Environmental Protection Agency

§ 63.1349 Performance testing requirements.

(a) Performance test results must be documented in complete test reports that contain the information required by paragraphs (a)(1) through (a)(10) of this section, as well as all other relevant information. As described in §63.7(c)(2)(i), the site-specific plan to be followed during performance testing must be made available to the Administrator prior to testing, if requested.

(1) A brief description of the process and the air pollution control system;

(2) Sampling location description(s);

(3) A description of sampling and analytical procedures and any modifications to standard procedures;

(4) Test results;

(5) Quality assurance procedures and results;

(6) Records of operating conditions during the performance test, preparation of standards, and calibration procedures;

(7) Raw data sheets for field sampling and field and laboratory analyses;

(8) Documentation of calculations;

(9) All data recorded and used to establish parameters for monitoring; and

(10) Any other information required by the performance test method.

(b)(1) PM emissions tests. (i)(A) If you are subject to the limitations on emissions of PM, you must install, operate, calibrate, and maintain a PM CEMS in accordance with the requirements in §63.1350(b).

(B) You must determine, record, and maintain a record of the accuracy of the volumetric flow rate monitoring system according to the procedures in §63.1350(m)(5).

(C) The initial compliance test must be based on the first 30 operating days in which the affected source operates using a CEMS. Hourly PM concentration and stack gas volumetric flow rate data must be obtained.

(ii) You must determine the clinker production rate using the methods in §63.1350(d).

(iii) The emission rate, E, of PM (lb/ton of clinker) must be computed for each run using equation 3 of this section:

\[
E = \frac{(C_s Q_s)}{(PK)} \quad \text{(Eq. 3)}
\]

Where:

- E = emission rate of particulate matter, lb/ton of clinker production;
- C_s = concentration of particulate matter, gr/scf;
- Q_s = volumetric flow rate of effluent gas, where C_s and Q_s are on the same basis (either wet or dry), scf/hr;
- P = total kiln clinker production rate, ton/hr; and
- K = conversion factor, 7000 gr/lb.

(iv) When there is an alkali bypass associated with a kiln, the main exhaust and alkali bypass of the kiln must be tested simultaneously and the combined emission rate of particulate matter from the kiln and alkali bypass must be computed for each run using equation 4 of this section:

\[
E_c = \frac{\left[(C_{sb} Q_{sb}) + (C_{ab} Q_{ab})\right]}{KP} \quad \text{(Eq. 4)}
\]
Where:

\( E_c \) = combined emission rate of particulate matter from the kiln or in-line kiln/raw mill and bypass stack, lb/ton of kiln clinker production;

\( C_{sk} \) = concentration of particulate matter in the kiln or in-line kiln/raw mill effluent gas, gr/scf;

\( Q_{sk} \) = volumetric flow rate of kiln or in-line kiln/raw mill effluent gas, where \( C_{sk} \) and \( Q_{sk} \) are on the same basis (either wet or dry), scf/hr;

\( C_{sb} \) = concentration of particulate matter in the alkali bypass gas, gr/scf;

\( Q_{sb} \) = volumetric flow rate of alkali bypass effluent gas, where \( C_{sb} \) and \( Q_{sb} \) are on the same basis (either wet or dry), scf/hr;

\( P \) = total kiln clinker production rate, ton/hr; and

\( K \) = conversion factor, 1000 g/kg (7000 gr/lb).

(2) Opacity tests. If you are subject to limitations on opacity under this subpart, you must conduct opacity tests in accordance with Method 9 of appendix A-4 to part 60 of this chapter. The duration of the Method 9 performance test must be 3 hours (30 6-minute averages), except that the duration of the Method 9 performance test may be reduced to 1 hour if the conditions of paragraphs (b)(2)(i) through (b)(2)(ii) of this section apply. For batch processes that are not run for 3-hour periods or longer, compile observations totaling 3 hours when the unit is operating.

(i) There are no individual readings greater than 10 percent opacity;

(ii) There are no more than three readings of 10 percent for the first 1-hour period.

(3) D/F emissions tests. If you are subject to limitations on D/F emissions under this subpart, you must conduct a performance test using Method 23 of appendix A-7 to part 60 of this chapter. The owner or operator of a kiln or in-line kiln/raw mill equipped with an alkali bypass must conduct simultaneous performance tests of the kiln or in-line kiln/raw mill exhaust and the alkali bypass. However, the owner or operator of an in-line kiln/raw mill may conduct a performance test of the alkali bypass exhaust when the raw mill of the in-line kiln/raw mill is operating or not operating.

(i) Each performance test must consist of three separate runs conducted under representative conditions. The duration of each run must be at least 3 hours, and the sample volume for each run must be at least 2.5 dscm (90 dscf).

(ii) The temperature at the inlet to the kiln or in-line kiln/raw mill PMCD, and, where applicable, the temperature at the inlet to the alkali bypass PMCD must be continuously recorded during the period of the Method 23 test, and the continuous temperature record(s) must be included in the performance test report.

(iii) Hourly average temperatures must be calculated for each run, and the average of the run average temperatures must be determined and included in the performance test report and will determine the applicable temperature limit in accordance with §63.1344(b).

(iv) The run average temperature must be calculated for each run, and the average of the run average temperatures must be determined and included in the performance test report and will determine the applicable temperature limit in accordance with §63.1344(b).

