§ 63.1275 Glycol dehydration unit process vent standards.

(a) This section applies to each glycol dehydration unit subject to this subpart that must be controlled for air emissions as specified in paragraph (c)(1) of §63.1274.

(b) Except as provided in paragraph (c) of this section, an owner or operator of a glycol dehydration unit process shall comply with the requirements specified in paragraphs (b)(1) and (b)(2) of this section.

(i) For each glycol dehydration unit process vent, the owner or operator shall control air emissions by either paragraph (b)(1)(i) or (iii) of this section.

(ii) The owner or operator of a large glycol dehydration unit shall connect the process vent to a control device or a combination of control devices through a closed-vent system. The closed-vent system shall be designed and operated in accordance with the requirements of §63.1281(c). The control device(s) shall be designed and operated in accordance with the requirements of §63.1281(d).

(iii) You must limit BTEX emissions from each existing small glycol dehydration unit, as defined in §63.1271, to the limit determined in Equation 1 of this section. You must limit BTEX emissions from each new small glycol dehydration unit process vent, as defined in §63.1271, to the limit determined in Equation 2 of this section. The limits determined using Equation 1 or Equation 2 of this section, must be met in accordance with one of the alternatives specified in paragraphs (b)(1)(ii) through (d) of this section.

\[
E_{L_{BTEX}} = 3.10 \times 10^{-4} \cdot \text{Throughput} \cdot C_{L_{BTEX}} \cdot \frac{365 \text{ days}}{\text{yr}} \cdot \frac{1 \text{ Mg}}{1 \times 10^6 \text{ grams}}
\]

Equation 1
Environmental Protection Agency

§ 63.1275

Where:

EL_{BTEX} = Unit-specific BTEX emission limit, megagrams per year;

3.10 \times 10^{-4} = BTEX emission limit, grams BTEX/standard cubic meter-ppmv;

Throughput = Annual average daily natural gas throughput, standard cubic meters per day;

C_{BTEX} = Annual average BTEX concentration of the natural gas at the inlet to the glycol dehydration unit, ppmv.

\[
EL_{BTEX} = 5.44 \times 10^{-3} \times \text{Throughput} \times C_{BTEX} \times \frac{365 \text{ days}}{\text{yr}} \times \frac{1 \text{ Mg}}{1 \times 10^4 \text{ grams}}
\]

Equation 2

Where:

EL_{BTEX} = Unit-specific BTEX emission limit, megagrams per year;

5.44 \times 10^{-5} = BTEX emission limit, grams BTEX/standard cubic meter-ppmv;

Throughput = Annual average daily natural gas throughput, standard cubic meters per day;

C_{BTEX} = Annual average BTEX concentration of the natural gas at the inlet to the glycol dehydration unit, ppmv.

(A) Connect the process vent to a control device or combination of control devices through a closed-vent system. The closed vent system shall be designed and operated in accordance with the requirements of §63.1281(c). The control device(s) shall be designed and operated in accordance with the requirements of §63.1281(f).

(B) Meet the emissions limit through process modifications in accordance with the requirements specified in §63.1281(e).

(C) Meet the emission limit for each small glycol dehydration unit using a combination of process modifications and one or more control devices through the requirements specified in paragraphs (b)(1)(iii)(A) and (B) of this section.

(D) Demonstrate that the emissions limit is met through actual uncontrolled operation of the small glycol dehydration unit. Document operational parameters in accordance with the requirements specified in §63.1281(e) and emissions in accordance with the requirements specified in §63.1282(a)(3).

(2) One or more safety devices that vent directly to the atmosphere may be used on the air emission control equipment installed to comply with paragraph (b)(1) of this section.

(c) As an alternative to the requirements of paragraph (b) of this section, the owner or operator may comply with one of the following:

(1) The owner or operator shall control air emissions by connecting the process vent to a process natural gas line.

(2) The owner or operator shall demonstrate, to the Administrator's satisfaction, that the total HAP emissions to the atmosphere from the large glycol dehydration unit process vent are reduced by 95.0 percent through process modifications or a combination of process modifications and one or more control devices, in accordance with the requirements specified in §63.1281(e).

