data is not affected by ambient light. The test will be performed according to ASTM D6216 (incorporated by reference—see 40 CFR 60.17), section 6.6.

6.7 Calibration Check Devices. Tests of devices used to determine simulated zero and upscale calibration will be performed according to ASTM D6216 (incorporated by reference—see 40 CFR 60.17), section 6.9.

6.8 Unacceptable Findings. Whenever a manufacturer finds that a COMS model does not conform to any of the design specification requirements of sections 6.2 through 6.7, the manufacturer will institute corrective action in accordance with its quality assurance program and remedy the cause of the unacceptable performance. The manufacturer will then test all of the monitors in the group and verify conformance with the design specifications for each monitor before they are shipped to the end users. Additionally, the manufacturer will notify and provide the findings to all source owners or operators that have received or installed such nonconforming COMS models manufactured after the date of the previous successful conformance demonstration. The manufacturer will submit copies of the purchaser notifications to the U.S. Environmental Protection Agency, Director, Air Enforcement Division (AR 1119), 1200 Pennsylvania Avenue, NW., Washington, DC 20044.

7. Performance Specifications Verification Procedure.

The owner and operator shall ensure that the following procedures and tests are performed on each COMS that conforms to the design specifications (Table 1–1) to determine conformance with the specifications of Table 1–2. The tests described in sections 7.1.4, 7.1.5, and 7.1.6 shall be conducted at the manufacturer's facility.

TABLE 1–2.—PERFORMANCE SPECIFICATIONS

Parameter	Specifications
Calibration error [a]	≤3 percent opacity.
Response time	≤10 seconds.
Operational test period [b].	336 hours.
Zero drift (24-hour) [a] ..	≤2 percent opacity.
Calibration drift (24-hour).	≤2 percent opacity.
Zero drift (1-hour)	≤2 percent opacity.
Calibration drift (1-hour).	≤2 percent opacity.

[a] Expressed as the sum of the absolute value of the mean and the absolute value of the confidence coefficient.

[b] During the operational test period, the COMS must not require any corrective maintenance, repair, replacement, or adjustment other than that clearly specified as routine and required in the operation and maintenance manuals.

7.1 Preliminary Adjustments and Tests.

7.1.1 Equipment Preparation.

The equipment preparation shall be done according to ASTM D6216 (incorporated by reference—see 40 CFR 60.17), sections 7.2, 7.3, and 7.4.

7.1.2 Calibration Attenuator Selection.

7.1.2.1 Based on the applicable opacity standard, select a minimum of three calibration attenuators (low-, mid-, and high-level) based on the following opacity values presented in Table 1–3:

TABLE 1–3.—Required Calibration Opacity Values

For opacity standard of	10 to 19%	≤20%
Low Level	5–10	10–20
Mid Level	10–20	20–30
High Level	20–40	30–60

If the applicable opacity standard is less than 10 percent, the selection of calibration attenuators shall be based on 10 percent opacity.

7.1.2.2 Calculate the attenuator values required to obtain a system response equivalent to the applicable values in the ranges specified in table 1–3 using equation 1–1. Select attenuators having the values closest to those calculated by equation 1–1. A series of filters with actual opacity values relative to the values calculated are commercially available.

$$OP_2 = 1 - \left(1 - OP_1\right)^{\frac{L_2}{L_1}} \qquad \text{Eq. 1-1}$$

where:

OP_1=Nominal opacity value of required low-, mid-, or high-range calibration attenuators.

OP_2=Desired attenuator opacity value from Table 1–3 at the opacity standard required by the applicable subpart.

L_1=Monitoring pathlength.

L_2=Emission outlet pathlength.

7.1.3 Attenuator Calibration.

* * * * *

7.1.3.1.3 Recalibrate the primary attenuators used for the required calibration error test semi-annually. Recalibrate annually if the primary attenuators are used only for calibration of secondary attenuators.

