

**7011.1410 STANDARDS OF PERFORMANCE FOR NEW AFFECTED FACILITIES AT PETROLEUM REFINERIES.**

Subpart 1. **Fluid catalytic cracking unit catalyst regenerator and incinerator-waste heat boiler.** No owner or operator of a new fluid catalytic cracking unit catalyst regenerator or its incinerator-waste heat boiler at a petroleum refinery shall cause to be discharged into the atmosphere from such regenerator or incinerator-waste heat boiler any gases which:

A. contain particulate matter in excess of 1.0 lb/1000 lb (1.0 kg/1000 kg) of coke burn-off in the catalyst regenerator; or

B. exhibit greater than 30 percent opacity, except that 30 percent opacity may be exceeded for one six-minute period in any one-hour period. An exceedance of this opacity standard occurs whenever any one-hour period contains two or more six-minute periods during which the average opacity exceeds 30 percent.

If auxiliary liquid or solid fossil fuels are burned in the fluid catalytic cracking unit incinerator-waste heat boiler, particulate matter in excess of that permitted by item A may be emitted provided that the incremental rate of particulate emissions shall not exceed 0.1 pound per million Btu of heat input attributable to such liquid or solid fossil fuel.

No owner or operator of a new fluid catalytic cracking unit catalyst regenerator at a petroleum refinery shall cause to be discharged into the atmosphere from such regenerator any gases which contain carbon monoxide in excess of 0.050 percent by volume.

Subp. 2. **Fuel gas combustion device.** No owner or operator of a new fuel gas combustion device at a petroleum refinery shall burn in any such device any fuel gas which contains H<sub>2</sub>S in excess of 0.10 gr/dscf, (230 mg/dscm) except as provided herein. The owner or operator may elect to treat the gases resulting from the combustion of fuel gas in a manner which limits the release of SO<sub>2</sub> to the atmosphere if it is shown to the satisfaction of the commissioner that this prevents SO<sub>2</sub> emissions as effectively as compliance with the H<sub>2</sub>S restriction set forth above.

Subp. 3. **Indirect heating equipment.** Indirect heating equipment:

A. No owner or operator of new indirect heating equipment at a petroleum refinery shall cause to be discharged into the atmosphere from such equipment any gases which contain sulfur dioxide in excess of 1.75 pounds per million Btu (3.15 grams per million cal) heat input. The total emissions of sulfur dioxide from all existing and new fuel gas combustion devices and indirect heating equipment shall be divided by the total heat input of all such devices and equipment to determine compliance with this part; provided that no owner or operator shall cause to be discharged from any one unit of new indirect heating equipment any gases which contain sulfur dioxide in excess of 3.0 pounds per million Btu (5.4 grams per million cal) heat input.

B. No owner or operator of new indirect heating equipment at a petroleum refinery shall cause to be discharged into the atmosphere from such equipment any gases which:

(1) contain particulate matter in excess of 0.4 pounds per million Btu (0.72 grams per million cal) heat input; or

(2) exhibit greater than 20 percent opacity, except for one six-minute period per hour of not more than 60 percent opacity. An exceedance of this opacity standard occurs whenever any one-hour period contains two or more six-minute periods during which the average opacity exceeds 20 percent or whenever any one-hour period contains one or more six-minute periods during which the average opacity exceeds 60 percent.

C. The owner or operator of a new steam generating unit of more than 250 million Btu per hour (63 million cal per hour) heat input at a petroleum refinery shall comply with the following requirements:

(1) No gases shall be discharged from the steam generating unit which contain particulate matter in excess of 0.1 pounds per million Btu (0.18 grams per million cal) heat input.

(2) No gases shall be discharged which exhibit greater than 20 percent opacity, except for one six-minute period per hour of not more than 27 percent opacity. An exceedance of this opacity standard occurs whenever any one-hour period contains two or more six-minute periods during which the average opacity exceeds 20 percent or whenever any one-hour period contains one or more six-minute periods during which the average opacity exceeds 27 percent.

(3) No gases shall be discharged which contain sulfur dioxide in excess of 0.80 pounds per million Btu (1.4 grams per million cal) heat input if a liquid fossil fuel is burned and 1.2 pounds per million Btu (2.2 grams per million cal) heat input if a solid fossil fuel is burned. When different fossil fuels are burned simultaneously in any combination, the applicable standard shall be determined by proration using the following formula:

$$x = \frac{y(0.8) + z(1.2)}{y + z}$$

where:

x is the maximum allowable emissions of sulfur dioxide gases in lbs/per million Btu;

y is the percentage of total heat input derived from liquid fossil fuel;

z is the percentage of total heat input derived from solid fossil fuel; and

Compliance shall be based on the total heat input from all fossil fuel burned including gaseous fuels.

Subp. 4. **Definition.** For the purposes of this part, "new" means equipment on which construction, modification, or reconstruction commenced after June 11, 1973.

**Statutory Authority:** *MS s 116.07*

**History:** *L 1987 c 186 s 15; 18 SR 614; 22 SR 1237; 23 SR 145*

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