

13, 2023. The safety zone will be enforced for all navigable waters of the Lower Mississippi River, New Orleans, LA from MM 94 to MM 95. In the event of inclement weather, the safety zone will be enforced from 7:30 to 8:45 p.m. on April 14, 2023. During the enforcement period, as reflected in § 165.845 paragraphs (a) through (d), entry into this zone is prohibited to all vessels and persons except vessels authorized by the COTP or designated representative. A designated representative means any Coast Guard commissioned, warrant, or petty officer of the U.S. Coast Guard assigned to units under the operational control of Sector New Orleans. Persons and vessels requiring entry into this safety zone must request permission from the COTP or a designated representative. They may be contacted on VHF-FM Channel 16 or 67 or by telephone at (504) 365-2545. Persons and vessels permitted to enter this safety zone must transit at their slowest safe speed and comply with all lawful directions issued by the COTP or the designated representative.

In addition to this notification of enforcement in the **Federal Register**, the Coast Guard plans to provide notification of this enforcement period via Marine Safety Information Bulletin and Broadcast Notice to Mariners.

Dated: March 22, 2023.

**K.K. Denning,**

*Captain, U.S. Coast Guard, Captain of the Port Sector New Orleans.*

[FR Doc. 2023-06460 Filed 3-28-23; 8:45 am]

**BILLING CODE 9110-04-P**

## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Parts 51, 60, and 63

[EPA-HQ-OAR-2020-0556; FRL-8335-02-OAR]

**RIN 2060-AV35**

### Testing Provisions for Air Emission Sources

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule.

**SUMMARY:** This action promulgates corrections and updates to regulations for source testing of emissions under various rules. This final rule includes corrections to typographical and technical errors, updates to outdated procedures, and revisions to add clarity and consistency with other monitoring requirements. The revisions will improve the quality of data but will not

impose new substantive requirements on source owners or operators.

**DATES:** This rule is effective on May 30, 2023. The incorporation by reference of certain material listed in the rule is approved by the Director of the Federal Register on May 30, 2023. The incorporation by reference of certain other material listed in the rule was approved by the Director of the Federal Register as of March 18, 2008, April 16, 2012, and May 15, 2015.

**ADDRESSES:** The EPA has established a docket for this action under Docket ID No. EPA-HQ-OAR-2020-0556. All documents in the docket are listed on the [www.regulations.gov](http://www.regulations.gov) website. Although listed in the index, some information is not publicly available, e.g., confidential business information or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the internet and will be publicly available only in hard copy. Publicly available docket materials are available electronically through [www.regulations.gov](http://www.regulations.gov).

**FOR FURTHER INFORMATION CONTACT:** Mrs. Lula H. Melton, Office of Air Quality Planning and Standards, Air Quality Assessment Division (E143-02), Environmental Protection Agency, Research Triangle Park, NC 27711; telephone number: (919) 541-2910; fax number: (919) 541-0516; email address: [melton.lula@epa.gov](mailto:melton.lula@epa.gov).

**SUPPLEMENTARY INFORMATION:** The supplementary information in this preamble is organized as follows:

- I. General Information
  - A. Does this action apply to me?
  - B. What action is the agency taking?
  - C. Judicial Review
- II. Background
- III. Incorporation by Reference
- IV. Summary of Amendments
  - A. Method 201A of Appendix M of Part 51
  - B. General Provisions (Subpart A) of Part 60
  - C. Standards of Performance for New Residential Wood Heaters (Subpart AAA) of Part 60
  - D. Standards of Performance for New Residential Wood Heaters, New Residential Hydronic Heaters, and Forced-Air Furnaces (Subpart QQQQ) of Part 60
  - E. Method 1 of Appendix A-1 of Part 60
  - F. Method 4 of Appendix A-3 of Part 60
  - G. Method 7 of Appendix A-4 of Part 60
  - H. Method 19 of Appendix A-7 of Part 60
  - I. Method 25 of Appendix A-7 of Part 60
  - J. Method 25C of Appendix A-7 of Part 60
  - K. Method 26 of Appendix A-8 of Part 60
  - L. Performance Specification 1 of Appendix B of Part 60
  - M. Performance Specification 2 of Appendix B of Part 60
  - N. Performance Specification 4B of Appendix B of Part 60

- O. Performance Specification 6 of Appendix B of Part 60
- P. Performance Specification 12A of Appendix B of Part 60
- Q. Performance Specification 16 of Appendix B of Part 60
- R. Procedure 1 of Appendix F of Part 60
- S. Procedure 5 of Appendix F of Part 60
- T. General Provisions (Subpart A) of Part 63
- U. National Emission Standards for Hazardous Air Pollutants From the Pulp and Paper Industry (Subpart S) of Part 63
- V. National Emission Standards for Hazardous Air Pollutants From Hazardous Waste Combustors (Subpart EEE) of Part 63
- W. National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating (Subpart JJJJ) of Part 63
- X. National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (Subpart ZZZZ) of Part 63
- Y. National Emission Standards for Hazardous Air Pollutants: Engine Test Cells/Standards Residual Risk and Technology Review (Subpart PPPPP) of Part 63
- Z. National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units (Subpart UUUUU) of Part 63
- AA. Method 315 of Appendix A of Part 63
- BB. Method 323 of Appendix A of Part 63
- V. Public Comments on the Proposed Rule
- VI. 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 (PRA)
  - C. Regulatory Flexibility Act (RFA)
  - D. Unfunded Mandates Reform Act (UMRA)
  - 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 and 1 CFR Part 51
  - J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations
  - K. Congressional Review Act (CRA)

### I. General Information

#### A. Does this action apply to me?

The amendments promulgated in this final rule apply to industries that are subject to the current provisions of 40 CFR parts 51, 60, and 63. We did not list all the specific affected industries or their North American Industry Classification System (NAICS) codes herein since there are many affected

sources in numerous NAICS categories. If you have any questions regarding the applicability of this action to a particular entity, consult either the air permitting authority for the entity or your EPA Regional representative as listed in 40 CFR 63.13.

#### *B. What action is the agency taking?*

We are promulgating corrections and revisions to source test methods, performance specifications (PS), and associated regulations. The revisions correct typographical and technical errors, provide updates to testing procedures, and add clarity and consistency among monitoring requirements.

#### *C. Judicial Review*

Under section 307(b)(1) of the Clean Air Act (CAA), judicial review of this final rule is available by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit by May 30, 2023. Under section 307(d)(7)(B) of the CAA, only an objection to this 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 final rule may not be challenged later in civil or criminal proceedings brought by the EPA to enforce these requirements.

## **II. Background**

The EPA catalogs errors and corrections, as well as necessary revisions to test methods, performance specifications, and associated regulations in 40 CFR parts 51, 60, and 63 and periodically updates and revises these provisions. The most recent updates and revisions were proposed on April 26, 2022 (87 FR 24488). The public comment period for the present proposed revisions ended June 27, 2022, and 11 comment letters were received from the public. This final rule was developed based on public comments that the agency received on the proposed rule.

## **III. Incorporation by Reference**

The EPA is incorporating by reference two ASTM International (ASTM) standards. Specifically, the EPA has incorporated ASTM D6216–20, which covers the procedure for certifying continuous opacity monitors and includes design and performance specifications, test procedures, and quality assurance (QA) requirements to ensure that continuous opacity monitors meet minimum design and calibration requirements necessary for accurate

opacity monitoring measurements in regulatory environmental opacity monitoring applications subject to 10 percent or higher opacity standards. The EPA also updated the incorporation by reference for ASTM D6784, a test method for elemental, oxidized, particle-bound, and total mercury in emissions from stationary sources, from the 2002 version to the 2016 version. This update applies to incorporations by reference in 40 CFR part 60, appendix B, Performance Specification 12A for continuous monitoring of mercury emissions. The EPA updated the incorporations by reference in 40 CFR part 63 for use of ASTM D6784 under table 5 and appendix A of Subpart UUUUU, for mercury emissions measurement and monitoring. Both the ASTM D6216–20 and ASTM D6784–16 standards were developed and adopted by the ASTM International. The ASTM standards may be obtained from [www.astm.org](http://www.astm.org) or from the ASTM at 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428–2959.

The EPA also is incorporating by reference the Standard Methods Committee Method 5210 Biochemical Oxygen Demand (BOD) from “Standard Methods for the Examination of Waste and Wastewater.” This standard is acceptable as an alternative to method 405.1 and is available from the Standards Method Committee at [www.standardmethods.org](http://www.standardmethods.org) or by telephone at (844) 232–3707.

The EPA also made specific modifications to requirements in an existing incorporation by reference, the ASTM E2515–11 test method. The stipulations modify the post-test leak check procedures as well as add procedures for performing leak checks during a sampling run.

The following standards are already currently incorporated in the location where they appear in the rule: ANSI/ASME PTC 19.10–1981, ASTM–D6348–03, ASTM–D6348–03(R2010), ASTM–D6522–00 (2005).

## **IV. Summary of Amendments**

### *A. Method 201A of Appendix M of Part 51*

In method 201A, the erroneous equation 25 in section 12.5 is corrected.

### *B. General Provisions (Subpart A) of Part 60*

In the General Provisions of part 60, § 60.17(h) is revised to add ASTM D6216–20 and D6784–16 to the list of incorporations by reference and to renumber the remaining consensus standards that are incorporated by reference in alpha-numeric order.

### *C. Standards of Performance for New Residential Wood Heaters (Subpart AAA) of Part 60*

Subpart AAA is amended to add stipulations for use of the ASTM E2515–11 test method. The stipulations modify the post-test leak check procedures as well as add procedures for performing leak checks during a sampling run. The stipulations to ASTM E2515–11 are necessary as we have learned that the quality assurance/quality control (QA/QC) requirements for leak tests required by ASTM E2515–11, section 9.6.5.1 are not sufficient to provide assurance of the sampling system integrity. Additionally, the language of ASTM E2515–11, section 9.6.5.1 currently allows for averaging the particulate matter (PM) results from a non-leaking sampling system with those from a leaking sampling system, which effectively reduces reported PM emissions by as much as half, rendering the test method inappropriate for compliance determination.

We revised the language in § 60.534(c) and developed new language to replace ASTM E2515–11, section 9.6.5.1 by adding § 60.534(c)(1), which specifies appropriate post-test leak check procedures and in § 60.534(c)(2) by adding procedures for performing leak checks during a sampling run. These modifications bring appropriate QA/QC requirements to PM measurements required by the rule and eliminate opportunity for emissions test results to be considered valid when a leaking sampling system allows dilution of the PM sample(s). This language was amended slightly based on comments received to further clarify that sample volume collected during the process of conducting leak checks during a test run is not to be included in the overall sampling volume as it would dilute the collected sample volume were it treated in that manner.

In § 60.534(d), the first hour PM emissions measurements are to be conducted using a separate ASTM E2515–11 sampling train operated concurrently with the paired ASTM E2515–11 sampling trains used in compliance PM sampling. In this manner, the first hour PM emissions will be collected appropriately, and the compliance test measurements will not be impacted by a sampling pause for filter replacement at the 1-hour mark.

The regulatory language in § 60.539b(b) is revised to include General Provisions that were added to § 60.8(f)(2) (81 FR 59801, August 30, 2016) and were inadvertently exempted from inclusion in subpart AAA as that rule, as promulgated in 2015, exempted

§ 60.8(f) in its entirety. The exemption promulgated in subpart AAA at § 60.539b(b) was intended to exempt those affected sources from § 60.8(f), which, at the time, consisted of what is now currently § 60.8(f)(1) and is specific to compliance testing results consisting of the arithmetic mean of three replicate tests. These modifications will ensure that emissions test reporting includes all data necessary to assess and assure the quality of the reported emissions data and appropriately describes and identifies the specific unit covered by the emissions test report. Since compliance tests in this category consist of a single test, the original regulatory exemption to the General Provisions of § 60.8(f)(1) is retained.

*D. Standards of Performance for New Residential Wood Heaters, New Residential Hydronic Heaters, and Forced-Air Furnaces (Subpart QQQQ) of Part 60*

The erroneous PM emission limits in g/MJ in § 60.5474(b)(2), (3) and (6) are corrected.

In addition, subpart QQQQ is amended to add stipulations for use of the ASTM E2515–11 test method. The stipulations modify the post-test leak check procedures as well as add procedures for performing leak checks during a sampling run. The stipulations to ASTM E2515–11 are necessary as we have learned that the QA/QC requirements for leak tests required by ASTM E2515–11, section 9.6.5.1 are not sufficient to provide assurance of the sampling system integrity. Additionally, the language of ASTM E2515–11, section 9.6.5.1 currently allows for averaging the PM results from a non-leaking sampling system with those from a leaking sampling system, which effectively reduces reported PM emissions by as much as half, rendering the test method inappropriate for compliance determination. The language in § 60.5476(c)(5) and (6) is removed and the paragraphs are reserved.

We revised the language in § 60.5476(f) and developed new language to replace ASTM E2515–11, section 9.6.5.1 by adding § 60.5476(f)(1), which specifies appropriate post-test leak check procedures and in § 60.5476(f)(2) by adding procedures for performing leak checks during a sampling run. These modifications bring appropriate QA/QC requirements to PM measurements required by the rule and eliminate opportunity for emissions test results to be considered valid when a leaking sampling system allows dilution of the PM sample(s). This language was amended slightly based on comments

received to further clarify that sample volume collected during the process of conducting leak checks during a test run should not be included in the overall sampling volume as it would dilute the collected sample volume were it treated in that manner.

In § 60.5476(f), we are also requiring that first hour PM emissions measurements be conducted using a separate ASTM E2515–11 sampling train operated concurrently with the paired ASTM E2515–11 sampling trains used in compliance PM sampling. In this manner, the first hour PM emissions will be collected appropriately, and the compliance test measurements will not be impacted by a sampling pause for filter replacement at the one-hour mark. In § 60.5476(f), we incorporated language about filter type and size acceptance currently in § 60.5476(c)(5). Additionally, we removed language relating to EN 303–5 currently found in § 60.5476(f).

The regulatory language in § 60.5483(b) is revised to include General Provisions that were added to § 60.8(f)(2) (81 FR 59801, August 30, 2016) and were inadvertently exempted from subpart QQQQ as that rule, as promulgated in 2015, exempted § 60.8(f) in its entirety. The exemption promulgated in subpart QQQQ at § 60.5483(b) was intended for those affected sources subject to § 60.8(f), which, at the time, consisted of what is currently § 60.8(f)(1) and is specific to compliance testing results consisting of the arithmetic mean of three replicate tests. These modifications ensure that emissions test reporting includes all data necessary to assess and assure the quality of the reported emissions data and appropriately describes and identifies the specific unit covered by the emissions test report. Since compliance tests in this category consist of a single test, the original regulatory exemption to the General Provisions of § 60.8(f)(1) is retained.

