2.11a Iron and Steel Plants (Secondary Emissions)

2.11.1a Applicability and Designation of Affected Facilities

(a) The provisions of this source category apply to the following affected facilities in an iron and steel plant: top-blown BOPF's and hot metal transfer stations and skimming stations used with bottom-blown or top-blown BOPF's.

(b) This subpart applies to any facility identified in paragraph (a) of this section that commences construction, modification, or reconstruction after January 20, 1983.

(c) Any BOPF subject to the provisions of this source category is subject to those provisions of Section 2.11 of this text applicable to affected facilities commencing construction, modification of reconstruction after January 20, 1983.

2.11.2a 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 part or other methods and procedures as specified in this section, except as provided in Section 1.2(b).

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

(1) Start and end times of each steel production cycle during each run shall be recorded [see §2.11.4(c) and (d) for the definitions of start and end times of a cycle].

(2) Method 5 shall be used to determine the particulate matter concentration. Sampling shall be conducted only during the steel production cycle and for a sufficient number of steel production cycles to obtain a total sample volume of at least 5.67 dscm (200 dscf) for each run.

(3) Method 9 and the procedures of Section 1.3 shall be used to determine opacity, except sections 2.4 and 2.5 of Method 9 shall be replaced with the following instructions for recording observations and reducing data:

(i) Section 2.4. Opacity observations shall be recorded to the nearest 5 percent at 15-second intervals. During the initial performance test conducted pursuant to Section 1.2, observations shall be made and recorded in this manner for a minimum of three steel production cycles. During any subsequent compliance test, observations may be made for any number of steel production cycles, although, where conditions permit, observations will generally be made for a minimum of three steel production cycles.

(ii) Section 2.5. Opacity shall be determined as an average of 12 consecutive observations recorded at 15-second intervals. For each steel production cycle, divide the observations recorded into sets of 12 consecutive observations. Sets need not be consecutive in time, and in no case shall two sets overlap. For each set of 12 observations, calculate the average by summing the opacity of 12 consecutive observations and dividing this sum by 12.

(c) In complying with the requirements of §2.11.3a(c), the owner or operator shall conduct an initial test as follows:

(1) For devices that monitor and record the exhaust ventilation rate, compare velocity readings recorded by the monitoring device against the velocity readings obtained by Method 2. Take Method 2 readings at a point or points that would properly characterize the monitoring device's performance and that would adequately reflect the various rates of exhaust ventilation. Obtain readings at sufficient intervals to obtain 12 pairs of readings for each duct of the secondary emission capture system. Compare the averages of the two sets to determine whether the monitoring device velocity is within ±10 percent of the Method 2 average.

(2) For devices that monitor the level of exhaust ventilation and record only step changes when a set point rate is reached, compare step changes recorded by the monitoring device against the velocity readings obtained by Method 2. Take Method 2 readings at a point or points that would properly characterize the performance of the monitoring device and that would adequately reflect the various rates of exhaust ventilation. Obtain readings at sufficient intervals to obtain 12 pairs of readings for each duct of the secondary emission capture system. Compare the averages of the two sets to determine whether the monitoring device step change is within ±10 percent of the setpoint rate.

(d) To comply with §2.11.3a(d) or (3), the owner or operator shall use the monitoring device of §2.11.3a(a) to determine the exhaust ventilation rates or levels during the particulate matter runs and to determine a 3-hour average.

2.11.3a Monitoring of Operations

(a) Each owner or operator of an affected facility shall install, calibrate, operate, and maintain a monitoring device that continually measures and records for each steel production cycle the various rates or levels of exhaust ventilation at each phase of the cycle through each duct of the secondary emission capture system. The monitoring device or devices are to be placed at locations near each capture point of the secondary emission capture system to monitor the exhaust ventilation rates or levels adequately, or in alternative locations approved in advance by the Director.

(b) If a chart recorder is used, the owner or operator shall use chart recorders that are operated at a minimum chart speed of 3.8 cm/hr (1.5 in./hr).

(c) All monitoring devices are to be certified by the manufacturer to be accurate to within ±10 percent compared to Method 2. The owner or operator shall recalibrate and check the device(s) annually and at other times as the Director may require, in accordance with the written instructions of the manufacturer and by comparing the device against Method 2.

(d) Each owner or operator subject to the requirements of paragraph (a) of this section shall report on a semi-annual basis all measurements of exhaust ventilation rates or levels over any 3-hour period that average more than 10 percent below the average rates or levels of exhaust ventilation maintained during the most recent performance test conducted under Section 1.2 in which the affected facility demonstrated compliance with the applicable standard. The accuracy of the respective measurements, not to exceed the values specified in paragraph (c) of this section, may be considered when determining the measurement results that must be reported.

(e) If a scrubber primary emission control device is used to collect secondary emissions, the owner or operator shall report on a semi-annual basis all measurements of exhaust ventilation rate over any 3-hour period that average more than 10 percent below the average levels maintained during the most recent performance test conducted under Section 1.2 in which the affected facility demonstrated compliance with the applicable standard.

2.11.4a Compliance Provisions

(a) When determining compliance with mass and visible emission limits specified in §60.142a(a) (2) and (3)*, the owner or operator of a BOPF shop that normally operates two furnaces with overlapping cycles may elect to operate only one furnace. If an owner or operator chooses to shut down one furnace, he shall be allowed a reasonable time period to adjust his production schedule before the compliance tests are conducted. The owner or operator of an affected facility may also elect to suspend shop operations not subject to this subpart during compliance testing.

(b) During compliance testing for mass and visible emission standards, if an owner or operator elects to shut down one furnace in a shop that normally operates two furnace with overlapping cycles, the owner or operator shall operate the secondary emission control system for the furnace being tested at exhaust ventilation rates or levels for each duct of the secondary emission control system that are appropriate for single-furnace operation. Following the compliance test, the owner or operator shall operate the secondary emission control system at

exhaust ventilation rates or levels for each duct of the system that are no lower than 90 percent of the exhaust ventilation values established during the most recent compliance test.

(c) For the purpose of determining compliance with visible and mass emission standards, a steel production cycle begins when the scrap or hot metal is charged to the vessel (whichever operation occurs first) and terminates 3 minutes after slag is emptied from the vessel into the slag pot. Consecutive steel production cycles are not required for the purpose of determining compliance. Where a hot metal transfer or skimming station is an affected facility, the steel production cycle also includes the hot metal transfer or skimming operation for the next steel production cycle for the affected vessel. Visible emission observations for both hot metal transfer and skimming operations begin with the start of the operation and terminate 3 minutes after completion of the operation.

(d) For the purpose of determining compliance with visible emission standards specified in §60.142a(a) (1) and (3)*, the starting and stopping times of regulated process operations shall be determined and the starting and stopping times of visible emissions data sets shall be determined accordingly.

(e) To determine compliance with §60.142a(a)(1)*, select the data sets yielding the highest and second highest 3-minute average opacities for each steel production cycle. Compliance is achieved if the highest 3-minute average for each cycle observed is less than 20 percent and the second highest 3-minute average is 10 percent or less.

(f) To determine compliance with §60.142(a)(2)*, determine the concentration of particulate matter in exhaust gases exiting the secondary emission collection device with Method 5. Compliance is achieved if the concentration of particulate matter does not exceed 23 mg/dscm (0.010 gr/dscf).

(g) To determine compliance with §60.142a(a)(3)*, construct consecutive 3-minute averages for each steel production cycle. Compliance is achieved if no 3-minute average is more than 5 percent.

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*Code of Federal Regulations, Title 40, Part 60.