
40 C.F.R. § 60.5417b

What are the continuous monitoring requirements for my control devices?

You must meet the requirements of this section to demonstrate continuous compliance for each control device used to meet emission standards for your well, centrifugal compressor, reciprocating compressor, process controller, pump, storage vessel, and process unit equipment affected facilities.

(a) For each control device used to comply with the emission reduction standard in § 60.5377b(b) for well affected facilities, § 60.5380b(a)(1) for centrifugal compressor affected facilities, § 60.5385b(d)(2) for reciprocating compressor affected facilities, § 60.5390b(b)(3) for your process controller affected facility in Alaska, § 60.5393b(b)(1) for your pumps affected facility, § 60.5395b(a)(2) for your storage vessel affected facility, or either § 60.5400b(f) or § 60.5401b(e) for your process equipment affected facility, you must install and operate a continuous parameter monitoring system for each control device as specified in paragraphs (c) through (h) of this section, except as provided for in paragraph (b) of this section. If you install and operate a flare in accordance with § 60.5412b(a)(3), you are exempt from the requirements of paragraph (f) of this section. If you operate an enclosed combustion device or flare using an alternative test method approved under § 60.5412b(d), you must operate the control device as specified in paragraph (i) of this section instead of using the procedures specified in paragraphs (c) through (h) of this section. You must keep records and report in accordance with paragraph (j) of this section.

(b) You are exempt from the monitoring requirements specified in paragraphs (c) through (g) of this section for the control devices listed in paragraphs (b)(1) and (2) of this section.

(1) A boiler or process heater in which all vent streams are introduced with the primary fuel or are used as the primary fuel.

(2) A boiler or process heater with a design heat input capacity equal to or greater than 44 megawatts.

(c) You must meet the specifications and requirements of paragraphs (c)(1) through (4) of this section.

(1) Except for continuous parameter monitoring systems used to detect the presence of a pilot or combustion flame, each continuous parameter monitoring system must measure data values at least once every hour and record the values for each parameter as required in paragraphs (c)(1)(i) or (ii) of this section. Continuous parameter monitoring systems used to detect the presence of a pilot or combustion flame must record a reading at least once every 5 minutes.

(i) Each measured data value.

(ii) Each block average value for each 1-hour period or shorter periods calculated from all measured data values during each period.

(2) You must prepare a monitoring plan that covers each control device for affected facilities within each

company-defined area. The monitoring plan must address the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (c)(2)(i) through (v) of this section. You must install, calibrate, operate, and maintain each continuous parameter monitoring system in accordance with the procedures in your monitoring plan. Heat sensing monitoring devices that indicate the continuous ignition of a pilot or combustion flame are exempt from the calibration, quality assurance and quality control requirements of this section.

- (i) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations.
 - (ii) Sampling interface (*e.g.*, thermocouple) location such that the monitoring system will provide representative measurements.
 - (iii) Equipment performance checks, system accuracy audits, or other audit procedures.
 - (iv) Ongoing operation and maintenance procedures in accordance with provisions in § 60.13(b).
 - (v) Ongoing recordkeeping procedures in accordance with provisions in § 60.7(f).
- (3) You must conduct the continuous parameter monitoring system equipment performance checks, system accuracy audits, or other audit procedures specified in the monitoring plan at least once every 12 months.
- (4) You must conduct a performance evaluation of each continuous parameter monitoring system in accordance with the monitoring plan. Heat sensing monitoring devices that indicate the continuous ignition of a pilot or combustion flame are exempt from the calibration, quality assurance and quality control requirements of this section.
- (d) You must install, calibrate, operate, and maintain a device equipped with a continuous recorder to measure the values of operating parameters appropriate for the control device as specified in paragraphs (d)(1) through (8) of this section, as applicable. Instead of complying with the requirements in paragraphs (d)(1) through (8) of this section, you may install an organic monitoring device equipped with a continuous recorder that measures the concentration level of organic compounds in the exhaust vent stream from the control device to demonstrate compliance with the applicable performance requirement specified in § 60.5412b(a)(1). The monitor must meet the requirements of Performance Specification 8 or 9 of appendix B to this part. You must install, calibrate, and maintain the monitor according to the manufacturer's specifications and the requirements in Performance Specification 8 or 9. You may also request approval from the Administrator to monitor different operating parameters than those specified in paragraphs (d)(1) through (8) of this section in accordance with § 60.13(i).
- (1) For an enclosed combustion device that demonstrates during the performance test conducted under § 60.5413b(b) that combustion zone temperature is an accurate indicator of performance, a temperature monitoring device equipped with a continuous recorder. The monitoring device must have a minimum accuracy of ± 1 percent of the temperature being monitored in degrees Celsius, or ± 2.5 °C, whichever value is greater. You must install the temperature sensor at a location representative of the combustion zone temperature. You must also comply with the requirements of paragraphs (d)(8)(i), (iv), and (v) of this section.
- (2) For a catalytic vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device must be capable of monitoring temperature at two locations and have a minimum accuracy of ± 1 percent of the temperature being monitored in degrees Celsius, or ± 2.5 °C, whichever value is greater. You must install one temperature sensor in the vent stream at the nearest feasible point to the catalyst bed inlet, and you must install a second temperature sensor in the vent stream at the nearest feasible point to the catalyst
-