In subpart QQQQ, in method 28WHH, in section 13.8, the erroneous CO calculation instructions for equation 23 are corrected to include the summation of CO emissions over four test categories instead of three.

*E. Method 1 of Appendix A–1 of Part 60*

In method 1, the heading in section 11.5.1 is moved to 11.5, and the word “procedure” is moved to the first sentence in section 11.5.1 for clarity. Section 11.5.2 is revised to clearly specify the number of traverse points that must be used for sampling and velocity measurements once a directional flow-sensing probe procedure has been used to demonstrate

that an alternative measurement site is acceptable. The last sentence of section 11.5.2, which appears unclear as to what “same traverse point number and locations” it is referring, is revised to instead specify the “same minimum of 40 traverse points for circular ducts and 42 points for rectangular ducts” that are used in the alternative measurement procedure of section 11.5.3.

Also, table 1–2 is revised to correct the erroneous requirement that calls for 99.9 percent of stack diameter from the inside wall to the traverse point to 98.9 percent.

*F. Method 4 of Appendix A–3 of Part 60*

In method 4, table 4–3 is formatted correctly.

*G. Method 7 of Appendix A–4 of Part 60*

In method 7, section 10.1.3 is revised to change the word “should” to “shall” in the last sentence because the difference between the calculated concentration values and the actual concentrations are required to be less than 7 percent for all standards.

*H. Method 19 of Appendix A–7 of Part 60*

In method 19, the erroneous equation 19–5 is corrected.

*I. Method 25 of Appendix A–7 of Part 60*

In method 25, a record and report section (section 12.9) was added to confirm that the quality control (QC) is successfully performed. Also, the erroneous figure 25–6 is corrected.

*J. Method 25C of Appendix A–7 of Part 60*

In method 25C, in response to a comment, the first sentence in section 9.1 is corrected to read, “If the 3-year average annual rainfall is greater than 20 inches, verify that landfill gas sample contains less than 20 percent N<sub>2</sub> or 5 percent O<sub>2</sub>.” Also, the nomenclature in section 12.1 for C<sub>N2</sub> and C<sub>mN2</sub> is revised to provide clarity. More specifically, C<sub>N2</sub> is changed from “N<sub>2</sub> concentration in the diluted sample gas” to “N<sub>2</sub> concentration in the landfill gas sample,” and the C<sub>mN2</sub> is changed from “Measured N<sub>2</sub> concentration, fraction in landfill gas” to “Measured N<sub>2</sub> concentration, diluted landfill gas sample.”

*K. Method 26 of Appendix A–8 of Part 60*

In method 26, erroneous equations 26–4 and 26–5 in sections 12.4 and 12.5, respectively, are revised to be consistent with the nomenclature in section 12.1.

*L. Performance Specification 1 of Appendix B of Part 60*

In Performance Specification 1, references to ASTM D6216–12 (in sections 2.1, 3.1, 6.1, 8.1(1), (2)(iii), and (3)(ii), 8.2(1) through (3), 9.0, 12.1, 13.1, 13.2, and 16.0, reference 8) are replaced with ASTM D6216–20. Note: If the initial certification of the continuous opacity monitoring system (COMS) has already occurred using D6216–98, D6216–03, D6216–07, or D6216–12, it will not be necessary to recertify using D6216–20.

Also, in Performance Specification 1, section 8.1(2)(iii) is revised by removing the next to the last sentence, which reads, “The opacities of the two locations or paths may be measured at different times but must represent the same process operating conditions,” because the statement is confusing and unclear; furthermore, it is unlikely that one would achieve the same conditions at two different times.

*M. Performance Specification 2 of Appendix B of Part 60*

In Performance Specification 2, in section 8.3.3, a sentence is added to clarify that during a calibration, the reference gas is to be introduced into the sampling system prior to any sample conditioning or filtration equipment and must pass through as much of the probe as is practical. In section 12.5, minor revisions are made to clarify that relative accuracy (RA) test results are expressed as a percent of emission rate or concentration (units of the applicable standard) and the definition of the average reference method (RM) value for Equation 2–6.

*N. Performance Specification 4B of Appendix B of Part 60*

The entire Performance Specification 4B is updated to the Environmental Monitoring Management Council (EMMC) methods format used for all other performance specifications. In response to comment, some of the references to other sections are replaced with text.

*O. Performance Specification 6 of Appendix B of Part 60*

In Performance Specification 6, section 13.2 is revised to specifically state the relative accuracy criteria including significant figures. On October 7, 2020 (85 FR 63394), we revised section 13.2 of Performance Specification 6 to make the relative accuracy calculations and criteria consistent with Performance Specification 2 and offer an alternate calculation and criterion for low emission concentration/rate situations;

however, we neglected to specifically cite the alternate relative accuracy criterion from Performance Specification 2 for low emission sources and to ensure consistency with Performance Specification 2 with regard to significant figures in the relative accuracy criteria. In response to comment, we are adding “you may elect to” to the last sentence in section 13.2 to clarify that the 10% RA is an option as opposed to a requirement.

*P. Performance Specification 12A of Appendix B of Part 60*

We are revising the references (in sections 8.4.2, 8.4.4, 8.4.5, 8.4.6.1, and 17.5 and the footnote to Figure 12A–3) to ASTM D6784, Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), to update them from the 2002 version to the latest version, which was authorized in 2016.

The capabilities of mercury CEMS have improved since initial deployment to support regulations over a decade ago. Therefore, we are revising section 13.3 to modify the alternative relative accuracy criterion such that: (1) it applies only at mercury concentrations less than 2.5 µg/scm and (2) the difference between the average reference method and CEMS values added to the confidence coefficient is now 0.5 µg/scm. This revised criterion is consistent with revisions that we made to the mercury monitoring requirements in 40 CFR part 63, subpart UUUUU (81 FR 20172, April 6, 2016).

*Q. Performance Specification 16 of Appendix B of Part 60*

In Performance Specification 16, several corrections and modifications are made to clarify the intent of the requirements. In section 1.1, the language is revised to make it clear that if a PEMS (predictive emission monitoring system) contains a diluent component, then the diluent component must be tested as well. Also, in section 1.1, the language referring to PS–17 is removed because PS–17 was not promulgated.

In sections 3.11 and 3.12, language is added to define commonly used acronyms, and in section 3.12, the language is corrected to indicate that the relative accuracy test audit (RATA) is to be conducted as specified in section 8.2.

In section 9.1, the QA/QC Summary chart is corrected to reflect the language found in section 2.2, which indicates that the relative accuracy audit (RAA) is required on all PEMS and not just those classified as compliance PEMS. The

QA/QC Summary Chart is also modified to align the criteria for a RAA with that found in section 13.5.

In section 9.4, we proposed to correct the language stating a RATA is to be conducted at the normal operating level to indicate the RATA is to be conducted as specified in section 8.2. Also in section 9.4, we proposed to remove the statement that the statistical tests in section 8.3 are not required for the yearly RATA. However, based on public comment, we are not making any revisions to section 9.4 at this time.

In section 12.3.2, we proposed to remove the alternative criteria language because it does not apply to F-factor determinations. However, based on public comment, we have decided not to make changes to section 12.3.2 at this time.

In sections 13.1 and 13.5, the language is modified to add the corresponding alternative criteria in units of lb/mmBtu. Although, we did not propose a change in the criteria for applying the 2 ppm difference in the proposed rule, we agree with a public comment that the 20 ppm criteria in section 13.5 should be the same as the 10 ppm criteria in section 13.1, so section 13.5 is revised to reflect this.

*R. Procedure 1 of Appendix F of Part 60*

In Procedure 1, in section 4.1, a sentence is added to clarify that during a calibration, the reference gas is to be introduced into the sampling system prior to any sample conditioning or filtration equipment and must pass through as much of the probe as is practical. Section 5.2.3(2) is modified to refine the alternative cylinder gas audit (CGA) criteria in response to the use of analyzers with lower span values. In section 6.2, to provide clarity and clear up any confusion, the language referring to the relevant performance specification is removed, and the language referring to the use of equation 1–1 is inserted.

*S. Procedure 5 of Appendix F of Part 60*

Regulated entities have pointed out that we did not include criteria for the system integrity check required in Procedure 5. In section 2.5, we clarified that ongoing daily calibration of the Hg CEMS must be conducted using elemental mercury reference gas. This is consistent with revisions that we made to the Hg monitoring requirements in 40 CFR part 63, subpart UUUUU (81 FR 20172, April 6, 2016). We revised the title of section 4.0 and added section 4.4 to explain more explicitly the procedure for conducting the system integrity check as well as to provide the criteria for passing the check. In response to

comment, we changed “calendar” days to “operating” days in the first sentence in section 4.4 to provide harmonization with the Mercury Air Toxics Standards (MATS) Rule (40 CFR part 63, subpart UUUUU). Also, in response to comment, we revised the acceptance criteria for the system integrity check in section 4.4 to better comport with the MATS Rule. The acceptance criteria for the system integrity check now reads “The absolute value of the difference between the Hg CEMS output response and the reference gas must be less than or equal to 10.0 percent of the reference gas value or 0.8 µg/scm.”

In section 5.1.3, to add clarity, we inserted language referring to equation 1–1 of Procedure 1 for calculating relative accuracy.

#### *T. General Provisions (Subpart A) of Part 63*

In the General Provisions of part 63, § 63.14 is revised to: (1) add ASTM D6784–16 to paragraph (h) and (2) add “Standard Methods for the Examination of Waste and Wastewater” method 5210 to paragraph (u).

#### *U. National Emission Standards for Hazardous Air Pollutants From the Pulp and Paper Industry (Subpart S) of Part 63*

In subpart S, the existing reference in 40 CFR 63.457(c)(4) to method 405.1 of part 136 of chapter 40 for the measurement of biochemical oxygen demand (BOD) is no longer valid, as method 405.1 was withdrawn in 2007. It was replaced with Biochemical Oxygen Demand Standard Methods 5210 B (72 FR 11199, March 12, 2007), which has been previously approved in test plans for measuring BOD to demonstrate compliance with the requirements of subpart S. In § 63.457(c)(4), the reference to method 405.1 is replaced with reference to method 5210B. The parent method, method 5210, which includes method 5210B, is also incorporated by reference in 40 CFR 63.14.

#### *V. National Emission Standards for Hazardous Air Pollutants From Hazardous Waste Combustors (Subpart EEE) of Part 63*

In the appendix to subpart EEE, the erroneous language regarding an Interference Response Test in the introductory paragraph of section 5 is removed, and section 5.3 in its entirety is removed.

#### *W. National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating (Subpart JJJJ) of Part 63*

In 2009, revisions were made to § 63.3360(e)(1)(viii) to clarify that the results of method 25 or method 25A were being used to determine “total organic volatile matter” (85 FR 41276). At the time, the use of the terminology “total gaseous non-methane organic volatile organic matter” in § 63.3360(e)(1)(vi) was overlooked. We are revising § 63.3360(e)(1)(vi) by removing the term “non-methane” to be consistent with § 63.3360(e)(1)(viii).

#### *X. National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (Subpart ZZZZ) of Part 63*

We have received multiple inquiries regarding the requirements in table 4 of Subpart ZZZZ that are used to measure the exhaust gas moisture when measuring the concentration of carbon monoxide (CO), formaldehyde, or total hydrocarbon (THC) to demonstrate compliance with the rule. It was first pointed out that it is not always necessary to measure that exhaust gas moisture when measuring CO. We are adding language to all three sections of table 4 stating that that the moisture measurement is only necessary when needed to correct the CO, formaldehyde, THC and/or O<sub>2</sub> measurements to a dry basis.

#### *Y. National Emission Standards for Hazardous Air Pollutants: Engine Test Cells/Standards Residual Risk and Technology Review (Subpart PPPPP) of Part 63*

In subpart PPPPP, the existing erroneous statement in § 63.9306(d)(2)(iv) is corrected to read, “Using a pressure sensor with measurement sensitivity of 0.002 inches water, check gauge calibration quarterly and transducer calibration monthly.” Also, in subpart PPPPP, the existing erroneous statement in § 63.9322(a)(1) is corrected to read, “The capture system meets the criteria in Method 204 of appendix M to 40 CFR part 51 for a permanent total enclosure (PE) and directs all the exhaust gases from the enclosure to an add-on control device.”

#### *Z. National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units (Subpart UUUUU) of Part 63*

We are revising the references in sections 4.1.1.5 and 4.1.1.5.1 in subpart UUUUU, appendix A, to ASTM Method D6784, Standard Test Method for

Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), to update them from the 2002 version to the latest version, which was authorized in 2016. In table 5, we are adding ASTM Method D6784–16 as a mercury testing option as it was inadvertently left out previously.

#### *AA. Method 315 of Appendix A of Part 63*

Section 16.2 is mislabeled as section 6.2 and is corrected.

#### *BB. Method 323 of Appendix A of Part 63*

In method 323, sections 10.1 and 10.3 are revised to require best laboratory practices. The nomenclature in section 12.1 is revised to include “b,” which is the intercept of the calibration curve at zero concentration and revise K<sub>c</sub>. These additions are necessary because equation 323–5 in section 12.6 is revised to reflect changes in calibration procedures for calculating the mass of formaldehyde.

### **V. Public Comments on the Proposed Rule**

Eleven comment letters were received from the public on the proposed rule. The public comments and the agency’s responses are summarized in the Response to Comments document located in the docket for this rule. See the ADDRESSES section of this preamble.

### **VI. Statutory and Executive Order Reviews**

Additional information about these statutes and Executive orders can be found at <https://www.epa.gov/laws-regulations/laws-and-executive-orders>.

#### *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 and was, therefore, not submitted to the Office of Management and Budget (OMB) for review.

#### *B. Paperwork Reduction Act (PRA)*

This action does not impose an information collection burden under the PRA. The amendments to test methods, performance specifications, and testing regulations only make corrections, updates, and clarifications to existing testing methodology.

#### *C. Regulatory Flexibility Act (RFA)*

I certify that this action will not have a significant economic impact on a substantial number of small entities

under the RFA. This action will not impose any requirements on small entities. This final rule will not impose emission measurement requirements beyond those specified in the current regulations, nor does it change any emission standard.

#### *D. Unfunded Mandates Reform Act (UMRA)*

This action does not contain any unfunded mandate as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. The action imposes no enforceable duty on any state, local, or tribal governments or the private sector.

