§ 63.9307 What are my continuous emissions monitoring system installation, operation, and maintenance requirements?

(a) You must install, operate, and maintain each CEMS to monitor carbon monoxide (CO) or total hydrocarbons (THC) and oxygen (O$_2$) at the outlet of the exhaust system of the engine test cell/stand or at the outlet of the emission control device.

(b) To comply with the CO or THC percent reduction emission limitation, you may install, operate, and maintain a CEMS to monitor CO or THC and O$_2$ at both the inlet and the outlet of the emission control device.

(c) To comply with either emission limitations, the CEMS must be installed and operated according to the requirements described in paragraphs (c)(1) through (4) of this section.

1. You must install, operate, and maintain each CEMS according to the applicable Performance Specification (PS) of 40 CFR part 60, appendix B (PS–3 or PS–4A).

2. You must conduct a performance evaluation of each CEMS according to the requirements in paragraphs (c)(1) through (4) of this section.

3. The CEMS must be in semianual calibration if it is a gas temperature monitoring device, you must comply with the requirements in paragraphs (a) and (d)(2)(i) through (vi) of this section.

4. For each pressure drop measurement device, you must comply with the requirements in paragraphs (a) and (d)(2)(i) through (vi) of this section.

5. At least monthly, inspect components for integrity, electrical connections for continuity, and mechanical connections for leakage.

6. Conduct calibration and validation checks anytime the sensor exceeds the manufacturer's specified maximum operating temperature range or install a new temperature sensor.

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7. At least monthly, inspect components for integrity, electrical connections for continuity, and mechanical connections for leakage.

8. Use a temperature sensor with a measurement sensitivity of 4 degrees Fahrenheit or 0.75 percent of the temperature value, whichever is larger.

9. Shield the temperature sensor system from electromagnetic interference and chemical contaminants.

10. If a gas temperature chart recorder is used, it must have a measurement sensitivity in the minor division of at least 20 degrees Fahrenheit.

11. Perform an electronic calibration at least semiannually according to the procedures in the manufacturer's owner's manual. Following the electronic calibration, you must conduct a temperature sensor validation check in which a second or redundant temperature sensor placed near the process temperature sensor must yield a reading within 30 degrees Fahrenheit of the process temperature sensor reading.

12. Conduct calibration and validation checks anytime the sensor exceeds the manufacturer's specified maximum operating pressure range or install a new pressure sensor.

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(3) As specified in §63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, each representing a different 15-minute period within the same hour, to have a valid hour of data.

(4) All CEMS data must be reduced as specified in §63.8(g)(2) and recorded as CO concentration in parts per million by volume, dry basis (ppmvd), corrected to 15 percent O$_2$ content.

(d) If you have CEMS that are subject to paragraph (a) or (b) of this section, you must properly maintain and operate the monitors continuously according to the requirements described in paragraphs (d)(1) and (2) of this section.

(1) Proper maintenance. You must maintain the monitoring equipment at all times that the engine test cell/stand is operating, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(2) Continued operation. You must operate your CEMS according to paragraphs (d)(2)(i) and (ii) of this section.

(i) You must conduct all monitoring in continuous operation at all times that the engine test cell/stand is operating, except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration drift checks and required zero and high-level adjustments). Quality assurance or control activities must be performed according to procedure 1 of 40 CFR part 60, appendix F.

(ii) Data recorded during monitoring malfunctions, associated repairs, out-of-control periods, and required quality assurance or control activities must not be used for purposes of calculating data averages. You must use all of the data collected from all other periods in assessing compliance. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring equipment to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. Any period for which the monitoring system is out-of-control and data are not available for required calculations constitutes a deviation from the monitoring requirements.

TESTING AND INITIAL COMPLIANCE REQUIREMENTS

§ 63.9320 What procedures must I use?

(a) You must conduct each initial compliance demonstration that applies to you in Table 3 to this subpart.

(b) You must conduct an initial performance evaluation of each capture and control system according to §§63.9221, 63.9222, 63.9223 and 63.9224, and each CEMS according to the requirements in 40 CFR 63.8 and according to the applicable Performance Specification of 40 CFR part 60, appendix B (PS–3 or PS–4A).

(c) The initial demonstration of compliance with the carbon monoxide (CO) or total hydrocarbon (THC) concentration limitation consists of the first 4-