7.1.3.2 Secondary Attenuators. Calibrate the secondary attenuators, if used to conduct COMS calibration error tests, semi-annually. The filter calibration may be conducted using a laboratory-based transmissometer calibrated as follows:

* * * * *

7.1.4 Calibration Error Test. The calibration error test shall be performed according to ASTM D6216 (incorporated by reference—see 40 CFR 60.17), section 7.8. Calculate the arithmetic mean difference, standard deviation, and confidence coefficient of the five tests at each attenuator value using equations 1–3, 1–4, and 1–5 (sections 8.1 to 8.3). Calculate the calibration error as the sum of the absolute value of the mean difference and the 95 percent confidence coefficient for each of the three test attenuators. Report the calibration error test results for each of the three attenuators.

7.1.5 Instrument Response Time Test. Instrument response time shall be determined according to ASTM D6216 (incorporated by reference—see 40 CFR 60.17), section 7.7.

7.1.6 Optical Alignment Indicator. The optical alignment indicator performance test shall be done in accordance with ASTM D6216 (incorporated by reference—see 40 CFR § 60.17), section 7.9 .

7.2 Preliminary Field Adjustments.

* * * * *

7.3 Operational Test Period. Prior to conducting the operational testing, the owner and operator, or the manufacturer as appropriate, should have successfully completed all prior testing of the COMS. After completing all preliminary field adjustments (section 7.2), operate the COMS for an initial 336-hour test period while the source is operating under normal operating conditions. Except during times of instrument zero and upscale calibration checks, the owner and operator must ensure that they analyze the effluent gas for opacity and produce a permanent record of the COMS output. During this period, the owner and operator may not perform unscheduled maintenance, repair, or adjustment to the COMS. The owner or operator may perform zero and calibration adjustments (i.e., external adjustments) only at 168-hour intervals. Perform exposed optical and other CEMS surface cleaning, and optical realignment only at 24-hour intervals. Automatic zero and calibration adjustments (i.e., intrinsic adjustments), made by the COMS without operator intervention or initiation, are allowable at any time. During the operational test period, record all adjustments, realignments, and exposed surface cleaning. At the end of the operational test period, verify and record that the COMS optical alignment is correct. If the operational test period is interrupted because of source breakdown or regularly scheduled source maintenance, continue the 336-hour period following resumption of source operation. If the test period is interrupted because of COMS failure, record the time when the failure occurred. After the failure is corrected, the 336-hour period and tests are restarted from the beginning (0-hour). During the operational test period, perform the following test procedures:

7.3.1 Zero Calibration Drift Test. At the outset of the 336-hour operational test period and at each 24-hour period, record the initial (Reference A) zero calibration value and upscale calibration value (UC Value), see example format figure 1–8. These values are the initial 336-hour value established during the optical and zero alignment procedure (see section 7.2.1 or 7.2.2). After each 24-hour interval, check and record the COMS zero response reading before any cleaning, optical realignment, and intrinsic adjustment. Perform any external zero and upscale calibration adjustments only at 168-hour periods. Perform exposed optical and other instrument surface cleaning, and optical realignment only at 24-hour intervals (or at such shorter intervals as the manufacturer's written instructions specify). If shorter intervals of zero and upscale adjustment are conducted, record the drift adjustment. However, adjustments and cleaning must be performed when the accumulated zero calibration drift or upscale calibration drift exceeds the 24-hour drift specification (±2 percent opacity). From the initial zero calibration value and each 24-hour period zero readings, calculate the 24-hour zero calibration drift (CD). At the end of the 336-

hour period, calculate the arithmetic mean, standard deviation, and confidence coefficient of the 24-hour zero CD's using equations 1–3, 1–4, and 1–5. Calculate the sum of the absolute value of the mean and the absolute value of the confidence coefficient using equation 1–6, and report this value as the 24-hour zero CD error.

7.3.2 Upscale Calibration Drift Test. At each 24-hour interval, after the zero calibration value has been checked and any optional or required adjustments have been made, check and record the COMS response to the upscale calibration value. Compare the COMS response to the upscale calibration value established under the optical and zero alignment procedure of section 7.2.1 or 7.2.2 as the initial value. The upscale calibration established in section 7.2.1 shall be used each 24-hour period. From the initial upscale calibration value and each 24-hour period upscale readings, calculate the 24-hour upscale CD. At the end of the 336-hour period, calculate the arithmetic mean, standard deviation, and confidence coefficient of the 24-hour upscale CD using equations 1–3, 1–4, and 1–5. Calculate the sum of the absolute value of the mean and the absolute value of the confidence coefficient, and report this value as the 24-hour upscale CD error.

