

**2.3 Portland Cement Plants**

**2.3.1 Applicability and Designation of Affected Facility**

The affected facility to which the provisions of this source category apply is each portland cement plant subject to Section 1.1 of the general provisions of this text.

**2.3.2 Test Methods and Procedures**

(a) In conducting the performance tests required in Section 1.2, the owner or operator shall use as reference methods and procedures the test methods in Appendix A of this text or other methods and procedures as specified in this section, except as provided in Section 1.2, paragraph 2.

(b) The owner or operator shall determine compliance with the applicable particulate matter standard as follows:

(1) The emission rate (E) of particulate matter shall be computed for each run using the following equations:

(i) When computing emissions in units of kg/metric ton (lb/ton) as for NSPS sources, use the following equation:

$$E = (c_s Q_{sd}) / (PK)$$

Where:

E = Emission rate of particulate matter, kg/metric ton (lb/ton) of kiln feed.

c<sub>s</sub> = Concentration of particulate matter, g/dscm (g/dscf).

Q<sub>sd</sub> = Volumetric flow rate of effluent gas, dscm/hr (dscf/hr).

P = Total kiln feed (dry basis) rate, metric ton/hr (ton/hr).

K = Conversion factor, 1000 g/kg (453.6 g/lb).

(ii) When computing emissions in units of lb/hr, use the following equation:

$$E = C_s Q_{sd}$$

Where E, c<sub>s</sub>, and Q<sub>sd</sub> are as defined in paragraph (b)(1)(i) above.

(2) Method 5 shall be used to determine the particulate matter concentration (c<sub>s</sub>) and the volumetric flow rate (Q<sub>sd</sub>) of the effluent gas. The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30.0 dscf) for the kiln and at least 60 minutes and 1.15 dscm (40.6 dscf) for the clinker cooler.

(3) Suitable methods shall be used to determine the kiln feed rate (P), except fuels, for each run. Material balance over the production system shall be used to confirm the feed rate.

(4) Method 9 and the procedures in Section 1.3 shall be used to determine opacity.

(c) Total kiln feed rate (except fuels), expressed in metric tons per hour (tons/hr) on a dry basis, shall be determined during each testing period by suitable methods, and shall be confirmed by a material balance over the production system.

(d) For each run, particulate matter emissions, expressed in lb/ton (g/metric ton) of kiln feed (NSPS sources), shall be determined by dividing the emission rate in g/hr (lb/hr) by the kiln feed rate. The emission rate, E, for both NSPS and other sources, shall be determined by the equation, E = Q<sub>s</sub> x c, where Q<sub>s</sub> = volumetric flow rate of the total effluent in dscf/hr (dscm/hr) as determined in accordance with paragraph (a)(3) of this section, and c = particulate concentration in lb/dscf (g/dscm) as determined in accordance with paragraph (a)(1) of this section.

### 2.3.3 Monitoring of Operations and Emissions

Paragraph (a) below applies to all sources, and paragraphs (b), (c), and (d) apply to sources which are required to monitor the opacity of emissions.

- (a) The owner or operator of any portland cement plant subject to the provisions of this source category shall record daily production rates and kiln feed rates.
- (b) Except as provided in paragraph (c) of this section, each owner or operator of a kiln or clinker cooler that is subject to the provisions of this source category shall install, calibrate, maintain, and operate in accordance with Section 1.4 a continuous opacity monitoring system to measure the opacity of emissions discharged into the atmosphere from any kiln or clinker cooler. Except as provided in paragraph (c) of this section, a continuous opacity monitoring system shall be installed on each stack of any multiple stack device controlling emissions from any kiln or clinker cooler. If there is a separate bypass installed, each owner or operator of a kiln or clinker cooler shall also install, calibrate, maintain, and operate a continuous opacity monitoring system on each bypass stack in addition to the main control device stack.
- (c) Each owner or operator of a kiln or clinker cooler subject to the provisions of this source category using a positive-pressure fabric filter with multiple stacks, or a negative-pressure fabric filter with multiple stacks, or an electrostatic precipitator with multiple stacks may, in lieu of installing the continuous opacity monitoring system required by 2.3.3(b), monitor visible emissions at least once per day by using a certified visible emissions observer. If the control device exhausts gases through a monovent, visible emission observations in lieu of a continuous opacity monitoring system are required. These observations shall be taken in accordance with EPA Method 9. Visible emissions shall be observed during conditions representative of normal operation. Observations shall be recorded for at least three 6-minute periods each day. In the event that visible emissions are observed for a number of emission sites from the control device with multiple stacks, Method 9 observations shall be recorded for the emission site with the highest opacity. All records of visible emissions shall be maintained for a period of 2 years.
- (d) For the purpose of reports under 2.3.4, periods of excess emissions that shall be reported are defined as all 6-minute periods during which the average opacity exceeds that allowed by applicable regulations.

### 2.3.4 Recordkeeping and Reporting Requirements

- (a) Each owner or operator required to install a continuous opacity monitoring system under 2.3.3(b) shall submit reports of excess emissions as defined in 2.3.3(d). The content of these reports must comply with the requirements in Section 1.5 of the text. Notwithstanding the provisions of Section 1.5, such reports shall be submitted semiannually, unless frequent periods are required by the Director.
- (b) Each owner or operator monitoring visible emissions under 2.3.3(c) shall submit semiannual reports of observed excess emissions as defined in 2.3.3(d).
- (c) Each owner or operator of facilities subject to the provisions of 2.3.3(c) shall submit semiannual reports of the malfunction information required to be recorded by Section 1.5. These reports shall include the frequency, duration, and cause of any incident resulting in deenergization of any device controlling kiln emissions or in the venting of emissions directly to the atmosphere.