

SUBCHAPTER 31. CONTROL OF EMISSION OF SULFUR COMPOUNDS

PART 2. AMBIENT AIR CONCENTRATION LIMITS OR IMPACTS FOR NEW AND EXISTING EQUIPMENT, SOURCES, OR FACILITIES

252:100-31-7. Ambient air concentration limits or impacts.

(a) **Sulfur oxides.** ~~Emissions of sulfur dioxide from any one existing source or any one new petroleum and natural gas process source subject to OAC 252:100-31-26(a)(1) shall not result in an ambient air concentration (including background concentration) of a sulfur dioxide at any given point that is greater than:~~ Emissions of sulfur dioxide from any existing facility or any new petroleum and natural gas process facility with equipment subject to OAC 252:100-31-26(a)(1) shall not impact existing ambient air concentrations of sulfur dioxide by more than:

- (1) 1300 :g/m<sup>3</sup> (0.50 ppm) in a five (5) minute period of any hour;
- (2) 1200 :g/m<sup>3</sup> (0.46 ppm), one-hour average;
- (3) 650 :g/m<sup>3</sup> (0.25 ppm), 3-hour average; ~~or,~~
- (4) 130 :g/m<sup>3</sup> (0.05 ppm), 24-hour average; or,
- (5) 80 :g/m<sup>3</sup> (0.03 ppm), annual arithmetic mean.

(b) **Hydrogen sulfide.** Emissions of hydrogen sulfide from any new or existing source shall not result in a 24-hour average ambient air concentration of hydrogen sulfide at any given point of 0.2 ppm or greater.

(c) **Exceptions.** The standards set in subsections (a) and (b) of this Section shall not apply to ambient air concentrations or impacts occurring on the property from which such emission occurs, providing such property, from the emission point to the point of any such concentration, is controlled by the person responsible for such emission.

(d) **Compliance assurance.** Upon approval of the Director, ~~source-facility~~ operators may use appropriate material balances, performance test data, and/or emission factors to determine stack emissions combined, when necessary, with the appropriate EPA approved atmospheric dispersion models to determine ambient air concentration or impact in lieu of ambient air monitoring as proof of compliance with limits set in OAC 252:100-31-7(a) and (b).

PART 5. NEW EQUIPMENT STANDARDS

252:100-31-26. Petroleum and natural gas processes

(a) Standards.

(1) **Hydrogen sulfide standards.** Hydrogen sulfide from any new petroleum or natural gas process equipment shall be removed from the exhaust gas stream or it shall be oxidized to sulfur dioxide. Hydrogen sulfide emissions shall be reduced by 95% of the hydrogen sulfide in the exhaust gas.

(2) **Sulfur dioxide standards.**

(A) **Natural gas processing.** Sulfur oxide emissions, calculated as sulfur dioxide, from any new gas sweetening plant shall be reduced by use of a sulfur recovery plant prior to release of the exhaust gas to the atmosphere. The sulfur recovery plant shall have the sulfur reduction efficiencies required in subparagraphs (C) through (F) of OAC 252:100-31-26(a) (2).

(B) **Petroleum refinery processing.** Sulfur recovery plants operating in conjunction with any refinery process shall have the sulfur reduction efficiencies required in paragraphs (C) through (F) of OAC 252:100-31-26(a) (2).

(C) **Greater than 0.54 LT/D but less than or equal to 5.0 LT/D.** When the sulfur content of the acid gas stream from a new gas sweetening unit or refinery process is greater than 0.54 LT/D but less than or equal to 5.0 LT/D, the sulfur dioxide emission reduction efficiency of the sulfur recovery plant shall be at least 75.0%.

(D) **Greater than 5.0 LT/D but less than or equal to 150.0 LT/D.** When the sulfur content of the acid gas stream from a new gas sweetening unit or refinery process is greater than 5.0 LT/D but less than or equal to 150.0 LT/D, the required sulfur dioxide emission reduction efficiency of the sulfur recovery plant shall be calculated using the following formula where Z is the minimum emission reduction efficiency required at all times and X is the sulfur feed rate expressed in LT/D of sulfur rounded to one decimal place:  $Z = 92.34 (X^{0.00774})$

(E) **Greater than 150.0 LT/D but less than or equal to 1500.0 LT/D.** When the sulfur content of the acid gas stream from a new gas sweetening unit or refinery process is greater than 150.0 LT/D but less than or equal to 1500.0 LT/D, the required sulfur dioxide emission reduction efficiency of the sulfur recovery plant shall be calculated using the following

formula where Z is the minimum emission reduction efficiency required at all times and X is the sulfur feed rate expressed in LT/D of sulfur rounded to one decimal place:  ~~$Z = 88.78 (X^{0.00156})$~~   $Z = 88.78 (X^{0.0156})$

(F) **Greater than 1500.0 LT/D.** When the sulfur content of the acid gas stream from a new gas sweetening unit or refinery process is greater than 1500.0 LT/D, a minimum sulfur dioxide reduction efficiency of 99.5% shall be met.

(b) **Exceptions.**

(1) **Hydrogen sulfide.** The requirements of OAC 252:100-31-26(a)(1) shall not apply if hydrogen sulfide emissions do not exceed 0.3 lb/hr, two-hour average.

(2) **Sulfur dioxide.** The requirements of OAC 252:100-31-26(a)(2) shall not apply to any new petroleum or natural gas process which would emit 100 lb/hr or less of sulfur oxides expressed as sulfur dioxide, two-hour average. The requirements of paragraph (2) of subsection (a) of this Section can be met alternatively by establishing that the sulfur content of the acid gas stream from any gas sweetening plant or refinery process is 0.54 LT/D or less.

(c) **Emission monitoring for hydrogen sulfide.** All new thermal devices for petroleum and natural gas processing facilities regulated under OAC 252:100-31-26(a)(1) shall have installed, calibrated, maintained, and operated an alarm system that will signal noncombustion of the gas.