7.3.3 Calibration Stability Test. Immediately following or during, the operational test period, conduct a calibration stability test over a 24-hour period. During this period, there will be no unscheduled maintenance, repair, manual adjustment of the zero and calibration values, exposed optical and other instrument surface cleaning, or optical realignment performed. Record the initial zero and upscale calibration opacity values and operate the monitor in a normal manner. After each 2-hour period, record the automatically corrected zero and upscale opacity values. Subtract the initial zero and upscale calibration values from each 2-hour adjusted value and record the difference. None of these differences shall exceed ±2 percent opacity. Figure 1–8 may be used for the recording of the results of this test.

7.3.4 Retesting.

* * * * *

9. Reporting.

Report the following (summarize in tabular form where appropriate):

9.1 General Information.

* * * * *

b. Person(s) responsible for operational test period and affiliation.

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h. System span value, percent opacity.

* * * * *

k. Upscale calibration value, percent opacity.

l. Calibrated attenuator values (low-, mid-, and high-range), percent opacity.

9.2 Design Specification Test Results.

* * * * *

g. Maximum deviation of opacity as a result of supply voltage variation.

h. Zero and upscale calibration responses at nominal voltage.

i. Zero and upscale calibration responses at minimum and maximum supply voltage.

j. Maximum deviation of opacity over ambient temperature range.

k. Zero and upscale calibration responses at initial temperature.

l. Zero and upscale calibration responses at minimum and maximum ambient temperature.

m. Maximum percent opacity deviation for any 6-minute period during the day of the ambient light sensitivity test.

n. Serial number, month/year of manufacturer for unit actually tested to show design conformance.

9.3 Performance Specification Test Results.

a. Results of optical alignment sight test. The manufacturer will, in the testing report, include diagrams indicating the operator's view through the optical alignment system as depicted during the alignment tests specified in section 7.2.1.

* * * * *

c. Calibration Error Test.

(1) Report the required upscale opacity range and indicated upscale opacity calibration value, as determined in section 6.7.

(2) Identify the low-, mid-, and high-level calibration opacities, as determined in section 7.1.2.2.

* * * * *

e. Zero and Upscale Calibration Drift (CD) Tests. In the format of figure 1–8:

i. Identify the 24-hour zero CD, percent opacity,

ii. Identify the 24-hour upscale CD, percent opacity,

iii. Identify any lens cleaning, clock time,

iv. Identify all optical alignment adjustments, clock time.

f. Calibration Stability Test. Present the data and results of the calibration stability test in the format of figure 1–8.

9.4 Statements. Provide a statement that the operational test period was completed according to the requirements of section 7.3. In this statement, include the time periods during which the operational test period was conducted.

9.5 Manufacturer's Certificate of Conformance (MCOC). The MCOC must include the results of each test performed for the COMS(s) sampled under section 6.1. The MCOC also shall specify the date of testing according to sections 6.2 through 6.7, the COMS monitor type, serial number, and the intended installation and purchaser of the tested COMS. Section 9.5.1 identifies the minimally acceptable information to be submitted by the manufacturer with the certification of conformance.

9.5.1 Outline of Certificate of Conformance.

* * * * *

(4) Insensitivity to Supply Voltage Variations. Include the results of testing, including the supply voltage range, all simulated zero and upscale calibration responses, and the maximum deviation of opacity from the external attenuator over the supply voltage range.

(5) Thermal Stability. Include the results of testing, including the manufacturers recommended ambient temperature range and tested range, all simulated zero and upscale calibration responses, and the maximum deviation of opacity from the external attenuator over the temperature range.

(6) Insensitivity to Ambient Light. Include the results of testing, including the test date, all simulated zero and upscale calibration responses, ambient temperature range during the test period, and the maximum 6-minute period percent opacity deviation from the external attenuator.