#### *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.

#### *F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments*

This action does not have tribal implications, as specified in Executive Order 13175. This action corrects and updates existing testing regulations. 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 Executive Order 13045 as applying only to those regulatory actions that concern environmental health or safety risks that the EPA has reason to believe may disproportionately affect children, per the definition of “covered regulatory action” in section 2–202 of the Executive order. This action is not subject to Executive Order 13045 because it does not concern an environmental health risk or safety risk.

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

This action is not subject to Executive Order 13211 because it is not a significant regulatory action under Executive Order 12866.

#### *I. National Technology Transfer and Advancement Act and 1 CFR Part 51*

This action involves technical standards. The EPA used ASTM D6216–20 for continuous opacity monitors in Performance Specification 1. The ASTM

D6216–20 standard covers the procedure for certifying continuous opacity monitors and includes design and performance specifications, test procedures, and QA requirements to ensure that continuous opacity monitors meet minimum design and calibration requirements, necessary in part, for accurate opacity monitoring measurements in regulatory environmental opacity monitoring applications subject to 10 percent or higher opacity standards. The EPA also updated the version of ASTM D6784, a test method for elemental, oxidized, particle-bound, and total mercury in emissions from stationary sources, from the 2002 to 2016 version in the references contained in 40 CFR part 60, appendix B, Performance Specification 12A, for continuous monitoring of mercury emissions. The EPA updated the version of ASTM D6784 referenced in table 5 and appendix A of subpart UUUUU in 40 CFR part 63, for mercury emissions measurement and monitoring.

The EPA also used the Standard Methods Committee Method 5210 Biochemical Oxygen Demand (BOD) from “Standard Methods for the Examination of Water and Wastewater.” Section B of this standard, 5-day BOD, is acceptable as an alternative to method 405.1.

The EPA added language to correct a portion of the ASTM E2515–11 test method. The stipulations modified the post-test leak check procedures as well as added procedures for performing leak checks during a sampling run. The stipulations to ASTM E2515–11 are necessary as we have learned that the quality assurance/quality control (QA/QC) requirements for leak tests required by ASTM E2515–11, section 9.6.5.1 are not sufficient to provide assurance of the sampling system integrity. Additionally, the language of ASTM E2515–11, section 9.6.5.1 currently allows for averaging the PM results from a non-leaking sampling system with those from a leaking sampling system which effectively reduces reported PM emissions by as much as half, rendering the test method inappropriate for compliance determination.

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

Executive Order 12898 (59 FR 7629, February 16, 1994) 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 (people of color) and low-income populations.

The EPA believes that this type of action does not concern human health or environmental conditions and, therefore, cannot be evaluated with respect to potentially disproportionate and adverse effects on people of color, low-income populations and/or indigenous peoples because it does not establish an environmental health or safety standard. This action corrects, updates, and provides clarity to existing testing regulations.

#### *K. Congressional Review Act (CRA)*

This action is subject to the CRA, and the EPA will submit a rule report to each house of the Congress and to the Comptroller General of the United States. This action is not a “major rule” as defined by 5 U.S.C. 804(2).

#### **List of Subjects**

##### *40 CFR Part 51*

Environmental protection, Air pollution control, Performance specifications, Test methods and procedures.

##### *40 CFR Part 60*

Environmental protection, Air pollution control, Incorporation by reference, Performance specifications, Test methods and procedures.

##### *40 CFR Part 63*

Environmental protection, Air pollution control, Incorporation by reference, Performance specifications, Test methods and procedures.

**Michael S. Regan,**  
Administrator.

For the reasons set forth in the preamble, the Environmental Protection Agency amends title 40, chapter I of the Code of Federal Regulations as follows:

#### **PART 51—REQUIREMENTS FOR PREPARATION, ADOPTION, AND SUBMITTAL OF IMPLEMENTATION PLANS**

■ 1. The authority citation for part 51 continues to read as follows:

**Authority:** 23 U.S.C. 101; 42 U.S.C. 7401–7671q.

■ 2. Amend appendix M to part 51 in section 12.5 of method 201A by revising equation 25 to read as follows:

#### **Appendix M to Part 51—Recommended Test Methods for State Implementation Plans**

\* \* \* \* \*

**Method 201A—Determination of PM<sub>10</sub> and PM<sub>2.5</sub> Emissions From Stationary Sources (Constant Sampling Rate Procedure)**

\* \* \* \* \*

**12.0 Calculations and Data Analysis**

\* \* \* \* \*

12.5 \* \* \*

$$\Delta p_s = \Delta p_m \left[ \frac{C_p'}{C_p} \right]^2 \quad (\text{Eq. 25})$$

\* \* \* \* \*

**PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES**

■ 3. The authority citation of part 60 continues to read as follows:

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

**Subpart A—General Provisions**

■ 4. Amend § 60.17 by:

■ a. Revising paragraphs (h)(182) and (195);

■ b. Redesignating paragraphs (h)(196) through (217) as paragraphs (h)(197) through (218) respectively; and

■ c. Adding new paragraph (h)(196).

The revisions and addition read as follows:

**§ 60.17 Incorporations by reference.**

\* \* \* \* \*

(h) \* \* \*

(182) ASTM D6216–20, Standard Practice for Opacity Monitor Manufacturers to Certify Conformance with Design and Performance Specifications, approved September 1, 2020; IBR approved for appendix B to part 60.

\* \* \* \* \*

(195) ASTM D6784–02 (Reapproved 2008), Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), approved April 1, 2008; IBR approved for § 60.56c(b).

(196) ASTM D6784–16, Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), approved March 1, 2016; IBR approved for appendix B to part 60.

\* \* \* \* \*

**Subpart AAA—Standards of Performance for New Residential Wood Heaters**

■ 5. Amend § 60.534 by revising paragraphs (c) and (d) to read as follows:

**§ 60.534 What test methods and procedures must I use to determine compliance with the standards and requirements for certification?**

\* \* \* \* \*

(c) For affected wood heaters subject to the 2015 and 2020 particulate matter emission standards specified in § 60.532(a) through (c), particulate matter emission concentrations must be measured with ASTM E2515–11 (IBR, see § 60.17) with the following exceptions: eliminate section 9.6.5.1 of ASTM E2515–11 and perform the post-test leak checks as described in paragraph (c)(1) of this section. Additionally, if a component change of either sampling train is needed during sampling, then perform the leak check specified in paragraph (c)(2) of this section. Four-inch filters and Teflon membrane filters or Teflon-coated glass fiber filters may be used in ASTM E2515–11.

(1) *Post-test leak check.* A leak check of each sampling train is mandatory at the conclusion of each sampling run before sample recovery. The leak check must be performed in accordance with the procedures of ASTM E2515–11, section 9.6.4.1 (IBR, see § 60.17), except that it must be conducted at a vacuum equal to or greater than the maximum value reached during the sampling run. If the leakage rate is found to be no greater than 0.0003 m<sup>3</sup>/min (0.01 cfm) or 4% of the average sampling rate (whichever is less), the leak check results are acceptable. If a higher leakage rate is obtained, the sampling run is invalid.

(2) *Leak checks during sample run.* If, during a sampling run, a component (e.g., filter assembly) change becomes necessary, a leak check must be conducted immediately before the change is made. Record the sample volume before and after the leak test. The sample volume collected during any leak checks must not be included in the total sample volume for the test run. The leak check must be done according to the procedure outlined in ASTM E2515–11, section 9.6.4.1 (IBR, see § 60.17), except that it must be done at a vacuum equal to or greater than the maximum value recorded up to that point in the sampling run. If the leakage rate is found to be no greater than 0.0003 m<sup>3</sup>/min (0.01 cfm) or 4% of the average sampling rate (whichever is less), the leak check results are acceptable. If a higher leakage rate is obtained, the sampling run is invalid.

**Note 1 to paragraph (c):** Immediately after component changes, leak checks are optional but highly recommended. If such leak checks are done, the procedure in paragraph (c)(1) of this section should be used.

(d) For all tests conducted using ASTM E2515–11 (IBR, see § 60.17), with the exceptions described in paragraphs (c)(1) and (2) of this section, and pursuant to this section, the manufacturer and approved test laboratory must also measure the first hour of particulate matter emissions for each test run by sampling with a third, identical and independent sampling train operated concurrently for the first hour of PM paired train compliance testing according to paragraph (c) of this section. The manufacturer and approved test laboratory must report the test results from this third train separately as the first hour emissions.

\* \* \* \* \*

■ 6. Amend § 60.539b by revising paragraph (b) to read as follows:

**§ 60.539b What parts of the General Provisions do not apply to me?**

\* \* \* \* \*

(b) Section 60.8(a), (c), (d), (e), (f)(1), and (g);

\* \* \* \* \*

**Subpart QQQQ—Standards of Performance for New Residential Hydronic Heaters and Forced-Air Furnaces**

■ 7. Amend § 60.5474 by revising paragraphs (b)(2), (3), and (6) to read as follows:

**§ 60.5474 What standards and requirements must I meet and by when?**

\* \* \* \* \*

(b) \* \* \*

(2) 2020 residential hydronic heater particulate matter emission limit: 0.10 lb/mmBtu (0.043 g/MJ) heat output per individual burn rate as determined by the crib wood test methods and procedures in § 60.5476 or an alternative crib wood test method approved by the Administrator.

(3) 2020 residential hydronic heater cord wood alternative compliance option for particulate matter emission limit: 0.15 lb/mmBtu (0.064 g/MJ) heat output per individual burn rate as determined by the cord wood test methods and procedures in § 60.5476 or an alternative cord wood test method approved by the Administrator.

\* \* \* \* \*

(6) 2020 forced-air furnace particulate matter emission limit: 0.15 lb/mmBtu (0.064 g/MJ) heat output per individual burn rate as determined by the cord wood test methods and procedures in § 60.5476 or cord wood test methods approved by the Administrator.

\* \* \* \* \*

■ 8. Amend § 60.5476 by:



- a. Removing paragraphs (c)(5) and (6); and
- b. Revising paragraph (f).  
The revision reads as follows:

**§ 60.5476 What test methods and procedures must I use to determine compliance with the standards and requirements for certification?**

(f) For affected wood heaters subject to the particulate matter emission standards, particulate matter emission concentrations must be measured with ASTM E2515–11 (IBR, see § 60.17) with the following exceptions, eliminate section 9.6.5.1 of ASTM E2515–11 and perform the post-test leak checks as described in paragraph (f)(1) of this section. Additionally, if a component change of either sampling train is needed during sampling, then perform the leak check specified in paragraph (f)(2) of this section. Four-inch filters and Teflon membrane filters or Teflon-coated glass fiber filters may be used in ASTM E2515–11. For all tests conducted using ASTM 2515–11, with the exceptions described in paragraphs (f)(1) and (2) of this section, the manufacturer and approved test laboratory must also measure the first hour of particulate matter emissions for each test run by sampling with a third, identical and independent sampling train operated concurrently with the first hour of PM paired train compliance testing. The manufacturer and approved test laboratory must report the test results for this third train separately as the first hour emissions.

(1) *Post-test leak check.* A leak check of each sampling train is mandatory at the conclusion of each sampling run before sample recovery. The leak check must be performed in accordance with the procedures of ASTM E2515–11, section 9.6.4.1 (IBR, see § 60.17), except that it must be conducted at a vacuum equal to or greater than the maximum value reached during the sampling run. If the leakage rate is found to be no greater than 0.0003 m<sup>3</sup>/min (0.01 cfm) or 4% of the average sampling rate

(whichever is less), the leak check results are acceptable. If a higher leakage rate is obtained, the sampling run is invalid.

(2) *Leak checks during sample run.* If, during a sampling run, a component (e.g., filter assembly) change becomes necessary, a leak check must be conducted immediately before the change is made. Record the sample volume before and after the leak test. The sample volume collected during any leak checks must not be included in the total sample volume for the test run. The leak check must be done according to the procedure outlined in ASTM E2515–11, section 9.6.4.1 (IBR, see § 60.17), except that it must be done at a vacuum equal to or greater than the maximum value recorded up to that point in the sampling run. If the leakage rate is found to be no greater than 0.0003 m<sup>3</sup>/min (0.01 cfm) or 4% of the average sampling rate (whichever is less), the leak check results are acceptable. If a higher leakage rate is obtained, the sampling run is invalid.

**Note 1 to paragraph (f):** Immediately after component changes, leak checks are optional but highly recommended. If such leak checks are done, the procedure in paragraph (f)(1) of this section should be used.

\* \* \* \* \*

- 9. Amend § 60.5483 by revising paragraph (b) to read as follows:

**§ 60.5483 What parts of the General Provisions do not apply to me?**

\* \* \* \* \*

- (b) Section 60.8(a), (c), (d), (e), (f)(1), and (g);

\* \* \* \* \*

- 10. Amend appendix A–1 to part 60 by revising sections 11.5, 11.5.1, and 11.5.2, and table 1–2 under the heading “17.0 Tables, Diagrams, Flowcharts, and Validation Data” in method 1 to read as follows:

**Appendix A–1 to Part 60—Test Methods 1 Through 2F**

\* \* \* \* \*

**Method 1—Sample and Velocity Traverses for Stationary Sources**

\* \* \* \* \*

**11.0 Procedure**

\* \* \* \* \*

11.5 Alternative Measurement Site Selection Procedure. The alternative site selection procedure may be used to determine the rotation angles in lieu of the procedure outlined in section 11.4 of this method.

11.5.1 This alternative procedure applies to sources where measurement locations are less than 2 equivalent or duct diameters downstream or less than one-half duct diameter upstream from a flow disturbance. The alternative should be limited to ducts larger than 24 inches in diameter where blockage and wall effects are minimal. A directional flow-sensing probe is used to measure pitch and yaw angles of the gas flow at 40 or more traverse points; the resultant angle is calculated and compared with acceptable criteria for mean and standard deviation.

**Note:** Both the pitch and yaw angles are measured from a line passing through the traverse point and parallel to the stack axis. The pitch angle is the angle of the gas flow component in the plane that INCLUDES the traverse line and is parallel to the stack axis. The yaw angle is the angle of the gas flow component in the plane PERPENDICULAR to the traverse line at the traverse point and is measured from the line passing through the traverse point and parallel to the stack axis.

11.5.2 Traverse Points. Use a minimum of 40 traverse points for circular ducts and 42 points for rectangular ducts for the gas flow angle determinations. Follow the procedure outlined in section 11.3 and table 1–1 or 1–2 of this method for the location and layout of the traverse points. If the alternative measurement location is determined to be acceptable according to the criteria in this alternative procedure, use the same minimum of 40 traverse points for circular ducts and 42 points for rectangular ducts that were used in the alternative measurement procedure for future sampling and velocity measurements.

