40 CFR 60 NSPS Appendix B

Performance Specification 3—Specifications and Test Procedures for $O_2$and CO_2Continuous Emission Monitoring Systems in Stationary Sources

1.0 Scope and Application

1.1 Analytes.

Analytes	CAS No.
Carbon Dioxide (CO_2)	124–38–9
Oxygen (O_2)	7782–44–7

1.2 Applicability.

1.2.1 This specification is for evaluating acceptability of $O_2$and CO_2continuous emission monitoring systems (CEMS) at the time of installation or soon after and whenever specified in an applicable subpart of the regulations. This specification applies to O_2or CO_2monitors that are not included under Performance Specification 2 (PS 2).

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 other auxiliary procedures to assess the CEMS performance. The source owner or operator, is responsible to calibrate, maintain, and operate the CEMS properly. The Administrator may require, under Section 114 of the Act, the operator to conduct CEMS performance evaluations at other times besides the initial test to evaluate the CEMS performance. See 40 CFR part 60, Section 60.13(c).

1.2.3 The definitions, installation and measurement location specifications, calculations and data analysis, and references are the same as in PS 2, Sections 3, 8.1, 12, and 17, respectively, and also apply to $O_2$and CO_2CEMS under this specification. The performance and equipment specifications and the relative accuracy (RA) test procedures for $O_2$and CO_2CEMS do not differ from those for $SO_2$and NO_XCEMS (see PS 2), except as noted below.

2.0 Summary of Performance Specification

The RA and calibration drift (CD) tests are conducted to determine conformance of the CEMS to the specification.

3.0 Definitions

Same as in Section 3.0 of PS 2.

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 users 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 PS2.

7.0 Reagents and Standards

Same as Section 7.0 of PS2.

8.0 Sample Collection, Preservation, Storage, and Transport

8.1 Relative Accuracy Test Procedure. Sampling Strategy for reference method (RM) Tests, Correlation of RM and CEMS Data, and Number of RM Tests. Same as PS 2, Sections 8.4.3, 8.4.5, and 8.4.4, respectively.

8.2 Reference Method. Unless otherwise specified in an applicable subpart of the regulations, Method 3B or other approved alternative is the RM for O_2or CO_2.

9.0 Quality Control[Reserved]

10.0 Calibration and Standardization[Reserved]

11.0 Analytical Procedure

Sample collection and analyses are concurrent for this performance specification (see Section 8). Refer to the RM for specific analytical procedures.

12.0 Calculations and Data Analysis

Summarize the results on a data sheet similar to that shown in Figure 2.2 of PS2. Calculate the arithmetic difference between the RM and the CEMS output for each run. The average difference of the nine (or more) data sets constitute the RA.

13.0 Method Performance

13.1 Calibration Drift Performance Specification. The CEMS calibration must not drift by more than 0.5 percent O_2or $CO_2$from the reference value of the gas, gas cell, or optical filter.

13.2 CEMS Relative Accuracy Performance Specification. The RA of the CEMS must be no greater than 1.0 percent O_2or CO_2.

14.0 Pollution Prevention[Reserved]

15.0 Waste Management[Reserved]

16.0 References

Same as in Section 17.0 of PS 2.

17.0 Tables, Diagrams, Flowcharts, and Validation Data[Reserved]