

§ 60.404

(1) A monitoring device for the continuous measurement of the pressure loss of the gas stream through the scrubber. The monitoring device must be certified by the manufacturer to be accurate within ± 250 pascals (± 1 inch water) gauge pressure.

(2) A monitoring device for the continuous measurement of the scrubbing liquid supply pressure to the control device. The monitoring device must be accurate within ± 5 percent of design scrubbing liquid supply pressure.

(d) For the purpose of conducting a performance test under § 60.8, the owner or operator of any phosphate rock plant subject to the provisions of this subpart shall install, calibrate, maintain, and operate a device for measuring the phosphate rock feed to any affected dryer, calciner, or grinder. The measuring device used must be accurate to within ± 5 percent of the mass rate over its operating range.

(e) For the purpose of reports required under § 60.7(c), periods of excess emissions that shall be reported are defined as all 6-minute periods during which the average opacity of the plume from any phosphate rock dryer, calciner, or grinder subject to paragraph (a) of this section exceeds the applicable opacity limit.

(f) Any owner or operator subject to the requirements under paragraph (c) of this section shall report on a frequency specified in § 60.7(c) all measurement results that are less than 90 percent of the average levels maintained during the most recent performance test conducted under § 60.8 in which the affected facility demonstrated compliance with the standard under § 60.402.

[47 FR 16589, Apr. 16, 1982, as amended at 64 FR 7466, Feb. 12, 1999]

§ 60.404 Test methods and procedures.

(a) In conducting the performance tests required in § 60.8, 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 for in § 60.8(b).

(b) The owner or operator shall determine compliance with the particulate matter standards in § 60.402 as follows:

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

$$E = (c_s Q_{sd}) / (P K)$$

where:

E = emission rate of particulate matter, kg/Mg (lb/ton) of phosphate rock feed.

c_s = concentration of particulate matter, g/dscm (g/dscf).

Q_{sd} = volumetric flow rate of effluent gas, dscm/hr (dscf/hr).

P = phosphate rock feed rate, Mg/hr (ton/hr).

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

(2) Method 5 shall be used to determine the particulate matter concentration (c_s) and volumetric flow rate (Q_{sd}) of the effluent gas. The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf).

(3) The device of § 60.403(d) shall be used to determine the phosphate rock feed rate (P) for each run.

(4) Method 9 and the procedures in § 60.11 shall be used to determine opacity.

(c) To comply with § 60.403(f), if applicable, the owner or operator shall use the monitoring devices in § 60.403(c) (1) and (2) to determine the average pressure loss of the gas stream through the scrubber and the average scrubbing supply pressure during the particulate matter runs.

[54 FR 6676, Feb. 14, 1989; 54 FR 21344, May 17, 1989]

Subpart PP—Standards of Performance for Ammonium Sulfate Manufacture

SOURCE: 45 FR 74850, Nov. 12, 1980, unless otherwise noted.

§ 60.420 Applicability and designation of affected facility.

(a) The affected facility to which the provisions of this subpart apply is each ammonium sulfate dryer within an ammonium sulfate manufacturing plant in the caprolactam by-product, synthetic, and coke oven by-product sectors of the ammonium sulfate industry.

(b) Any facility under paragraph (a) of this section that commences construction or modification after February 4, 1980, is subject to the requirements of this subpart.

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§ 60.421 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A.

Ammonium sulfate dryer means a unit or vessel into which ammonium sulfate is charged for the purpose of reducing the moisture content of the product using a heated gas stream. The unit includes foundations, superstructure, material charger systems, exhaust systems, and integral control systems and instrumentation.

Ammonium sulfate feed material streams means the sulfuric acid feed stream to the reactor/crystallizer for synthetic and coke oven by-product ammonium sulfate manufacturing plants; and means the total or combined feed streams (the oximation ammonium sulfate stream and the rearrangement reaction ammonium sulfate stream) to the crystallizer stage, prior to any recycle streams.

Ammonium sulfate manufacturing plant means any plant which produces ammonium sulfate.

Caprolactam by-product ammonium sulfate manufacturing plant means any plant which produces ammonium sulfate as a by-product from process streams generated during caprolactam manufacture.

Coke oven by-product ammonium sulfate manufacturing plant means any plant which produces ammonium sulfate by reacting sulfuric acid with ammonia recovered as a by-product from the manufacture of coke.

Synthetic ammonium sulfate manufacturing plant means any plant which produces ammonium sulfate by direct combination of ammonia and sulfuric acid.

§ 60.422 Standards for particulate matter.

On or after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator of an ammonium sulfate dryer subject to the provisions of this subpart shall cause to be discharged into the atmosphere, from any ammonium sulfate dryer, particulate matter at an emission rate exceeding 0.15 kilogram of particulate per megagram of ammonium sulfate produced (0.30

pound of particulate per ton of ammonium sulfate produced) and exhaust gases with greater than 15 percent opacity.