(7) Verification of Compliance with Additional Design Specifications. The owner and operator or manufacturer shall provide diagrams and operational descriptions of the instrument which demonstrate conformance with the requirements of sections 5.1.5, 5.1.7, 5.1.8, 5.1.9, and 5.1.10.

9.6 Appendix. Provide the data tabulations and calculations for any of the above demonstrations.

10. Bibliography

* * * * *

6. Technical Assistance Document: Performance Audit Procedures for Opacity Monitors. U.S. Environmental Protection Agency. Research Triangle Park, NC. EPA–450/4–92–010. April 1992.

7. ASTM D6216—Standard Practice for Continuous Opacity Monitoring Manufacturers to Certify Design Conformance and Monitor Calibration. American Society for Testing and Materials (ASTM).

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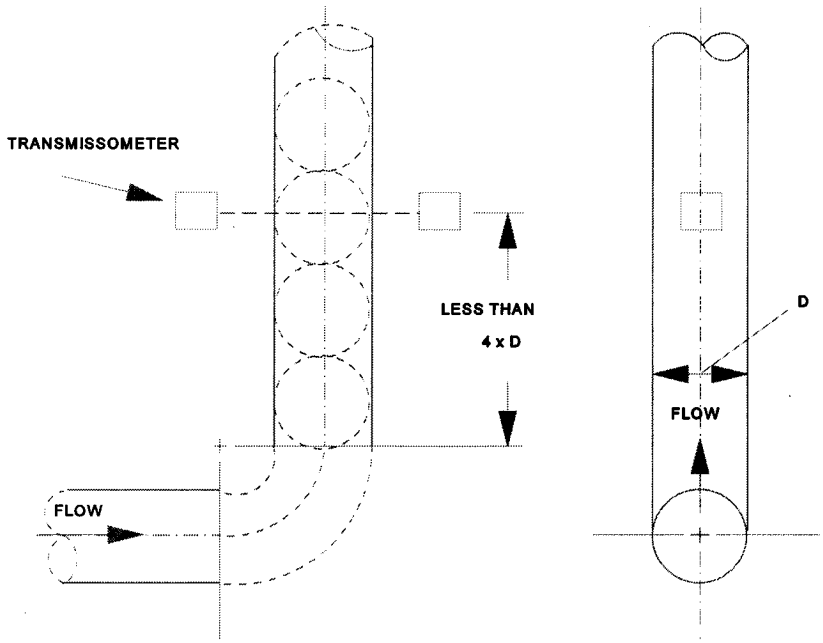

Figure 1-1. Transmissometer location downstream of a bend in a vertical stack.

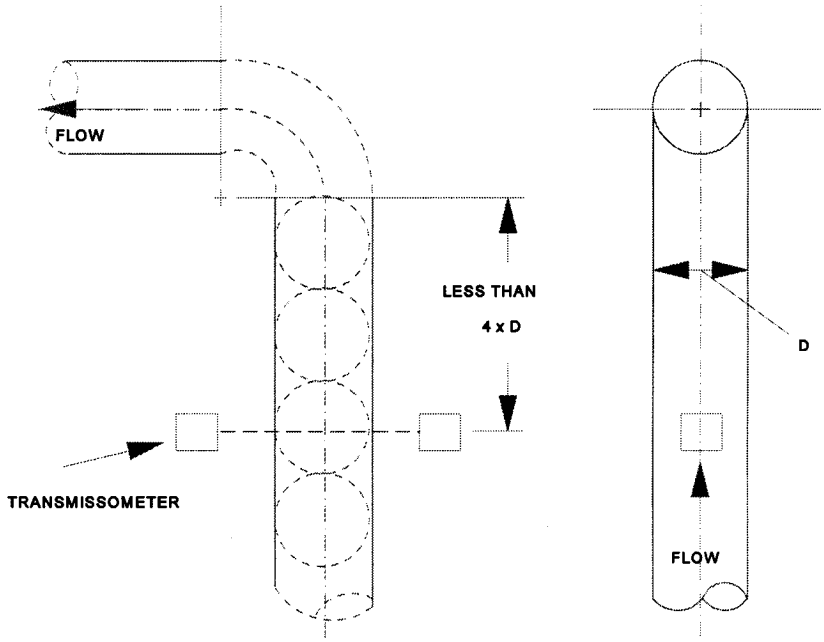

Figure 1-2. Transmissometer location upstream of a bend in a vertical stack.