\* \* \* \* \*

**17.0 Tables, Diagrams, Flowcharts, and Validation Data**

\* \* \* \* \*

**TABLE 1–2—LOCATION OF TRAVERSE POINTS IN CIRCULAR STACKS**  
[Percent of stack diameter from inside wall to traverse point]

Traverse point number on a diameter	Number of traverse points on a diameter											
	2	4	6	8	10	12	14	16	18	20	22	24
1 .....	14.6	6.7	4.4	3.2	2.6	2.1	1.8	1.6	1.4	1.3	1.1	1.1
2 .....	85.4	25.0	14.6	10.5	8.2	6.7	5.7	4.9	4.4	3.9	3.5	3.2
3 .....		75.0	29.6	19.4	14.6	11.8	9.9	8.5	7.5	6.7	6.0	5.5
4 .....		93.3	70.4	32.3	22.6	17.7	14.6	12.5	10.9	9.7	8.7	7.9
5 .....			85.4	67.7	34.2	25.0	20.1	16.9	14.6	12.9	11.6	10.5
6 .....			95.6	80.6	65.8	35.6	26.9	22.0	18.8	16.5	14.6	13.2
7 .....				89.5	77.4	64.4	36.6	28.3	23.6	20.4	18.0	16.1
8 .....				96.8	85.4	75.0	63.4	37.5	29.6	25.0	21.8	19.4
9 .....					91.8	82.3	73.1	62.5	38.2	30.6	26.2	23.0
10 .....					97.4	88.2	79.9	71.7	61.8	38.8	31.5	27.2
11 .....						93.3	85.4	78.0	70.4	61.2	39.3	32.3





\* \* \* \* \*

■ 12. Amend appendix A–4 to part 60 by revising section 10.1.3 in method 7 to read as follows:

**Appendix A–4 to Part 60—Test Methods 6 Through 10B**

\* \* \* \* \*

**Method 7—Determination of Nitrogen Oxide Emissions From Stationary Sources**

\* \* \* \* \*

**10.0 Calibration and Standardization**

\* \* \* \* \*

10.1.3 Spectrophotometer Calibration Quality Control. Multiply the absorbance value obtained for each standard by the  $K_c$  factor (reciprocal of the least squares slope)

to determine the distance each calibration point lies from the theoretical calibration line. The difference between the calculated concentration values and the actual concentrations (*i.e.*, 100, 200, 300, and 400  $\mu\text{g NO}_2$ ) shall be less than 7 percent for all standards.

\* \* \* \* \*

■ 13. Amend appendix A–7 to part 60 by:

■ a. Revising equation 19–5 in section 12.2.3.2 in method 19;

■ b. In method 25:

■ i. Adding sections 12.9 and 12.9.1 through 12.9.16; and

■ ii. Revising figure 25–6 under the heading “17.0 Tables, Diagrams, Flowcharts, and Validation Data”; and

■ c. In method 25C:

■ i. Revising section 9.1; and

■ ii. Revising the entries “ $C_{N2}$ ” and “ $C_{mN2}$ ” in section 12.1.

The revisions and additions read as follows:

**Appendix A–7 to Part 60—Test Methods 19 Through 25E**

\* \* \* \* \*

**Method 19—Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxide Emission Rates**

\* \* \* \* \*

**12.0 Data Analysis and Calculations**

\* \* \* \* \*

12.2.3.2 \* \* \*

$$E = C_d F_d \frac{20.9}{20.9 - \frac{\%O_{2W}}{1 - B_{WS}}} \quad \text{Eq. 19-5}$$

\* \* \* \* \*

**Method 25—Determination of Total Gaseous Nonmethane Organic Emissions as Carbon**

\* \* \* \* \*

**12.0 Data Analysis and Calculations**

\* \* \* \* \*

12.9 Record and Report Initial Method Checks as follows:

12.9.1 Calibration and Linearity Check Gas Certifications (sections 7.2 and 7.4 of this method).

12.9.2 Condensate Trap Blank Check (section 8.1.1 of this method).

12.9.3 Pretest Leak-Check (section 8.1.4 of this method).

12.9.4 Condensate Recovery Apparatus (section 10.1.1 of this method).

12.9.5 Carrier Gas and Auxiliary  $O_2$  Blank Check (section 10.1.1.1 of this method).

12.9.6 Oxidation Catalyst Efficiency Check (section 10.1.1.2 of this method).

12.9.7 System Performance Check (section 10.1.1.3 of this method).

12.9.8 Oxidation Catalyst Efficiency Check (section 10.1.2.1 of this method).

12.9.9 Reduction Catalyst Efficiency Check (section 10.1.2.2 of this method).

12.9.10 NMO Analyzer Linearity Check Calibration (section 10.1.2.3 of this method).

12.9.11 NMO Analyzer Daily Calibration (section 10.2 of this method).

12.9.12 Condensate Recovery (section 11.1 of this method).

12.9.13 Daily Performance Checks (section 11.1.1 of this method).

12.9.14 Leak-Check (section 11.1.1.1 of this method).

12.9.15 System Background Test (section 11.1.1.2 of this method).

12.9.16 Oxidation Catalyst Efficiency Check (section 11.1.1.3 of this method).

\* \* \* \* \*

**17.0 Tables, Diagrams, Flowcharts, and Validation Data**

\* \* \* \* \*

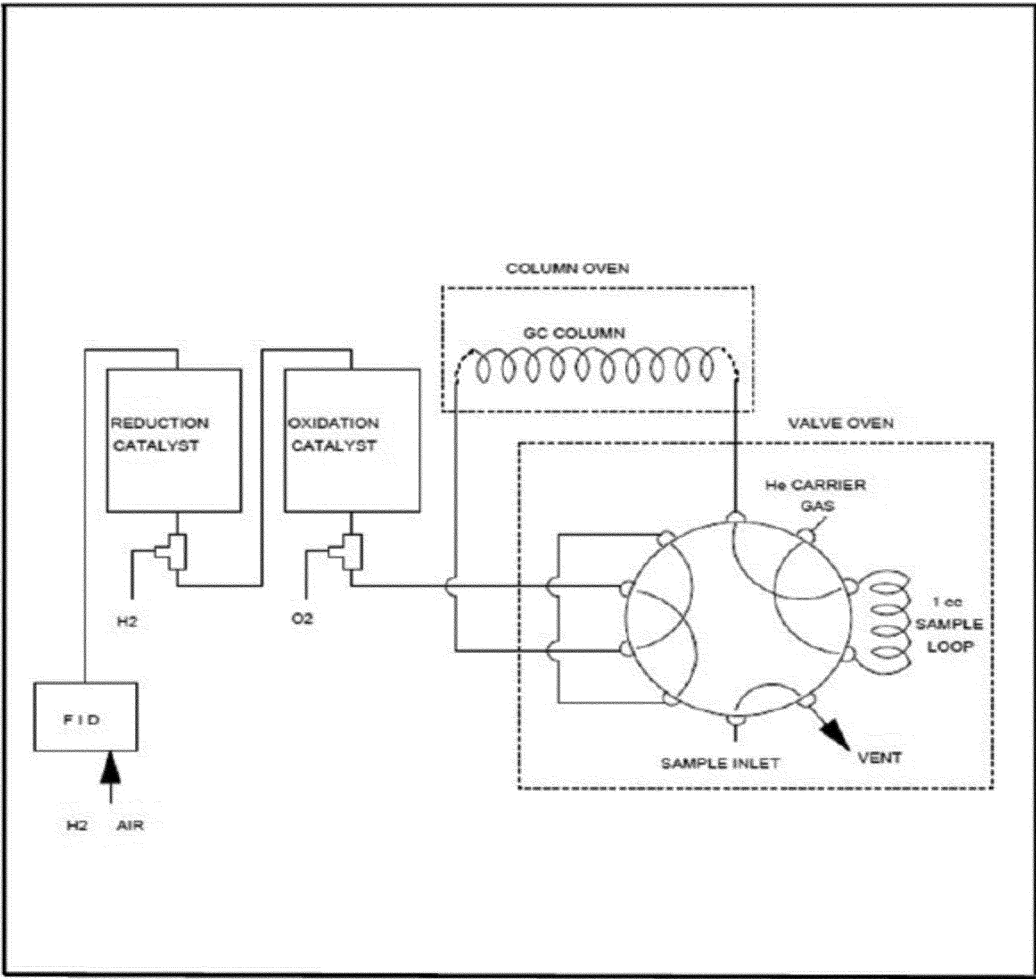


Figure 25–6. Nonmethane Organic Analyzer (NMO)

\* \* \* \* \*

Method 25C—Determination of Nonmethane Organic Compounds (NMOC) in Landfill Gases

\* \* \* \* \*

9.0 Quality Control  
9.1 Miscellaneous Quality Control Measures.

Section	Quality control measure	Effect
8.4.2	Verify that landfill gas sample contains less than 20 percent N <sub>2</sub> or 5 percent O <sub>2</sub> . Landfills with 3-year average annual rainfalls equal to or less than 20 inches annual rainfalls samples are acceptable when the N <sub>2</sub> to O <sub>2</sub> concentration ratio is greater than 3.71.	Ensures that ambient air was not drawn into the landfill gas sample and gas was sampled from an appropriate location.
10.1, 10.2	NMOC analyzer initial and daily performance checks .....	Ensures precision of analytical results.

\* \* \* \* \*

12.0 Data Analysis and Calculations

\* \* \* \* \*

12.1 Nomenclature

\* \* \* \* \*

C<sub>N2</sub> = N<sub>2</sub> concentration in the landfill gas sample.  
C<sub>mN2</sub> = Measured N<sub>2</sub> concentration, diluted landfill gas sample.

\* \* \* \* \*

- 14. Amend appendix A–8 to part 60 by:
- a. Revising sections 12.4 and 12.5 in method 26.
- b. Revising section 13.8 in test method 28WHH.

The revisions read as follows:

Appendix A–8 to Part 60—Test Methods 26 Through 30B

\* \* \* \* \*

Method 26—Determination of Hydrogen Halide and Halogen Emissions From Stationary Sources Non-Isokinetic Method

\* \* \* \* \*

12.0 Data Analysis and Calculations

\* \* \* \* \*

12.4 Total µg HCl, HBr, or HF Per Sample.

$$m_{HX} = K_{HCL,HBr,HF}V_s(S_{x-} - B_{x-}) \text{ Eq. 26-4}$$

12.5 Total  $\mu\text{g Cl}_2$  or  $\text{Br}_2$  Per Sample.

$$m_{x2} = V_s(S_{x^-} - B_{x^-}) \text{ Eq. 26-5}$$

\* \* \* \* \*

$$CO_{g/min} = Q_{std} \cdot CO_s \cdot 3.30 \times 10^{-5}$$

Total CO emissions for each of the four test periods ( $CO_{-1}$ ,  $CO_{-2}$ ,  $CO_{-3}$ ,  $CO_{-4}$ ) shall be calculated as the sum of the emissions rates for each of the 1-minute intervals. Total CO emissions for the test run,  $CO_T$ , shall be calculated as the sum of  $CO_{-1}$ ,  $CO_{-2}$ ,  $CO_{-3}$  and  $CO_{-4}$ .

\* \* \* \* \*

- 15. Amend appendix B to part 60 by:
- a. Revising sections 2.1, 3.1, 6.1, 8.1(1), (2)(iii), and (3)(ii), 8.2(1) through (3), 9.0, 12.1, 13.1, 13.2, and 16.0, reference 8, in performance specification 1;
- b. Revising sections 8.3.3 and 12.5 in performance specification 2;
- c. Revising performance specification 4B;
- d. Revising section 13.2 in performance specification 6;
- e. Revising sections 8.4.2, 8.4.4, 8.4.5, 8.4.6.1, 13.3, and 17.5, and figure 12A–3 in section 18 in performance specification 12A; and
- f. Revising sections 1.1, 3.11, 3.12, 9.1, 13.1, and 13.5 in performance specification 16.

The revisions read as follows:

## Appendix B to Part 60—Performance Specifications

\* \* \* \* \*

### Performance Specification 1—Specifications and Test Procedures for Continuous Opacity Monitoring Systems in Stationary Sources

\* \* \* \* \*

#### 2.0 What are the basic requirements of PS-1?

\* \* \* \* \*

2.1 ASTM D6216–20 (IBR, see § 60.17) is the reference for design specifications, manufacturer's performance specifications, and test procedures. The opacity monitor manufacturer must periodically select and test an opacity monitor, that is representative of a group of monitors produced during a specified period or lot, for conformance with the design specifications in ASTM D6216–20. The opacity monitor manufacturer must test each opacity monitor for conformance with the manufacturer's performance specifications in ASTM D6216–20. *Note:* If the initial certification of the opacity monitor occurred before May 30, 2023, using D6216–98, D6216–03, D6216–07, or D6216–12, it is not necessary to recertify using D6216–20.

\* \* \* \* \*

### Test Method 28—WHH for Measurement of Particulate Emissions and Heating Efficiency of Wood-Fired Hydronic Heating Appliances

\* \* \* \* \*

#### 13.0 Calculation of Results

\* \* \* \* \*

#### 3.0 What special definitions apply to PS-1?

3.1 All definitions and discussions from section 3 of ASTM D6216–20 are applicable to PS-1.

\* \* \* \* \*

#### 6.0 What equipment and supplies do I need?

6.1 *Continuous Opacity Monitoring System.* You, as owner or operator, are responsible for purchasing an opacity monitor that meets the specifications of ASTM D6216–20, including a suitable data recorder or automated data acquisition handling system. Example data recorders include an analog strip chart recorder or more appropriately an electronic data acquisition and reporting system with an input signal range compatible with the analyzer output.

\* \* \* \* \*

#### 8.0 What performance procedures are required to comply with PS-1?

\* \* \* \* \*

8.1 \* \* \*

(1) You must purchase an opacity monitor that complies with ASTM D6216–20 and obtain a certificate of conformance from the opacity monitor manufacturer.

(2) \* \* \*

(iii) *Alternative Locations and Light Beam Paths.* You may select locations and light beam paths, other than those cited in section 8.1(2)(ii) of this method, if you demonstrate, to the satisfaction of 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 sections 8.1(2)(i) and (ii) of this method. The opacity at the alternative location is considered equivalent if (1) the average opacity value measured at the alternative location is within  $\pm 10$  percent of the average opacity value measured at the location meeting the installation criteria, and (2) the difference between any two average opacity values is less than 2 percent opacity (absolute). You use the following procedure 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. You may use alternative procedures for determining acceptable locations if those procedures are approved by the Administrator.