bed outlet.

(3) For a boiler or process heater, a temperature monitoring device equipped with a continuous recorder. The temperature monitoring device must have a minimum accuracy of ± 1 percent of the temperature being monitored in degrees Celsius, or ± 2.5 °C, whichever value is greater. You must install the temperature sensor at a location representative of the combustion zone temperature.

(4) For a condenser, a temperature monitoring device equipped with a continuous recorder. The temperature monitoring device must have a minimum accuracy of ± 1 percent of the temperature being monitored in degrees Celsius, or ± 2.5 °C, whichever value is greater. You must install the temperature sensor at a location in the exhaust vent stream from the condenser.

(5) For a regenerative-type carbon adsorption system, a continuous monitoring system that meets the specifications in paragraphs (d)(5)(i) and (ii) of this section. You also must monitor the design carbon service life established using a design analysis performed as specified in § 60.5413b(c)(2).

(i) The continuous parameter monitoring system must measure and record the average total regeneration stream mass flow or volumetric flow during each carbon bed regeneration cycle. The flow sensor must have a measurement sensitivity of 5 percent of the flow rate or 10 cubic feet per minute, whichever is greater. You must check the mechanical connections for leakage at least every month, and you must perform a visual inspection at least every 3 months of all components of the flow continuous parameter monitoring system for physical and operational integrity and all electrical connections for oxidation and galvanic corrosion if your flow continuous parameter monitoring system is not equipped with a redundant flow sensor; and

(ii) The continuous parameter monitoring system must measure and record the average carbon bed temperature for the duration of the carbon bed steaming cycle and measure the actual carbon bed temperature after regeneration and within 15 minutes of completing the cooling cycle. The temperature monitoring device must have a minimum accuracy of ± 1 percent of the temperature being monitored in degrees Celsius, or ± 2.5 °C, whichever value is greater.

(6) For a nonregenerative-type carbon adsorption system, you must monitor the design carbon replacement interval established using a design analysis performed as specified in § 60.5413b(c)(3). The design carbon replacement interval must be based on the total carbon working capacity of the control device and source operating schedule.

(7) For a combustion control device whose model is tested under § 60.5413b(d), continuous monitoring systems as specified in paragraphs (d)(8)(i) through (iv) and (d)(8)(vi) of this section and visible emission observations conducted as specified in paragraph (d)(8)(v) of this section.

(8) For an enclosed combustion device other than those listed in paragraphs (d)(1) through (3) and (7) of this section or for a flare, continuous monitoring systems as specified in paragraphs (d)(8)(i) through (iv) of this section and visible emission observations conducted as specified in paragraph (d)(8)(v) of this section. Additionally, for enclosed combustion devices or flares that are air-assisted or steam-assisted, the continuous monitoring systems specified in paragraph (d)(8)(vi) of this section.

This document is only available to subscribers. Please log in or purchase access.

[Purchase Login](#)