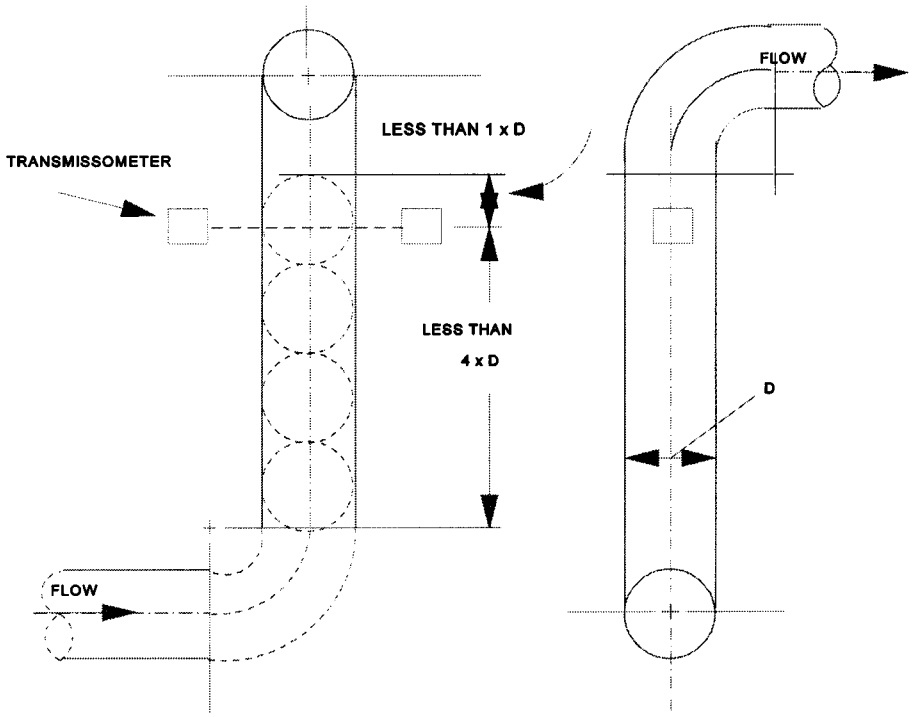

Figure 1-3. Transmissometer location between bends in a vertical stack.