(3) \* \* \*

(ii) *Calibration Error Check.* Conduct a three-point calibration error test using three

#### 13.8 Carbon Monoxide Emissions

For each minute of the test period, the carbon monoxide emissions rate (g/min) shall be calculated as:

$$\text{Eq. 23}$$

calibration attenuators that produce outlet pathlength corrected, single-pass opacity values shown in ASTM D6216–20, section 7.5. If your applicable limit is less than 10 percent opacity, use attenuators as described in ASTM D6216–20, section 7.5 for applicable standards of 10 to 19 percent opacity. Confirm the external audit device produces the proper zero value on the COMS data recorder. Separately, insert each calibration attenuators (low, mid, and high-level) into the external audit device. While inserting each attenuator, (1) ensure that the entire light beam passes through the attenuator, (2) minimize interference from reflected light, and (3) leave the attenuator in place for at least two times the shortest recording interval on the COMS data recorder. Make a total of five nonconsecutive readings for each attenuator. At the end of the test, correlate each attenuator insertion to the corresponding value from the data recorder. Subtract the single-pass calibration attenuator values corrected to the stack exit conditions from the COMS responses. Calculate the arithmetic mean difference, standard deviation, and confidence coefficient of the five measurements value using equations 1–3, 1–4, and 1–5 of this method. 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 using equation 1–6 of this method. Report the calibration error test results for each of the three attenuators.

\* \* \* \* \*

8.2 \* \* \*

(1) Conduct the verification procedures for design specifications in section 6 of ASTM D6216–20.

(2) Conduct the verification procedures for performance specifications in section 7 of ASTM D6216–20.

(3) Provide to the owner or operator a report of the opacity monitor's conformance to the design and performance specifications required in sections 6 and 7 of ASTM D6216–20 in accordance with the reporting requirements of section 9 in ASTM D6216–20.

#### 9.0 What quality control measures are required by PS-1?

Opacity monitor manufacturers must initiate a quality program following the requirements of ASTM D6216–20, section 8. The quality program must include (1) a quality system and (2) a corrective action program.

\* \* \* \* \*

**12.0 What calculations are needed for PS-1?**

12.1 Desired Attenuator Values. Calculate the desired attenuator value corrected to the emission outlet pathlength as follows:

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

Where:

OP<sub>1</sub> = Nominal opacity value of required low-, mid-, or high-range calibration attenuators.

OP<sub>2</sub> = Desired attenuator opacity value from ASTM D6216–20, section 7.5 at the opacity limit required by the applicable subpart of this part.

L<sub>1</sub> = Monitoring pathlength.

L<sub>2</sub> = Emission outlet pathlength.

\* \* \* \* \*

**13.0 What specifications does a COMS have to meet for certification?**

\* \* \* \* \*

13.1 Design Specifications. The opacity monitoring equipment must comply with the design specifications of ASTM D6216–20.

13.2 Manufacturer's Performance Specifications. The opacity monitor must comply with the manufacturer's performance specifications of ASTM D6216–20.

\* \* \* \* \*

**16.0 Which references are relevant to this method?**

\* \* \* \* \*

8. ASTM D6216–20: Standard Practice for Opacity Monitor Manufacturers to Certify Conformance with Design and Performance Specifications. American Society for Testing and Materials (ASTM). September 2020.

\* \* \* \* \*

**Performance Specification 2—Specifications and Test Procedures for SO<sub>2</sub> and NO<sub>x</sub> Continuous Emission Monitoring Systems in Stationary Sources**

\* \* \* \* \*

**8.0 Performance Specification Test Procedure**

\* \* \* \* \*

8.3.3 Conduct the CD test at the two points specified in section 6.1.2 of this method. Introduce to the CEMS the reference gases, gas cells, or optical filters (these need not be certified). When using reference gases, introduce the reference gas prior to any sample conditioning or filtration equipment and ensure that it passes through all filters, scrubbers, conditioners, and other monitor components used during normal sampling. The reference gas should pass through as much of the sampling probe as practical. Record the CEMS response and subtract this value from the reference value (see example data sheet in figure 2–1 of this method).

\* \* \* \* \*

**12.0 Calculations and Data Analysis**

\* \* \* \* \*

12.5 Relative Accuracy. Calculate the RA, expressed as a percentage, of a set of data as follows:

$$RA = \frac{[|\bar{d}| + |CC|]}{\overline{RM}} \times 100 \quad \text{Eq. 2 - 6}$$

Where:

|\bar{d}| = Absolute value of the mean differences (from equation 2–3 of this method).

|CC| = Absolute value of the confidence coefficient (from equation 2–3 of this method).

\overline{RM} = Average RM value. In cases where the average emissions for the test are less than 50 percent of the applicable emission standard, substitute the applicable emission standard value in the denominator of equation 2–6 of this method in place of the average RM value. In all other cases, use \overline{RM}.

\* \* \* \* \*

**Performance Specification 4B—Specifications and Test Procedures for Carbon Monoxide and Oxygen Continuous Monitoring Systems in Stationary Sources****1.0 Scope and Application****1.1. Analytes.**

Analyte	CAS No.
Carbon Monoxide (CO) .....	630–08–0
Oxygen (O <sub>2</sub> ) .....	7782–44–7

**1.2. Applicability.**

1.2.1. This specification is to be used for evaluating the acceptability of carbon monoxide (CO) and oxygen (O<sub>2</sub>) continuous emission monitoring systems (CEMS) at the time of or soon after installation and whenever specified in this part. The CEMS may include, for certain stationary sources, (a) flow monitoring equipment to allow measurement of the dry volume of stack effluent sampled, and (b) an automatic sampling system.

1.2.2. This specification is not designed to evaluate the installed CEMS' performance

over an extended period of time, nor does it identify specific calibration techniques and auxiliary procedures to assess the CEMS' performance. The source owner or operator, however, is responsible to properly calibrate, maintain, and operate the CEMS. To evaluate the CEMS' performance, the Administrator may require, under section 114 of the Act, the operator to conduct CEMS performance evaluations at times other than the initial test.

1.2.3. The definitions, installation, and measurement location specifications, test procedures, data reduction procedures, reporting requirements, and bibliography are the same as in Performance Specification (PS) 3 (for O<sub>2</sub>) and PS 4A (for CO) of this appendix except as otherwise noted in this specification.

**2.0 Summary of Performance Specification**

Installation and measurement location specifications, performance specifications, test procedures, and data reduction procedures are included in this specification. Reference method tests, calibration error tests, calibration drift tests, and interferant tests are conducted to determine conformance of the CEMS with the specification.

**3.0 Definitions**

The definitions are the same as in section 3.0 of PS 2 with the following definitions added:

3.1. *Continuous Emission Monitoring System (CEMS)*. This definition is the same as section 3.0 of PS 2 with the following addition. A continuous monitor is one in which the sample to be analyzed passes the measurement section of the analyzer without interruption.

3.2. *Response Time (RT)*. The time interval between the start of a step change in the

system input and when the pollutant analyzer output reaches 95 percent of the final value.

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

**4.0 Interferences [Reserved]****5.0 Safety**

This performance specification may involve hazardous materials, operations, and equipment. This performance specification may not address all of the safety problems associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and determine the applicable regulatory limitations prior to performing this performance specification. The CEMS user's manual should be consulted for specific precautions to be taken with regard to the analytical procedures.

**6.0 Equipment and Supplies**

Same as section 6.0 of PS 2, except for the following:

6.1 Data Recorder Scale. For O<sub>2</sub>, same as specified in PS 3, except that the span must be 25 percent. The span of the O<sub>2</sub> may be higher if the O<sub>2</sub> concentration at the sampling point can be greater than 25 percent. For CO, same as specified in PS 4A, except that the low-range span must be 200 ppm and the high range span must be 3000 ppm. In addition, the scale for both CEMS must record all readings within a measurement range with a resolution of 0.5 percent.

## 7.0 Reagents and Standards

### 8.0 Sample Collection, Preservation, Storage, and Transport

#### 8.1. Installation and Measurement Location Specifications.

8.1.1. The CEMS Installation. This specification is the same as section 8.1.1 of PS 2 with the following additions. Both the CO and O<sub>2</sub> monitors should be installed at the same general location. If this is not possible, they may be installed at different locations if the effluent gases at both sample locations are not stratified and there is no leakage of air between sampling locations.

#### 8.1.2. Measurement Location. Same as section 8.1.2 of PS 2.

8.1.2.1. Point CEMS. The measurement point should be within or centrally located over the centroidal area of the stack or duct cross section.

8.1.2.2. Path CEMS. The effective measurement path should: (1) have at least 70 percent of the path within the inner 50 percent of the stack or duct cross sectional area, or (2) be centrally located over any part of the centroidal area.

#### 8.1.3. Reference Method (RM) Measurement Location and Traverse Points.

This specification is the same as section 8.1.3 of PS 2 with the following additions. When pollutant concentration changes are due solely to diluent leakage and CO and O<sub>2</sub> are simultaneously measured at the same location, one half diameter may be used in place of two equivalent diameters.

8.2 Pretest Preparation. Install the CEMS, prepare the RM test site according to the specifications in section 8.1 of this method, and prepare the CEMS for operation according to the manufacturer's written instructions.

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

8.4 Calibration Drift (CD) Test Procedure. Same as section 8.3 in PS 2.

**Note:** The CE and RT tests must be conducted during the CD test period.

8.5 Calibration Error Test Procedure. Challenge each monitor (both low and high range CO and O<sub>2</sub>) with zero gas and EPA Protocol 1 cylinder gases at three measurement points within the ranges specified in table 4B–1 of this method (in section 18.0).

Operate each monitor in its normal sampling mode as nearly as possible. The calibration gas must be injected into the sample system as close to the sampling probe outlet as practical and should pass through all CEMS components used during normal sampling. Challenge the CEMS three non-consecutive times at each measurement point and record the responses. The duration of each gas injection should be sufficient to ensure that the CEMS surfaces are conditioned.

8.6 Response Time Test Procedure. Same as section 8.3 in PS 4A and must be carried out for both the CO and O<sub>2</sub> monitors.

8.7 Relative Accuracy Test Procedure. Sampling Strategy for Reference Method (RM) Tests, Number of RM Tests, and Correlation of RM and CEMS Data are the same as PS 2, sections 8.4.3, 8.4.4, and 8.4.5, respectively.

## 9.0 Quality Control [Reserved]

## 10.0 Calibration and Standardization [Reserved]

## 11.0 Analytical Procedure

Sample collection and analysis are concurrent for this performance specification (see section 8.0 of this method). Refer to the RM for specific analytical procedures.

## 12.0 Calculation and Data Analysis

Summarize the results on a data sheet as shown in figure 4B–1 of this method (in section 18.0).

Calibration Error (CE) is the average the differences between the instrument response and the certified cylinder gas value for each gas. Calculate the CE results for the CO monitor according to:

$$CE = \left| \frac{d}{FS} \right| \times 100 \quad \text{Eq. 4B-1}$$

Where:

d = mean difference between the CEMS response and the known reference concentration, and  
FS = span value.

The CE for the O<sub>2</sub> monitor is the average percent O<sub>2</sub> difference between the O<sub>2</sub> monitor and the certified cylinder gas value for each gas.

## 13.0 Method Performance

13.1. Calibration Drift Performance Specification. For O<sub>2</sub>, same as specified in PS 3. For CO, the same as specified in PS 4A except that the CEMS calibration must not drift from the reference value of the calibration standard by more than 3 percent of the span value on either the high or low range.

13.2. Calibration Error (CE) Performance Specification. The mean difference between the CEMS and reference values at all three test points (see table 4B–1 of this method) must be no greater than 5 percent of span value for CO monitors and 0.5 percent for O<sub>2</sub> monitors.

13.3. Response Time Performance Specification. The response time for the CO or O<sub>2</sub> monitor must not exceed 240 seconds.

13.4. Relative Accuracy (RA) Performance Specification. For O<sub>2</sub>, same as specified in PS 3. For CO, the same as specified in PS 4A.

## 14.0 Pollution Prevention [Reserved]

## 15.0 Waste Management [Reserved]

## 16.0 Alternative Procedure

Alternative RA Procedure. Under some operating conditions, it may not be possible to obtain meaningful results using the RA test procedure. This includes conditions where consistent, very low CO emission or low CO emissions interrupted periodically by short duration, high level spikes are observed. It may be appropriate in these circumstances to waive the RA test and substitute the following procedure.

Conduct a complete CEMS status check following the manufacturer's written instructions. The check should include operation of the light source, signal receiver, timing mechanism functions, data acquisition and data reduction functions, data recorders, mechanically operated functions, sample filters, sample line heaters, moisture traps, and other related functions of the CEMS, as applicable. All parts of the CEMS must be functioning properly before the RA requirement can be waived. The instrument must also successfully pass the CE and CD specifications. Substitution of the alternate procedure requires approval of the Regional Administrator.

## 17.0 Reference

1. 40 CFR part 266, appendix IX, section 2, "Performance Specifications for Continuous Emission Monitoring Systems."

## 18.0 Tables, Diagrams, Flowcharts, and Validation Data

TABLE 4B–1—CALIBRATION ERROR CONCENTRATION RANGE

Measurement point	CO low range (ppm)	CO high range (ppm)	O <sub>2</sub> (%)
1 .....	0–40	0–600	0–2
2 .....	60–80	900–1,200	8–10
3 .....	140–160	2,100–2,400	14–16

FIGURE 4B-1—CALIBRATION ERROR DATA SHEET

Run No.	Calibration value	Monitor response	Difference		
			Zero	Mid	High
1—Zero.					
2—Mid.					
3—High.					
4—Mid.					
5—Zero.					
6—High.					
7—Zero.					
8—Mid.					
9—High.					
Mean Difference =					
Calibration Error =			%	%	%

\* \* \* \* \*

### Performance Specification 6—Specifications and Test Procedures for Continuous Emission Rate Monitoring Systems in Stationary Sources

\* \* \* \* \*

#### 13.0 Method Performance

\* \* \* \* \*

13.2 CERMS Relative Accuracy. Calculate the CERMS Relative Accuracy (RA) expressed as a percentage using equation 2–6 of section 12 of PS 2. The RA of the CERMS shall be no greater than 20.0 percent in terms of the units of the emission standard. If the average emissions for the test are less than 50 percent of the applicable emission standard, you may elect to substitute the applicable emission standard value in the denominator of equation 2–6 in place of the average RM value; in this case, the RA of the CERMS shall be no greater than 10.0 percent consistent with section 13.2 of PS 2.