(3) Control of HAP emissions from a GCG separator (flash tank) vent is not required if the owner or operator demonstrates, to the Administrator's satisfaction, that total emissions to the atmosphere from the glycol dehydration unit process vent are reduced by one of the levels specified in paragraph (c)(3)(i) through (iv) through the installation and operation of controls as specified in paragraph (b)(1) of this section.

(i) For any large glycol dehydration unit, HAP emissions are reduced by 95.0 percent or more.

(ii) For any large glycol dehydration unit, benzene emissions are reduced to a level less than 0.90 megagrams per year.

(iii) For each existing small glycol dehydration unit, BTEX emissions are reduced to a level less than the limit calculated in Equation 1 of paragraph (b)(1)(iii) of this section.
(iv) For each new small glycol dehydration unit, BTEX emissions are reduced to a level less than the limit calculated in Equation 2 of paragraph (b)(1)(iii) of this section.

[64 FR 32648, June 17, 1999, as amended at 66 FR 34556, June 29, 2001; 77 FR 49586, Aug. 16, 2012]

§§ 63.1276–63.1280 [Reserved]

§ 63.1281 Control equipment requirements.

(a) This section applies to each closed-vent system and control device installed and operated by the owner or operator to control air emissions as required by the provisions of this subpart. Compliance with paragraphs (c) and (d) of this section will be determined by review of the records required by §63.1284, the reports required by §63.1285, by review of performance test results, and by inspections.

(b) [Reserved]

(c) Closed-vent system requirements. (1) The closed-vent system shall route all gases, vapors, and fumes emitted from the material in an emissions unit to a control device that meets the requirements specified in paragraph (d) of this section.

(2) The closed-vent system shall be designed and operated with no detectable emissions.

(3) If the closed-vent system contains one or more bypass devices that could be used to divert all or a portion of the gases, vapors, or fumes from entering the control device, the owner or operator shall meet the requirements specified in paragraphs (c)(3)(i) and (c)(3)(ii) of this section.

(i) For each bypass device, except as provided for in paragraph (c)(3)(ii) of this section, the owner or operator shall either:

(A) At the inlet to the bypass device that could divert the stream away from the control device to the atmosphere, properly install, calibrate, maintain, and operate a flow indicator that is capable of taking periodic readings and sounding an alarm when the bypass device is open such that the stream is being, or could be, diverted away from the control device to the atmosphere; or

(B) Secure the bypass device valve installed at the inlet to the bypass device in the non-diverting position using a car-seal or a lock-and-key type configuration.

(ii) Low leg drains, high point bleeders, analyzer vents, open-ended valves or lines, and safety devices are not subject to the requirements of paragraph (c)(3)(i) of this section.

(d) Control device requirements for sources except small glycol dehydration units. Owners and operators of small glycol dehydration units shall comply with the control requirements in paragraph (f) of this section.

(1) The control device used to reduce HAP emissions in accordance with the standards of this subpart shall be one of the control devices specified in paragraphs (d)(1)(i) through (iii) of this section.

(i) An enclosed combustion device (e.g., thermal vapor incinerator, catalytic vapor incinerator, boiler, or process heater) that is designed and operated in accordance with one of the following performance requirements:

(A) Reduces the mass content of either TOC or total HAP in the gases vented to the device by 95.0 percent by weight or greater, as determined in accordance with the requirements of §63.1282(d);

(B) Reduces the concentration of either TOC or total HAP in the exhaust gases at the outlet to the device to a level equal to or less than 20 parts per million by volume on a dry basis corrected to 3 percent oxygen as determined in accordance with the requirements of §63.1282(d); or

(C) Operates at a minimum temperature of 760 degrees C, provided the control device has demonstrated, under §63.1282(d), that combustion zone temperature is an indicator of destruction efficiency.

(D) If a boiler or process heater is used as the control device, then the vent stream shall be introduced into the flame zone of the boiler or process heater.

(ii) A vapor recovery device (e.g., carbon adsorption system or condenser) or other non-destructive control device that is designed and operated to reduce the mass content of either TOC or total HAP in the gases vented to the device;