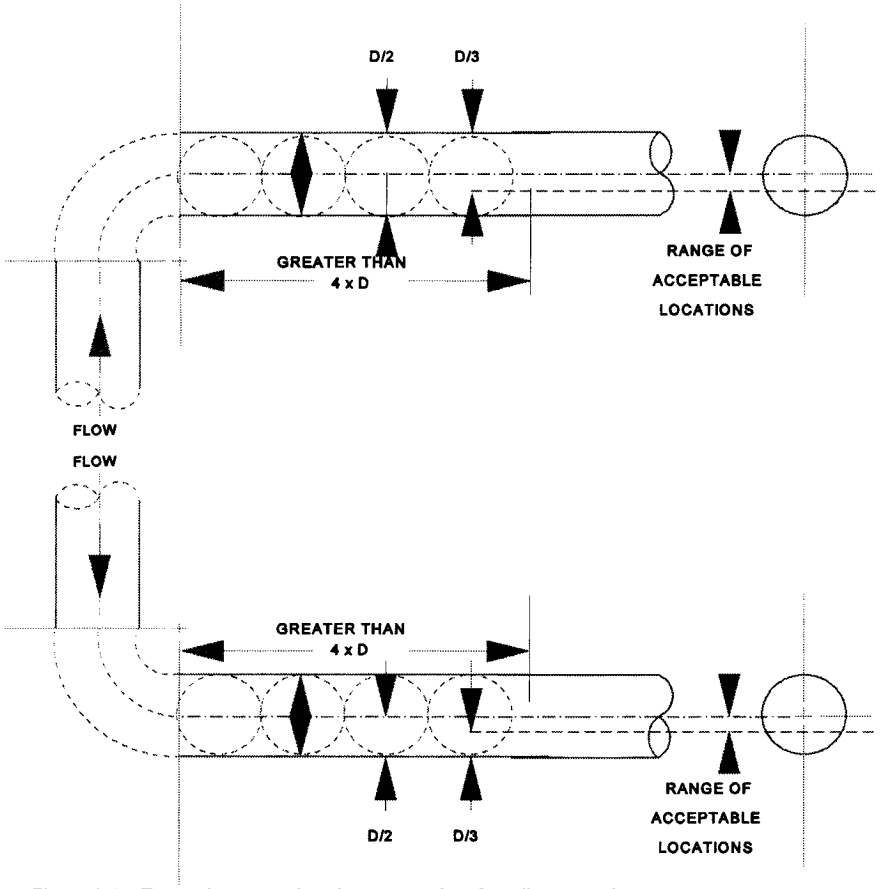

Figure 1-4. Transmissometer location greater than four diameters downstream of a vertical bend in a horizontal stack or duct.

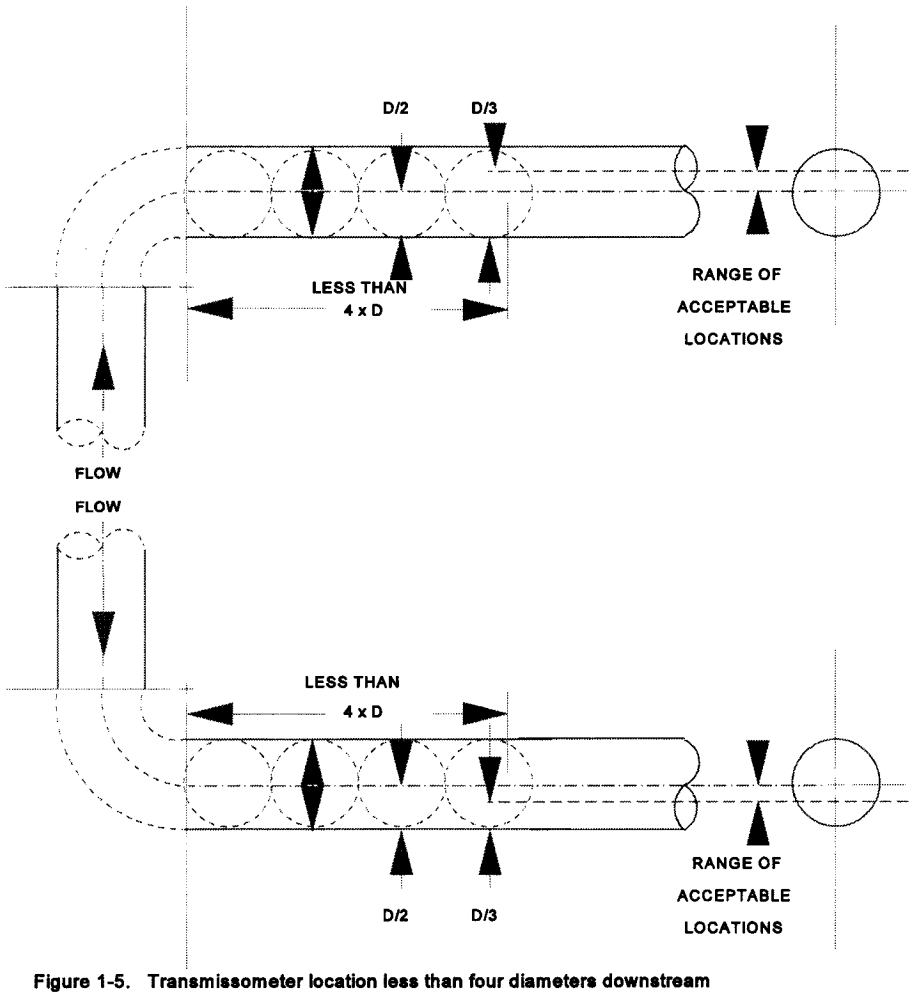

Figure 1-5. Transmissometer location less than four diameters downstream of a vertical bend in a horizontal stack or duct.

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