\* \* \* \* \*

### Performance Specification 12A—Specifications and Test Procedures for Total Vapor Phase Mercury Continuous Emission Monitoring Systems in Stationary Sources

\* \* \* \* \*

#### 8.0 Performance Specification Test Procedure

\* \* \* \* \*

8.4.2 Reference Methods (RM). Unless otherwise specified in an applicable subpart of this part, use method 29, method 30A, or method 30B in appendix A–8 to this part or ASTM Method D6784–16 (IBR, see § 60.17) as the RM for Hg concentration. For method 29 and ASTM Method D6784–16 only, the filterable portion of the sample need not be included when making comparisons to the CEMS results. When method 29, method 30B, or ASTM D6784–16 is used, conduct the RM test runs with paired or duplicate sampling

systems and use the average of the vapor phase Hg concentrations measured by the two trains. When method 30A is used, paired sampling systems are not required. If the RM and CEMS measure on a different moisture basis, data derived with method 4 in appendix A–3 to this part must also be obtained during the RA test.

\* \* \* \* \*

8.4.4 Number and Length of RM Test Runs. Conduct a minimum of nine RM test runs. When method 29, method 30B, or ASTM D6784–16 is used, only test runs for which the paired RM trains meet the relative deviation criteria (RD) of this PS must be used in the RA calculations. In addition, for method 29 and ASTM D6784–16, use a minimum sample time of 2 hours and for methods 30A and 30B use a minimum sample time of 30 minutes.

**Note:** More than nine sets of RM test runs may be performed. If this option is chosen, RM test run results may be excluded so long as the total number of RM test run results used to determine the CEMS RA is greater than or equal to nine. However, all data must be reported including the excluded test run data.

8.4.5 Correlation of RM and CEMS Data. Correlate the CEMS and the RM test data as to the time and duration by first determining from the CEMS final output (the one used for reporting) the integrated average pollutant concentration for each RM test period. Consider system response time, if important, and confirm that the results are on a consistent moisture basis with the RM test. Then, compare each integrated CEMS value against the corresponding RM value. When method 29, method 30B, or ASTM D6784–16 is used, compare each CEMS value against the corresponding average of the paired RM values.

\* \* \* \* \*

8.4.6.1 When method 29, method 30B, or ASTM D6784–16 is used, outliers are

identified through the determination of relative deviation (RD) of the paired RM tests. Data that do not meet the RD criteria must be flagged as a data quality problem and may not be used in the calculation of RA. The primary reason for performing paired RM sampling is to ensure the quality of the RM data. The percent RD of paired data is the parameter used to quantify data quality. Determine RD for paired data points as follows:

$$RD = \frac{|C_a - C_b|}{C_a + C_b} \times 100 \quad (\text{Equation 12A-3})$$

Where  $C_a$  and  $C_b$  are the Hg concentration values determined from the paired samples.

\* \* \* \* \*

#### 13.0 Method Performance

\* \* \* \* \*

13.3 Relative Accuracy (RA). The RA of the CEMS must be no greater than 20 percent of the mean value of the RM test data in terms of units of  $\mu\text{g}/\text{scm}$ . Alternatively, if the mean RM is less than  $2.5 \mu\text{g}/\text{scm}$ , the results are acceptable if the absolute value of the difference between the mean RM and CEMS values added to the absolute value of the confidence coefficient from equation 12A–7 of this method does not exceed  $0.5 \mu\text{g}/\text{scm}$ .

\* \* \* \* \*

#### 17.0 Bibliography

\* \* \* \* \*

17.5 ASTM Method D6784–16, “Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method).”

#### 18.0 Tables and Figures

\* \* \* \* \*

FIGURE 12A-3—RELATIVE ACCURACY TEST DATA

Run No.	Date	Begin time	End time	RM value ( $\mu\text{g}/\text{m}^3$ )	CEMS value ( $\mu\text{g}/\text{m}^3$ )	Difference ( $\mu\text{g}/\text{m}^3$ )	Run used? (yes/no)	RD <sup>1</sup>
1.								
2.								
3.								
4.								
5.								



FIGURE 12A-3—RELATIVE ACCURACY TEST DATA—Continued

Run No.	Date	Begin time	End time	RM value ( $\mu\text{g}/\text{m}^3$ )	CEMS value ( $\mu\text{g}/\text{m}^3$ )	Difference ( $\mu\text{g}/\text{m}^3$ )	Run used? (yes/no)	RD <sup>1</sup>
6.								
7.								
8.								
9.								
10.								
11.								
12.								
Average Values								

Arithmetic Mean Difference:

Standard Deviation:

Confidence Coefficient:

T-Value:

% Relative Accuracy:

 $|(\text{RM})_{\text{avg}} - (\text{CEMS})_{\text{avg}}|$ :

<sup>1</sup> Calculate the RD only if paired samples are taken using RM 30B, RM 29, or ASTM D6784–16. Express RD as a percentage or, for very low RM concentrations ( $\leq 1.0 \mu\text{g}/\text{m}^3$ ), as the absolute difference between  $C_a$  and  $C_b$ .

\* \* \* \* \*

### Performance Specification 16— Specifications and Test Procedures for Predictive Emission Monitoring Systems in Stationary Sources

#### 1.0 Scope and Application

1.1 Does this performance specification apply to me? If you, the source owner or operator, intend to use (with any necessary approvals) a predictive emission monitoring system (PEMS) to show compliance with your emission limitation under this part or 40 CFR part 61 or 63, you must use the procedures in this performance specification (PS) to determine whether your PEMS is

acceptable for use in demonstrating compliance with applicable requirements. Use these procedures to certify your PEMS after initial installation and periodically thereafter to ensure the PEMS is operating properly. If your PEMS contains a diluent ( $\text{O}_2$  or  $\text{CO}_2$ ) measuring component, the diluent component must be tested as well. These specifications apply to PEMS that are installed under this part and 40 CFR parts 61 and 63 after May 30, 2023.

\* \* \* \* \*

#### 3.0 Definitions

\* \* \* \* \*

3.11 *Relative Accuracy Audit (RAA)* means a quarterly audit of the PEMS against

a portable analyzer meeting the requirements of ASTM D6522–00 or a RM for a specified number of runs. A RM may be used in place of the portable analyzer for the RAA.

3.12 *Relative Accuracy Test Audit (RATA)* means a RA test that is performed at least once every four calendar quarters after the initial certification test. The RATA shall be conducted as described in section 8.2 of this method.

\* \* \* \* \*

#### 9.0 Quality Control

\* \* \* \* \*

9.1 QA/QC Summary. Conduct the applicable ongoing tests listed in this section.

### ONGOING QUALITY ASSURANCE TESTS

Test	PEMS regulatory purpose	Acceptability	Frequency
Sensor Evaluation .....	All .....	.....	Daily.
RAA .....	All .....	Same as for RA in section 13.5 of this method	Each quarter except quarter when RATA performed.
RATA .....	All .....	Same as for RA in section 13.1 of this method	Yearly in quarter when RAA not performed.
Bias Correction .....	All .....	If $d_{\text{avg}} \leq  cc $ .....	Bias test passed (no correction factor needed).
PEMS Training .....	All .....	If $F_{\text{critical}} \geq F$ , $r \geq 0.8$ .....	Optional after initial and subsequent RATAs.
Sensor Evaluation Alert Test (optional) .....	All .....	See section 6.1.8 of this method .....	After each PEMS training.

\* \* \* \* \*

#### 13.0 Method Performance

13.1 PEMS Relative Accuracy. The RA, calculated in units of the emission standard, must not exceed 10 percent if the PEMS measurements are greater than 100 ppm or 0.2 lbs/mm Btu. The RA must not exceed 20 percent if the PEMS measurements are between 100 ppm (or 0.2 lb/mm Btu) and 10 ppm (or 0.02 lb/mm Btu). For measurements below 10 ppm (or 0.02 lb/mm Btu), the absolute mean difference between the PEMS measurements and the RM measurements must not exceed 2 ppm (or 0.01 lb/mm Btu). For diluent only PEMS, an alternative criterion of  $\pm 1$  percent absolute difference between the PEMS and RM may be used if less stringent.

\* \* \* \* \*

13.5 Relative Accuracy Audits (RAA). The average of the three portable analyzer or

RM determinations must not differ from the simultaneous PEMS average value by more than 10 percent of the analyzer or RM for concentrations greater than 100 ppm (or 0.2 lb/mm Btu) or 20 percent for concentrations between 100 ppm (or 0.2 lb/mm Btu) and 10 ppm (or 0.02 lb/mm Btu), or the test is failed. For measurements at 20 ppm (or 0.04 lb/mm Btu) or less, this difference must not exceed 2 ppm (or 0.01 lb/mm Btu) for a pollutant PEMS. For diluent PEMS, the difference must not exceed 1 percent.

\* \* \* \* \*

- 16. Amend appendix F to part 60 by:
- a. Revising sections 4.1, 5.2.3, and 6.2 in procedure 1; and
- b. In procedure 5:
- i. Revising section 2.5;
- ii. Revising the heading for section 4.0 and adding section 4.4; and
- iii. Revising section 5.1.3.

The revisions and addition read as follows:

### Appendix F to Part 60—Quality Assurance Procedures

#### Procedure 1. Quality Assurance Requirements for Gas Continuous Emission Monitoring Systems Used for Compliance Determination

\* \* \* \* \*

#### 4. CD Assessment

4.1 CD Requirement. As described in § 60.13(d), source owners and operators of CEMS must check, record, and quantify the CD at two concentration values at least once daily (approximately 24 hours) in accordance with the method prescribed by the manufacturer. When using reference gases, introduce the reference gas prior to any sample conditioning or filtration equipment

and ensure that it passes through all filters, scrubbers, conditioners, and other monitor components used during normal sampling. The reference gas must pass through as much of the sampling probe as practical. The CEMS calibration must, at a minimum, be adjusted whenever the daily zero (or low-level) CD or the daily high-level CD exceeds two times the limits of the applicable PS's in appendix B to this part.

\* \* \* \* \*

## 5. Data Accuracy Assessment

\* \* \* \* \*

5.2.3 Criteria for Excessive Audit Inaccuracy. Unless specified otherwise in the applicable subpart of this part, the criteria for excessive inaccuracy are:

(1) For the RATA, the allowable RA in the applicable PS in appendix B to this part.

(2) For the CGA, for pollutant monitors, the audit inaccuracy must be  $\pm 15$  percent of the average audit value as calculated using equation 1–1 of this method or the difference between the average CEMS response and the average audit value must be less than one of the following:

Analyzer span	Alternative CGA criteria (ppm)
$\geq 50$ ppm .....	$\pm 5$
$> 20$ ppm, but $\leq 50$ ppm .....	$\pm 3$
$\leq 20$ ppm .....	$\pm 2$

For diluent monitors,  $\pm 15$  percent of the average audit value.

(3) For the RAA,  $\pm 15$  percent of the three-run average or  $\pm 7.5$  percent of the applicable standard, whichever is greater.

\* \* \* \* \*

## 6. Calculations for CEMS Data Accuracy

\* \* \* \* \*

6.2 RAA Accuracy Calculation. Use equation 1–1 of this method to calculate the accuracy for the RAA. The RAA must be calculated in the units of the applicable emission standard.

\* \* \* \* \*

## Procedure 5. Quality Assurance Requirements for Vapor Phase Mercury Continuous Emissions Monitoring Systems and Sorbent Trap Monitoring Systems Used for Compliance Determination at Stationary Sources

\* \* \* \* \*

## 2.0 Definitions

\* \* \* \* \*

2.5 Calibration Drift (CD) means the absolute value of the difference between the CEMS output response and either the upscale elemental Hg reference gas or the zero-level elemental Hg reference gas, expressed as a percentage of the span value, when the entire CEMS, including the sampling interface, is challenged after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place.

\* \* \* \* \*

## 4.0 Calibration Drift (CD) Assessment and Weekly System Integrity Check

\* \* \* \* \*

4.4 Weekly System Integrity Check. At least once every 7 operating days, using the procedure described in section 8.3.3 of Performance Specification 12A in appendix B to this part, source owners and operators of Hg CEMS must use a single mid- or high-level oxidized Hg (mercuric chloride,  $\text{HgCl}_2$ ) reference gas to assess transport and measurement of oxidized mercury. The absolute value of the difference between the Hg CEMS output response and the reference gas must be less than or equal to 10.0 percent of the reference gas value or 0.8  $\mu\text{g}/\text{scm}$ .

\* \* \* \* \*

## 5.0 Data Accuracy Assessment

\* \* \* \* \*

5.1.3 Relative Accuracy Audit (RAA). As an alternative to the QGA, a RAA may be conducted in three of four calendar quarters, but in no more than three quarters in succession. To conduct a RAA, follow the RATA test procedures in section 8.5 of PS 12A in appendix B to this part, except that only three test runs are required. Calculate the relative accuracy according to equation 1–1 of Procedure 1 of this appendix.

\* \* \* \* \*

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

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

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

## Subpart A—General Provisions

■ 18. Amend § 63.14 by:

- a. Redesignating paragraphs (d) through (t) as paragraphs (e) through (u);
- b. Adding new paragraph (d); and
- c. Revising newly redesignated paragraphs (i)(103) and (104).

The addition and revisions read as follows:

## § 63.14 Incorporations by reference.

\* \* \* \* \*

(d) American Public Health Association, 1015 18th Street NW, Washington, DC 20036; phone (844) 232–3707; email: [standardmethods@subscriptionoffice.com](mailto:standardmethods@subscriptionoffice.com); website: [www.standardmethods.org](http://www.standardmethods.org).

(1) Standard Method 5210, Biochemical Oxygen Demand (BOD), revised December 10, 2019; IBR approved for § 63.457(c)

(2) [Reserved]

\* \* \* \* \*

(i) \* \* \*

(103) ASTM D6784–02 (Reapproved 2008), Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas

Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), Approved April 1, 2008; IBR approved for §§ 63.2465(d); 63.11646(a); 63.11647(a) and (d); tables 1, 2, 5, 11, 12t, and 13 to subpart DDDDD; tables 4 and 5 to subpart JJJJJ; tables 4 and 6 to subpart KKKKK; table 4 to subpart JJJJJ.

(104) ASTM D6784–16, Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), Approved March 1, 2016; IBR approved for table 5 to subpart UUUUU; appendix A to subpart UUUUU.

\* \* \* \* \*

## Subpart S—National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry

■ 19. Amend § 63.457 by revising paragraph (c)(4) to read as follows:

## § 63.457 Test methods and procedures.

\* \* \* \* \*

(c) \* \* \*

(4) To determine soluble BOD<sub>5</sub> in the effluent stream from an open biological treatment unit used to comply with §§ 63.446(e)(2) and 63.453(j), the owner or operator shall use section B of method 5210 (IBR, see § 63.14) with the following modifications:

(i) Filter the sample through the filter paper, into an Erlenmeyer flask by applying a vacuum to the flask sidearm. Minimize the time for which vacuum is applied to prevent stripping of volatile organics from the sample. Replace filter paper as often as needed in order to maintain filter times of less than approximately 30 seconds per filter paper. No rinsing of sample container or filter bowl into the Erlenmeyer flask is allowed.