§ 60.423 Monitoring of operations.

(a) The owner or operator of any ammonium sulfate manufacturing plant subject to the provisions of this subpart shall install, calibrate, maintain, and operate flow monitoring devices which can be used to determine the mass flow of ammonium sulfate feed material streams to the process. The flow monitoring device shall have an accuracy of ± 5 percent over its range. However, if the plant uses weigh scales of the same accuracy to directly measure production rate of ammonium sulfate, the use of flow monitoring devices is not required.

(b) The owner or operator of any ammonium sulfate manufacturing plant subject to the provisions of this subpart shall install, calibrate, maintain, and operate a monitoring device which continuously measures and permanently records the total pressure drop across the emission control system. The monitoring device shall have an accuracy of ± 5 percent over its operating range.

§ 60.424 Test methods and procedures.

(a) In conducting the performance tests required in § 60.8, 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 § 60.8(b).

(b) The owner or operator shall determine compliance with the particulate matter standards in § 60.422 as follows:

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

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

where:

E = emission rate of particulate matter, kg/Mg (lb/ton) of ammonium sulfate produced.

C_s = concentration of particulate matter, g/dscm (g/dscf).

Q_{sd} = volumetric flow rate of effluent gas, dscm/hr (dscf/hr).

P = production rate of ammonium sulfate, Mg/hr (ton/hr).

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

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(2) Method 5 shall be used to determine the particulate matter concentration (c_s) and volumetric flow rate (Q_{sd}) of the effluent gas. The sampling time and sample volume for each run shall be at least 60 minutes and 1.50 dscm (53 dscf).

(3) Direct measurement using product weigh scales, or the result of computations using a material balance, shall be used to determine the rate (P) of the ammonium sulfate production. If production rate is determined by material balance, the following equations shall be used:

(i) For synthetic and coke oven by-product ammonium sulfate plants:

P = ABCK^{1/4}

where:

A = sulfuric acid flow rate to the reactor/crystallizer averaged over the time-period taken to conduct the run, liter/min.

B = acid density (a function of acid strength and temperature), g/cc.

C = acid strength, decimal fraction.

K^{1/4} = conversion factor, 0.0808 (Mg-min-cc)/(g-hr-liter) [0.0891 (ton-min-cc)/(g-hr-liter)].

(ii) For caprolactam by-product ammonium sulfate plants:

P = DEFK'

where:

D = total combined feed stream flow rate to the ammonium crystallizer before the point where any recycle streams enter the stream averaged over the time-period taken to conduct the test run, liter/min.

E = density of the process stream solution, g/liter.

F = percent mass of ammonium sulfate in the process solution, decimal fraction.

K' = conversion factor, 6.0 x 10⁻⁵ (Mg-min) / (g-hr) [6.614 x 10⁻⁵ (ton-min) / (g-hr)].

(4) Method 9 and the procedures in § 60.11 shall be used to determine the opacity.

[54 FR 6676, Feb. 14, 1989, as amended at 65 FR 61760, Oct. 17, 2000]

Subpart QQ—Standards of Performance for the Graphic Arts Industry: Publication Rotogravure Printing

SOURCE: 47 FR 50649, Nov. 8, 1982, unless otherwise noted.

§ 60.430 Applicability and designation of affected facility.

(a) Except as provided in paragraph (b) of this section, the affected facility to which the provisions of this subpart apply is each publication rotogravure printing press.

(b) The provisions of this subpart do not apply to proof presses.

(c) Any facility under paragraph (a) of this section that commences construction, modification, or reconstruction after October 28, 1980 is subject to the requirements of this subpart.

§ 60.431 Definitions and notations.

(a) All terms used in this subpart that are not defined below have the meaning given to them in the Act and in subpart A of this part.

Automatic temperature compensator means a device that continuously senses the temperature of fluid flowing through a metering device and automatically adjusts the registration of the measured volume to the corrected equivalent volume at a base temperature.

Base temperature means an arbitrary reference temperature for determining liquid densities or adjusting the measured volume of a liquid quantity.

Density means the mass of a unit volume of liquid, expressed as grams per cubic centimeter, kilograms per liter, or pounds per gallon, at a specified temperature.

Gravure cylinder means a printing cylinder with an intaglio image consisting of minute cells or indentations specially engraved or etched into the cylinder's surface to hold ink when continuously revolved through a fountain of ink.

Performance averaging period means 30 calendar days, one calendar month, or four consecutive weeks as specified in sections of this subpart.

Proof press means any device used only to check the quality of the image formation of newly engraved or etched gravure cylinders and prints only non-saleable items.

Publication rotogravure printing press means any number of rotogravure printing units capable of printing simultaneously on the same continuous web or substrate and includes any associated device for continuously cutting