

§ 60.103a

40 CFR Ch. I (7-1-09 Edition)

ppm by volume of hydrogen sulfide (H<sub>2</sub>S), each calculated as ppm SO<sub>2</sub> by volume (dry basis) at zero percent excess air; or

(iii) For systems using oxygen enrichment, the owner or operator shall calculate the applicable emission limit using Equation 2 of this section:

$$E_{SS} = k_1 \times (-0.38 * (\%O_2))^2 + 115.3 * \%O_2 + 256 \quad (\text{Eq. 2})$$

Where:

E<sub>SS</sub> = Emission rate of SO<sub>2</sub> for small sulfur recovery plant, ppmv.

(3) Periods of maintenance of the sulfur pit, during which the emission limits in paragraphs (f)(1) and (2) shall not apply, shall not exceed 240 hours per year. The owner or operator must document the time periods during which the sulfur pit vents were not controlled and measures taken to minimize emissions during these periods. Examples of these measures include not adding fresh sulfur or shutting off vent fans.

(g) Each owner or operator of an affected fuel gas combustion device shall comply with the emission limits in paragraphs (g)(1) through (3) of this section.

(1) For each fuel gas combustion device, the owner or operator shall comply with either the emission limit in paragraph (g)(1)(i) of this section or the fuel gas concentration limit in paragraph (g)(1)(ii) of this section.

(i) The owner or operator shall not discharge or cause the discharge of any gases into the atmosphere that contain SO<sub>2</sub> in excess of 20 ppmv (dry basis, corrected to 0 percent excess air) determined hourly on a 3-hour rolling average basis and SO<sub>2</sub> in excess of 8 ppmv (dry basis, corrected to 0 percent excess air), determined daily on a 365 successive day rolling average basis; or

(ii) The owner or operator shall not burn in any fuel gas combustion device any fuel gas that contains H<sub>2</sub>S in excess of 162 ppmv determined hourly on a 3-hour rolling average basis and H<sub>2</sub>S in excess of 60 ppmv determined daily on a 365 successive calendar day rolling average basis.

(2) For each process heater with a rated capacity of greater than 40 million British thermal units per hour (MMBtu/hr), the owner or operator shall not discharge to the atmosphere

any emissions of NO<sub>x</sub> in excess of 40 ppmv (dry basis, corrected to 0 percent excess air) on a 24-hour rolling average basis.

(3) Except as provided in paragraphs (h) and (i) of this section, the owner or operator of an affected flare shall not allow flow to each affected flare during normal operations of more than 7,080 standard cubic meters per day (m<sup>3</sup>/day) (250,000 standard cubic feet per day (scfd)) on a 30-day rolling average. The owner or operator of a newly constructed or reconstructed flare shall comply with the emission limit in this paragraph by no later than the date that flare becomes an affected flare subject to this subpart. The owner or operator of a modified flare shall comply with the emission limit in this paragraph by no later than 1 year after that flare becomes an affected flare subject to this subpart.

(h) The combustion in a flare of process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions is exempt from paragraph (g) of this section.

(i) In periods of fuel gas imbalance that are described in the flare management plan required in section 60.103a(a), compliance with the emission limit in paragraph (g)(3) of this section is demonstrated by following the procedures and maintaining records described in the flare management plan to document the periods of excess fuel gas.

§ 60.103a Work practice standards.

(a) Each owner or operator that operates a flare that is subject to this subpart shall develop and implement a written flare management plan. The owner or operator of a newly constructed or reconstructed flare must

develop and implement the flare management plan by no later than the date that flare becomes an affected flare subject to this subpart. The owner or operator of a modified flare must develop and implement the flare management plan by no later than 1 year after the flare becomes an affected flare subject to this subpart. The plan must include:

- (1) A diagram illustrating all connections to the flare;
- (2) Methods for monitoring flow rate to the flare, including a detailed description of the manufacturer's specifications, including but not limited to, make, model, type, range, precision, accuracy, calibration, maintenance, and quality assurance procedures for flare gas monitoring devices;
- (3) Procedures to minimize discharges to the flare gas system during the planned start-up and shutdown of the refinery process units that are connected to the affected flare;
- (4) Procedures to conduct a root cause analysis of any process upset or malfunction that causes a discharge to the flare in excess of 14,160 m<sup>3</sup>/day (500,000 scfd);
- (5) Procedures to reduce flaring in cases of fuel gas imbalance (i.e., excess fuel gas for the refinery's energy needs); and
- (6) Explanation of procedures to follow during times that the flare must exceed the limit in §60.102a(g)(3) (e.g., keep records of natural gas purchases to support assertion that the refinery is producing more fuel gas than needed to operate the processes).

(b) Each owner or operator that operates a fuel gas combustion device or sulfur recovery plant subject to this subpart shall conduct a root cause analysis of any emission limit exceedance or process start-up, shutdown, upset, or malfunction that causes a discharge to the atmosphere in excess of 227 kilograms per day (kg/day) (500 lb per day (lb/day)) of SO<sub>2</sub>. For any root cause analysis performed, the owner or operator shall record the identification of the affected facility, the date and duration of the discharge, the results of the root cause analysis, and the action taken as a result of the root cause analysis. The first root cause analysis for a modified flare must be conducted

no later than the first discharge that occurs after the flare has been an affected flare subject to this subpart for 1 year.

(c) Each owner or operator of a delayed coking unit shall depressure to 5 lb per square inch gauge (psig) during reactor vessel depressuring and vent the exhaust gases to the fuel gas system for combustion in a fuel gas combustion device.

#### § 60.104a Performance tests.

(a) The owner or operator shall conduct a performance test for each FCCU, FCU, sulfur recovery plant, and fuel gas combustion device to demonstrate initial compliance with each applicable emissions limit in §60.102a according to the requirements of §60.8. The notification requirements of §60.8(d) apply to the initial performance test and to subsequent performance tests required by paragraph (b) of this section (or as required by the Administrator), but does not apply to performance tests conducted for the purpose of obtaining supplemental data because of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments.

(b) The owner or operator of a FCCU or FCU that elects to monitor control device operating parameters according to the requirements in §60.105a(b), to use bag leak detectors according to the requirements in §60.105a(c), or to use COMS according to the requirements in §60.105a(e) shall conduct a PM performance test at least once every 12 months and furnish the Administrator a written report of the results of each test.

(c) In conducting the performance tests required by this subpart (or as requested by the Administrator), the owner or operator shall use the test methods in 40 CFR part 60, Appendices A-1 through A-8 or other methods as specified in this section, except as provided in §60.8(b).

(d) The owner or operator shall determine compliance with the PM, NO<sub>x</sub>, SO<sub>2</sub>, and CO emissions limits in §60.102a(b) for FCCU and FCU using the following methods and procedures:

- (1) Method 1 of appendix A-1 to part 60 for sample and velocity traverses.