(ii) Perform method 5210B on the filtrate obtained in paragraph (c)(4) of this section. Dilution water shall be seeded with 1 milliliter of final effluent per liter of dilution water. Dilution ratios may require adjustment to reflect the lower oxygen demand of the filtered sample in comparison to the total BOD<sub>5</sub>. Three BOD bottles and different dilutions shall be used for each sample.

\* \* \* \* \*

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

■ 20. Amend the appendix to subpart EEE of part 63 by revising the appendix heading and section 5 to read as follows:

## Appendix A to Subpart EEE of Part 63—Quality Assurance Procedures for Continuous Emissions Monitors Used for Hazardous Waste Combustors

\* \* \* \* \*

### 5. Performance Evaluation for CO, O<sub>2</sub>, and HC CEMS

Carbon Monoxide (CO), Oxygen (O<sub>2</sub>), and Hydrocarbon (HC) CEMS. An Absolute Calibration Audit (ACA) must be conducted quarterly, and a Relative Accuracy Test Audit (RATA) (if applicable, see sections 5.1 and 5.2 of this method) must be conducted yearly. When a performance test is also required under § 63.1207 to document compliance with emission standards, the RATA must coincide with the performance test. The audits must be conducted as follows.

5.1 *Relative Accuracy Test Audit (RATA)*. This requirement applies to O<sub>2</sub> and CO CEMS. The RATA must be conducted at least yearly. Conduct the RATA as described in the RA test procedure (or alternate procedures section) described in the applicable performance specifications. In addition, analyze the appropriate performance audit samples received from the EPA as described in the applicable sampling methods.

5.2 *Absolute Calibration Audit (ACA)*. The ACA must be conducted at least quarterly except in a quarter when a RATA

(if applicable, see section 5.1 of this method) is conducted instead. Conduct an ACA as described in the calibration error (CE) test procedure described in the applicable performance specifications.

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

\* \* \* \* \*

### Subpart JJJJ—National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating

■ 21. Amend § 63.3360 by revising paragraph (e)(1)(vi) introductory text to read as follows:

#### § 63.3360 What performance tests must I conduct?

\* \* \* \* \*

(e) \* \* \*

(1) \* \* \*

(vi) Method 25 or 25A of appendix A—7 to 40 CFR part 60 must be used to

determine total gaseous organic matter concentration. Use the same test method for both the inlet and outlet measurements which must be conducted simultaneously. You must submit notice of the intended test method to the Administrator for approval along with notification of the performance test required under § 63.7(b). You must use method 25A if any of the conditions described in paragraphs (e)(1)(vi)(A) through (D) of this section apply to the control device.

\* \* \* \* \*

### Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

■ 22. Revise table 4 to subpart ZZZZ of part 63 to read as follows:

#### Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

As stated in §§ 63.6610, 63.6611, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE:

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
1. 2SLB, 4SLB, and CI stationary RICE.	a. Reduce CO emissions.	<p>i. Select the sampling port location and the number/location of traverse points at the inlet and outlet of the control device; and</p> <p>ii. Measure the O<sub>2</sub> at the inlet and outlet of the control device; and</p> <p>iii. Measure the CO at the inlet and the outlet of the control device; and</p> <p>iv. Measure moisture content at the inlet and outlet of the control device as needed to determine CO and O<sub>2</sub> concentrations on a dry basis.</p>	<p>.....</p> <p>(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A–2, or ASTM D6522–00 (Reapproved 2005)<sup>1 3</sup> (heated probe not necessary).</p> <p>(2) ASTM D6522–00 (Reapproved 2005)<sup>1 2 3</sup> (heated probe not necessary) or method 10 of 40 CFR part 60, appendix A–4.</p> <p>(3) Method 4 of 40 CFR part 60, appendix A–3, or method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03<sup>1 3</sup>.</p>	<p>(a) For CO, O<sub>2</sub>, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts &gt;6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is &gt;12 inches in diameter and the sampling port location meets the two and half-diameter criterion of section 11.1.1 of method 1 of 40 CFR part 60, appendix A–1, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to section 8.1.2 of method 7E of 40 CFR part 60, appendix A–4.</p> <p>(b) Measurements to determine O<sub>2</sub> must be made at the same time as the measurements for CO concentration.</p> <p>(c) The CO concentration must be at 15 percent O<sub>2</sub>, dry basis.</p> <p>(d) Measurements to determine moisture content must be made at the same time and location as the measurements for CO concentration.</p>

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
2. 4SRB stationary RICE.	a. Reduce formaldehyde or THC emissions.	<p>i. Select the sampling port location and the number/location of traverse points at the inlet and outlet of the control device; and</p> <p>ii. Measure O<sub>2</sub> at the inlet and outlet of the control device; and</p> <p>iii. Measure moisture content at the inlet and outlet of the control device as needed to determine formaldehyde or THC and O<sub>2</sub> concentrations on a dry basis; and</p> <p>iv. If demonstrating compliance with the formaldehyde percent reduction requirement, measure formaldehyde at the inlet and the outlet of the control device.</p> <p>v. If demonstrating compliance with the THC percent reduction requirement, measure THC at the inlet and the outlet of the control device.</p>	<p>(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A–2, or ASTM D6522–00 (Reapproved 2005)<sup>13</sup> (heated probe not necessary).</p> <p>(2) Method 4 of 40 CFR part 60, appendix A–3, or method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03<sup>13</sup>.</p> <p>(3) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348–03,<sup>13</sup> provided in ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130.</p> <p>(4) (1) Method 25A, reported as propane, of 40 CFR part 60, appendix A–7.</p>	<p>(a) For formaldehyde, THC, O<sub>2</sub>, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts &gt;6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is &gt;12 inches in diameter <i>and</i> the sampling port location meets the two and half-diameter criterion of section 11.1.1 of method 1 of 40 CFR part 60, appendix A, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to section 8.1.2 of method 7E of 40 CFR part 60, appendix A.</p> <p>(b) Measurements to determine O<sub>2</sub> concentration must be made at the same time as the measurements for formaldehyde or THC concentration.</p> <p>(c) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or THC concentration.</p> <p>(d) Formaldehyde concentration must be at 15 percent O<sub>2</sub>, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.</p> <p>(e) THC concentration must be at 15 percent O<sub>2</sub>, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.</p>
3. Stationary RICE . . .	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust.	<p>i. Select the sampling port location and the number/location of traverse points at the exhaust of the stationary RICE; and</p> <p>ii. Determine the O<sub>2</sub> concentration of the stationary RICE exhaust at the sampling port location; and</p> <p>iii. Measure moisture content of the stationary RICE exhaust at the sampling port location as needed to determine formaldehyde or CO and O<sub>2</sub> concentrations on a dry basis; and</p> <p>iv. Measure formaldehyde at the exhaust of the stationary RICE; or</p>	<p>(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A–2, or ASTM D6522–00 (Reapproved 2005)<sup>13</sup> (heated probe not necessary).</p> <p>(2) Method 4 of 40 CFR part 60, appendix A–3, or method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03<sup>13</sup>.</p> <p>(3) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348–03,<sup>13</sup> provided in ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130.</p>	<p>(a) For formaldehyde, CO, O<sub>2</sub>, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts &gt;6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is &gt;12 inches in diameter <i>and</i> the sampling port location meets the two and half-diameter criterion of section 11.1.1 of method 1 of 40 CFR part 60, appendix A, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to section 8.1.2 of method 7E of 40 CFR part 60, appendix A. If using a control device, the sampling site must be located at the outlet of the control device.</p> <p>(b) Measurements to determine O<sub>2</sub> concentration must be made at the same time and location as the measurements for formaldehyde or CO concentration.</p> <p>(c) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or CO concentration.</p> <p>(d) Formaldehyde concentration must be at 15 percent O<sub>2</sub>, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.</p>

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
		v. Measure CO at the exhaust of the stationary RICE.	(4) Method 10 of 40 CFR part 60, appendix A–4, ASTM D6522–00 (2005), <sup>1,3</sup> method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03 <sup>1,3</sup> .	(e) CO concentration must be at 15 percent O <sub>2</sub> , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

<sup>1</sup> You may also use methods 3A and 10 as options to ASTM–D6522–00 (2005).

<sup>2</sup> You may obtain a copy of ASTM–D6348–03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

<sup>3</sup> Incorporated by reference, see § 63.14.

### Subpart P—National Emission Standards for Hazardous Air Pollutants for Engine Test Cells/Standards

- 23. Amend § 63.9306 by revising paragraph (d)(2)(iv) to read as follows:

**§ 63.9306 What are my continuous parameter monitoring system (CPMS) installation, operation, and maintenance requirements?**

\* \* \* \* \*

(d) \* \* \*

(2) \* \* \*

(iv) Using a pressure sensor with measurement sensitivity of 0.002 inch

water, check gauge calibration quarterly and transducer calibration monthly.

\* \* \* \* \*

- 24. Amend § 63.9322 by revising paragraph (a)(1) to read as follows:

**§ 63.9322 How do I determine the emission capture system efficiency?**

\* \* \* \* \*

(a) \* \* \*

(1) The capture system meets the criteria in method 204 of appendix M to 40 CFR part 51 for a permanent total enclosure (PE) and directs all the exhaust gases from the enclosure to an add-on control device.

\* \* \* \* \*

### Subpart U—National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units

- 25. Revise table 5 to subpart UUUUU of part 63 to read as follows:

#### Table 5 to Subpart UUUUU of Part 63—Performance Testing Requirements

As stated in § 63.10007, you must comply with the following requirements for performance testing for existing, new or reconstructed affected sources: <sup>1</sup>

**BILLING CODE 6560–50–P**

To conduct a performance test for the following pollutant . . .	Using . . .	You must perform the following activities, as applicable to your input- or output-based emission limit . . .	Using . . . <sup>2</sup>
1. Filterable Particulate matter (PM)	Emissions Testing	a. Select sampling ports location and the number of traverse points	Method 1 at appendix A-1 to part 60 of this chapter.
		b. Determine velocity and volumetric flow-rate of the stack gas	Method 2, 2A, 2C, 2F, 2G or 2H at appendix A-1 or A-2 to part 60 of this chapter.
		c. Determine oxygen and carbon dioxide concentrations of the stack gas	Method 3A or 3B at appendix A-2 to part 60 of this chapter, or ANSI/ASME PTC 19.10-1981. <sup>3</sup>
		d. Measure the moisture content of the stack gas	Method 4 at appendix A-3 to part 60 of this chapter.
		e. Measure the filterable PM concentration	Methods 5 and 5I at appendix A-3 to part 60 of this chapter. For positive pressure fabric filters, method 5D at appendix A-3 to part 60 of this chapter for filterable PM emissions. Note that the method 5 or 5I front half temperature shall be 160° ±14 °C (320° ±25 °F).
		f. Convert emissions concentration to lb/MMBtu or lb/MWh emissions rates	Method 19 F-factor methodology at appendix A-7 to part 60 of this chapter or calculate using mass emissions rate and gross output data (see § 63.10007(e)).
	OR	OR	
	PM CEMS	a. Install, certify, operate, and maintain the PM CEMS	Performance Specification 11 at appendix B to part 60 of this chapter and Procedure 2 at appendix F to part 60 of this chapter.
		b. Install, certify, operate, and maintain the diluent gas, flow rate, and/or	Part 75 of this chapter and § 63.10010(a) through (d).

		moisture monitoring systems	
		c. Convert hourly emissions concentrations to 30 boiler operating day rolling average lb/MMBtu or lb/MWh emissions rates	Method 19 F-factor methodology at appendix A-7 to part 60 of this chapter or calculate using mass emissions rate and gross output data (see § 63.10007(e)).
2. Total or individual non-Hg HAP metals	Emissions Testing	a. Select sampling ports location and the number of traverse points	Method 1 at appendix A-1 to part 60 of this chapter.
		b. Determine velocity and volumetric flow-rate of the stack gas	Method 2, 2A, 2C, 2F, 2G or 2H at appendix A-1 or A-2 to part 60 of this chapter.
		c. Determine oxygen and carbon dioxide concentrations of the stack gas	Method 3A or 3B at appendix A-2 to part 60 of this chapter, or ANSI/ASME PTC 19.10-1981. <sup>3</sup>
		d. Measure the moisture content of the stack gas	Method 4 at appendix A-3 to part 60 of this chapter.
		e. Measure the HAP metals emissions concentrations and determine each individual HAP metals emissions concentration, as well as the total filterable HAP metals emissions concentration and total HAP metals emissions concentration	Method 29 at appendix A-8 to part 60 of this chapter. For liquid oil-fired units, Hg is included in HAP metals and you may use method 29, method 30B at appendix A-8 to part 60 of this chapter or ASTM D6784-16, <sup>3</sup> for method 29 or ASTM D 6784-16, you must report the front half and back half results separately. When using method 29, report metals matrix spike and recovery levels.
		f. Convert emissions concentrations (individual HAP metals, total filterable HAP metals, and total HAP metals) to lb/MMBtu or lb/MWh emissions rates	Method 19 F-factor methodology at appendix A-7 to part 60 of this chapter or calculate using mass emissions rate and gross output data (see § 63.10007(e)).
3. Hydrogen chloride (HCl) and hydrogen fluoride (HF)	Emissions Testing	a. Select sampling ports location and the number of traverse points	Method 1 at appendix A-1 to part 60 of this chapter.



		b. Determine velocity and volumetric flow-rate of the stack gas	Method 2, 2A, 2C, 2F, 2G or 2H at appendix A-1 or A-2 to part 60 of this chapter.
		c. Determine oxygen and carbon dioxide concentrations of the stack gas	Method 3A or 3B at appendix A-2 to part 60 of this chapter, or ANSI/ASME PTC 19.10-1981. <sup>3</sup>
		d. Measure the moisture content of the stack gas	Method 4 at appendix A-3 to part 60 of this chapter.
		e. Measure the HCl and HF emissions concentrations	Method 26 or method 26A at appendix A-8 to part 60 of this chapter or method 320 at appendix A to part 63 of this chapter or ASTM D6348-03(R2010) <sup>3</sup> with
			(1) the following conditions when using ASTM D6348-03(R2010):
			(A) The test plan preparation and implementation in the Annexes to ASTM D6348-03(R2010), sections A1 through A8 are mandatory;
			(B) For ASTM D6348-03(R2010) Annex A5 (Analyte Spiking Technique), the percent (%) R must be determined for each target analyte (see Equation A5.5);
			(C) For the ASTM D6348-03(R2010) test data to be acceptable for a target analyte, %R must be $70\% \leq R \leq 130\%$ ; and
			(D) The %R value for each compound must be reported in the test report and all field measurements corrected with the calculated %R value for that compound using the following equation:  $\text{Report Result} = \frac{(\text{Measured Concentration in Stack})}{\%R} \times 100$