(v) (A) If sorbent injection is used for D/F control, the rate of sorbent injection to the kiln or in-line kiln/raw mill exhaust, and where applicable, the rate of sorbent injection to the alkali bypass exhaust, must be continuously recorded during the period of the Method 23 test in accordance with the conditions in §63.1350(m)(9), and the continuous injection rate record(s) must be included in the performance test report. Sorbent injection rate parameters must be determined in accordance with paragraphs (b)(3)(vi) of this section.

(B) The performance test report must include the brand and type of sorbent used during the performance test.

(C) The owner or operator must maintain a continuous record of either the carrier gas flow rate or the carrier gas pressure drop for the duration of the performance test. If the carrier gas flow rate is used, the owner or operator must determine, record, and maintain a record of the accuracy of the carrier gas flow rate monitoring system according to the procedures in appendix A to part 75 of this chapter. If the carrier gas pressure drop is used, the owner or operator must determine, record, and maintain a record of the accuracy of the carrier gas pressure drop monitoring system according to the procedures in §63.1350(m)(6).

(vi) The run average sorbent injection rate must be calculated for each run and the average of the run average
injection rates must be determined and included in the performance test report and will determine the applicable injection rate limit in accordance with §63.1344(c)(1).

(4)(i) THC CEMS relative accuracy test. (A) If you are subject to limitations on THC emissions, you must operate a continuous emissions monitoring system (CEMS) in accordance with the requirements in §63.1350(1). For the purposes of conducting the accuracy and quality assurance evaluations for CEMS, the THC span value (as propane) is 50 ppmvd. You demonstrate compliance with a RATA when the accuracy between the CEMS and the test audit is within 20 percent or when the test audit results are within 10 percent of the standard.

(B) The initial compliance test must be based on the first 30 operating days of operation in which the affected source operates using a CEMS.

(ii) Total organic HAP emissions tests. Instead of conducting the performance test specified in paragraph (b)(4)(i) of this section, you may conduct a performance test to determine emissions of total organic HAP by following the procedures in paragraphs (b)(4)(iii) through (b)(4)(iv) of this section.

(iii) Method 320 of appendix A to this part or ASTM D6348–03 (incorporated by reference—See §63.14) must be used to determine emissions of total organic HAP. Each performance test must consist of three separate runs under the conditions that exist when the affected source is operating at the representative performance conditions in accordance with §63.1349(e). Each run must be conducted for at least 1 hour.

(iv) At the same time that you are conducting the performance test for total organic HAP, you must also determine THC emissions by operating a CEMS in accordance with the requirements of §63.1350(j). The duration of the performance test must be 3 hours and the average THC concentration (as calculated from the 1-minute averages) during the 3-hour test must be calculated.

(5) Mercury emissions tests. If you are subject to limitations on mercury emissions, you must operate a mercury CEMS in accordance with the requirements of §63.1350(k). The initial compliance test must be based on the first 30 operating days in which the affected source operates using a CEMS. Hourly mercury concentration and stack gas volumetric flow rate data must be obtained. If you use a sorbent trap monitoring system, daily data must be obtained with each day assumed to equal the daily average of the sorbent trap collection period covering that day.

(i) If you are using a mercury CEMS, you must install, operate, calibrate, and maintain an instrument for continuously measuring and recording the exhaust gas flow rate to the atmosphere according to the requirements in §63.1350(k)(4).

(ii) The emission rate must be computed by dividing the average mercury emission rate by the clinker production rate during the same 30-day rolling period using the equation 5 of this section:

\[ E = \frac{C_sQ_s}{PK} \]  

(Eq. 5)

Where:
- \( E \) = emission rate of mercury, lb/million tons of clinker production;
- \( C_s \) = concentration of mercury, g/scm;
- \( Q_s \) = volumetric flow rate of effluent gas, million ton/hr and
- \( P \) = total kiln clinker production rate, million ton/hr; and
- \( K \) = conversion factor, 1000 g/kg (454 g/lb).

(6) HCl emissions tests. For a source subject to limitations on HCl emissions, you must conduct performance testing by one of the following methods:

(i) (A) If the source is equipped with a wet scrubber, or tray tower, you must conduct performance testing using Method 321 of appendix A to this part unless you have installed a CEMS that meets the requirements §63.1350(l)(1).

(B) You must establish site specific parameter limits by using the CPMS required in §63.1350(l)(1). Measure and
§ 63.1350 Monitoring requirements.

(a) All continuous monitoring data for periods of startup and shutdown must be compiled and averaged separately from data gathered during periods of normal operation.

(b) PM monitoring requirements for sources using PM CEMS.

(1) For a kiln or clinker cooler subject to emissions limitation on particulate matter emissions in §63.1343(b) and using a PM CEMS, you must install and operate a continuous emissions monitor in accordance with Performance Specification 11 of appendix B and Procedure 2 of appendix F to part 60 of this chapter. The performance test method and the correlation test method for Performance Specification 11 must be Method 5 or Method 5i of appendix A to part 60 of this chapter. You must also develop an emissions monitoring plan in accordance with paragraphs (o)(1) through (o)(4) of this section.

(2) You must perform Relative Response Audits annually and Response Correlation Audits every 3 years.

(3) If you are using a PM CEMS, you must install, operate, calibrate, and maintain an instrument for continuously measuring and recording the exhaust gas flow rate to the atmosphere according to the requirements in paragraphs (n)(1) through (n)(10) of this section.

(4) In order to calculate the 30-day or 7-day rolling average, collect readings at least every 15 minutes. Sum the hourly data to daily data and then into a 30-day rolling average. You must use all data, except those recorded during