To conduct a performance test for the following pollutant . . . (cont'd)	Using . . . (cont'd)	You must perform the following activities, as applicable to your input- or output-based emission limit . . . (cont'd)	Using . . . <sup>2</sup> (cont'd)
			(2) spiking levels nominally no greater than two times the level corresponding to the applicable emission limit.
			Method 26A must be used if there are entrained water droplets in the exhaust stream.
		f. Convert emissions concentration to lb/MMBtu or lb/MWh emissions rates	Method 19 F-factor methodology at appendix A-7 to part 60 of this chapter or calculate using mass emissions rate and gross output data (see § 63.10007(e)).
	OR	OR	
	HCl and/or HF CEMS	a. Install, certify, operate, and maintain the HCl or HF CEMS	Appendix B of this subpart.
		b. Install, certify, operate, and maintain the diluent gas, flow rate, and/or moisture monitoring systems	Part 75 of this chapter and § 63.10010(a) through (d).
		c. Convert hourly emissions concentrations to 30 boiler operating day rolling average lb/MMBtu or lb/MWh emissions rates	Method 19 F-factor methodology at appendix A-7 to part 60 of this chapter or calculate using mass emissions rate and gross output data (see § 63.10007(e)).
4. Mercury (Hg)	Emissions Testing	a. Select sampling ports location and the number of traverse points	Method 1 at appendix A-1 to part 60 of this chapter or method 30B at appendix A-8 for method 30B point selection.
		b. Determine velocity and volumetric flow-rate of the stack gas	Method 2, 2A, 2C, 2F, 2G or 2H at appendix A-1 or A-2 to part 60 of this chapter.

		c. Determine oxygen and carbon dioxide concentrations of the stack gas	Method 3A or 3B at appendix A-1 to part 60 of this chapter, or ANSI/ASME PTC 19.10-1981. <sup>3</sup>
		d. Measure the moisture content of the stack gas	Method 4 at appendix A-3 to part 60 of this chapter.
		e. Measure the Hg emission concentration	Method 30B at appendix A-8 to part 60 of this chapter, ASTM D6784-16, <sup>3</sup> or method 29 at appendix A-8 to part 60 of this chapter; for method 29 or ASTM D 6784-16, you must report the front half and back half results separately.
		f. Convert emissions concentration to lb/TBtu or lb/GWh emission rates	Method 19 F-factor methodology at appendix A-7 to part 60 of this chapter or calculate using mass emissions rate and gross output data (see § 63.10007(e)).
	OR	OR	
	Hg CEMS	a. Install, certify, operate, and maintain the CEMS	Sections 3.2.1 and 5.1 of appendix A of this subpart.
		b. Install, certify, operate, and maintain the diluent gas, flow rate, and/or moisture monitoring systems	Part 75 of this chapter and § 63.10010(a) through (d).
		c. Convert hourly emissions concentrations to 30 boiler operating day rolling average lb/TBtu or lb/GWh emissions rates	Section 6 of appendix A to this subpart.
	OR	OR	
	Sorbent trap monitoring system	a. Install, certify, operate, and maintain the sorbent trap monitoring system	Sections 3.2.2 and 5.2 of appendix A to this subpart.

		b. Install, operate, and maintain the diluent gas, flow rate, and/or moisture monitoring systems	Part 75 of this chapter and § 63.10010(a) through (d).
		c. Convert emissions concentrations to 30 boiler operating day rolling average lb/TBtu or lb/GWh emissions rates	Section 6 of appendix A to this subpart.
	OR	OR	
	LEE testing	a. Select sampling ports location and the number of traverse points	Single point located at the 10% centroidal area of the duct at a port location per method 1 at appendix A-1 to part 60 of this chapter or method 30B at appendix A-8 to part 60 of this chapter for method 30B point selection.
		b. Determine velocity and volumetric flow-rate of the stack gas	Method 2, 2A, 2C, 2F, 2G, or 2H at appendix A-1 or A-2 to part 60 of this chapter or flow monitoring system certified per appendix A of this subpart.
		c. Determine oxygen and carbon dioxide concentrations of the stack gas	Method 3A or 3B at appendix A-1 to part 60 of this chapter, or ANSI/ASME PTC 19.10-1981, <sup>3</sup> or diluent gas monitoring systems certified according to part 75 of this chapter.
		d. Measure the moisture content of the stack gas	Method 4 at appendix A-3 to part 60 of this chapter, or moisture monitoring systems certified according to part 75 of this chapter.
		e. Measure the Hg emission concentration	Method 30B at appendix A-8 to part 60 of this chapter; perform a 30 operating day test, with a maximum of 10 operating days per run ( <i>i.e.</i> , per pair of sorbent traps) or sorbent trap monitoring system or Hg CEMS certified per appendix A of this subpart.
		f. Convert emissions concentrations from	Method 19 F-factor methodology at appendix A-7 to part 60 of this chapter

		the LEE test to lb/TBtu or lb/GWh emissions rates	or calculate using mass emissions rate and gross output data (see § 63.10007(e)).
		g. Convert average lb/TBtu or lb/GWh Hg emission rate to lb/year, if you are attempting to meet the 29.0 lb/year threshold	Potential maximum annual heat input in TBtu or potential maximum electricity generated in GWh.
5. Sulfur dioxide (SO <sub>2</sub> )	SO <sub>2</sub> CEMS	a. Install, certify, operate, and maintain the CEMS	Part 75 of this chapter and § 63.10010(a) and (f).
		b. Install, operate, and maintain the diluent gas, flow rate, and/or moisture monitoring systems	Part 75 of this chapter and § 63.10010(a) through (d).
		c. Convert hourly emissions concentrations to 30 boiler operating day rolling average lb/MMBtu or lb/MWh emissions rates	Method 19 F-factor methodology at appendix A-7 to part 60 of this chapter or calculate using mass emissions rate and gross output data (see § 63.10007(e)).

<sup>1</sup> Regarding emissions data collected during periods of startup or shutdown, see §§ 63.10020(b) and (c) and 63.10021(h).

<sup>2</sup> See tables 1 and 2 to this subpart for required sample volumes and/or sampling run times.

<sup>3</sup> Incorporated by reference, see § 63.14.

■ 26. Amend appendix A to subpart UUUUU of part 63 by revising sections 4.1.1.5 and 4.1.1.4.1 to read as follows:

**Appendix A to Subpart UUUUU of Part 63—Hg Monitoring Provisions**

\* \* \* \* \*

**4. Certification and Recertification Requirements**

\* \* \* \* \*

4.1.1.5 *Relative Accuracy Test Audit (RATA)*. Perform the RATA of the Hg CEMS at normal load. Acceptable Hg reference methods for the RATA include ASTM D6784–16 (IBR, see § 63.14) and methods 29, 30A, and 30B in appendix A–8 to part 60 of this chapter. When method 29 or ASTM D6784–16 is used, paired sampling trains are required, and the filterable portion of the sample need not be included when making comparisons to the Hg CEMS results for purposes of a RATA. To validate a method 29 or ASTM D6784–16 test run, calculate the relative deviation (RD) using equation A–1 of

this section, and assess the results as follows to validate the run. The RD must not exceed 10 percent, when the average Hg concentration is greater than 1.0 µg/dscm. If the RD specification is met, the results of the two samples shall be averaged arithmetically.

$$RD = \frac{|C_a - C_b|}{C_a + C_b} \times 100 \quad (\text{Eq. A-1})$$

Where:

RD = Relative Deviation between the Hg concentrations of samples “a” and “b” (percent),

C<sub>a</sub> = Hg concentration of Hg sample “a” (µg/dscm), and

C<sub>b</sub> = Hg concentration of Hg sample “b” (µg/dscm).

4.1.1.5.1 *Special Considerations*. A minimum of nine valid test runs must be performed, directly comparing the CEMS measurements to the reference method. More than nine test runs may be performed. If this option is chosen, the results from a maximum of three test runs may be rejected so long as the total number of test results used to determine the relative accuracy is greater than or equal to nine; however, all data must be reported including the rejected data. The minimum time per run is 21 minutes if method 30A is used. If method 29, method 30B, or ASTM D6784–16 is used, the time per run must be long enough to collect

a sufficient mass of Hg to analyze. Complete the RATA within 168 unit operating hours, except when method 29 or ASTM D6784–162 is used, in which case, up to 336 operating hours may be taken to finish the test.

\* \* \* \* \*

- 27. Amend appendix A to part 63 by:
  - a. Redesignating section 6.2 under the heading “16.0 Alternative Procedures” as section 16.2 in method 315; and
  - b. In method 323:
    - i. Revising sections 10.1 and 10.3;
    - ii. In section 12.1:
      - A. Adding the entry “b” following the entry “B = estimated sampling rate, Lpm”; and
      - B. Revising the entry “K<sub>c</sub>”; and
    - iii. Revising section 12.6.

The revisions and addition read as follows:

**Appendix A to Part 63—Test Methods**

\* \* \* \* \*

**Method 323—Measurement of Formaldehyde Emissions From Natural Gas-Fired Stationary Sources—Acetyl Acetone Derivatization Method**

\* \* \* \* \*

**10.0 Calibration and Standardization**

**10.1 Spectrophotometer Calibration.** Prepare a stock solution of 10 µg/mL formaldehyde. Prepare a series of calibration standards from the stock solution corresponding to 0.0, 0.5, 1.5, 3.5, 5.0, and 7.5 µg/mL formaldehyde. Mix 2.0 mL of each calibration standard with 2.0 mL of acetyl acetone reagent in screw cap vials, thoroughly mix the solution, and place the vials in a water bath (or heating block) at 60 °C for 10 minutes. Remove the vials and allow to cool to room temperature. Transfer each solution to a cuvette and measure the absorbance at 412 nm using the spectrophotometer. Develop a calibration curve (response vs. concentration) from the analytical results of these standards. The

acceptance criteria for the spectrophotometer calibration is a correlation coefficient of 0.99 or higher. If this criterion is not met, the calibration procedures should be repeated.

**10.3 Calibration Checks.** Calibration checks consisting of analyzing a mid-range standard separately prepared with each batch of samples. The calibration check standard must be prepared independent of the calibration stock solution. The result of the check standard must be within 10 percent of the theoretical value to be acceptable. If the acceptance criteria are not met, the standard must be reanalyzed. If still unacceptable, a new calibration curve must be prepared using freshly prepared standards.

**12.0 Calculations and Data Analysis****12.1 Nomenclature**

\* \* \* \* \*

b = the intercept of the calibration curve at zero concentration.

\* \* \* \* \*

K<sub>c</sub> = spectrophotometer calibration factor, slope of the least square regression line, absorbance/(µg/mL) (*Note:* Most spreadsheets are capable of calculating a least squares line, including slope, intercept, and correlation coefficient).

\* \* \* \* \*

**12.6 Mass of Formaldehyde in Liquid Sample**

$$m = \frac{(A-b)*F}{K_c} (V_t) \left( \frac{1 \text{ mg}}{1000 \mu\text{g}} \right) \text{ Eq. 323-5}$$

\* \* \* \* \*

[FR Doc. 2023-04956 Filed 3-28-23; 8:45 am]

BILLING CODE 6560-50-C

**ENVIRONMENTAL PROTECTION AGENCY****40 CFR Part 52**

[EPA-R04-OAR-2021-0769; FRL-10576-02-R4]

**Air Plan Approval; NC; Transportation Conformity**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is approving State Implementation Plan (SIP) revisions submitted by the State of North Carolina, through the North Carolina Department of Environmental Quality (DEQ), Division of Air Quality (DAQ) on September 24, 2021. The SIP revisions replace previously approved memoranda of agreement (MOAs) with thirteen updated MOAs outlining transportation conformity criteria and procedures related to interagency consultation, conflict resolution, public participation, and enforceability of certain transportation-related control and mitigation measures. EPA is approving North Carolina's September 24, 2021, SIP revisions as they are consistent with the applicable provisions of the Clean Air Act (CAA or Act).

**DATES:** This rule is effective April 28, 2023.

**ADDRESSES:** EPA has established a docket for this action under Docket Identification EPA-R04-OAR-2021-

0769. All documents in the docket are listed on the *regulations.gov* website. Although listed in the index, some information may not be publicly available, *i.e.*, Confidential Business Information or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *www.regulations.gov* or in hard copy at the Air Regulatory Management Section, Air Planning and Implementation Branch, Air and Radiation Division, U.S. Environmental Protection Agency, Region 4, 61 Forsyth Street SW, Atlanta, Georgia 30303-8960. EPA requests that, if possible, you contact the person listed in the **FOR FURTHER INFORMATION CONTACT** section to schedule your inspection. The Regional Office's official hours of business are Monday through Friday 8:30 a.m. to 4:30 p.m., excluding Federal holidays.

**FOR FURTHER INFORMATION CONTACT:** Kelly Sheckler, Air Regulatory Management Section, Air Planning and Implementation Branch, Air and Radiation Division, Region 4, U.S. Environmental Protection Agency, 61 Forsyth Street SW, Atlanta, Georgia 30303-8960. The telephone number is (404) 562-9222 Ms. Sheckler can also be reached via electronic mail at *sheckler.kelly@epa.gov*.

**SUPPLEMENTARY INFORMATION:****I. Background**

As described in a notice of proposed rulemaking (NPRM) published on February 7, 2023 (88 FR 7903), CAA section 176(c)(4)(E) and 40 CFR

51.390(b) require states to develop conformity SIPs that address three specific provisions of federal regulations. First, EPA's transportation conformity rule requires states to develop their own processes and procedures which meet the criteria in 40 CFR 93.105 for interagency consultation and resolution of conflicts among the federal, state, and local agencies. The SIP revision must include processes and procedures to be followed by the metropolitan planning organization (MPO), state Department of Transportation (DOT), and the United States Department of Transportation (USDOT) in consultation with the state and local air quality agencies and EPA before making conformity determinations. The conformity SIP revision must also include processes and procedures for the state and local air quality agencies and EPA to coordinate the development of applicable SIPs with MPOs, state DOTs and the USDOT.

States may choose to develop, in place of regulations, an MOA which establishes the roles and procedures for transportation conformity. The MOA includes the detailed consultation procedures developed for that particular area. The MOAs are enforceable through the signature of all the transportation and air quality agencies, including the USDOT's Federal Highway Administration, USDOT's Federal Transit Administration, and EPA.

North Carolina's September 24, 2021, conformity SIP revisions add new interagency partners and MPOs, establish new procedures for interagency consultation, dispute resolution, public participation and enforceability of certain transportation-