

**REGULATION 8
ORGANIC COMPOUNDS
RULE 25
PUMP AND COMPRESSOR SEALS AT PETROLEUM REFINERIES,
CHEMICAL PLANTS, BULK PLANTS AND BULK TERMINALS**

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REGULATION 8
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PUMP AND COMPRESSOR SEALS AT PETROLEUM REFINERIES,
CHEMICAL PLANTS, BULK PLANTS AND BULK TERMINALS

(Adopted July 2, 1980)

8-25-100 GENERAL

8-25-101 Description: The purpose of this Rule is to limit emissions of organic compounds, including methane, from pump and compressor seals at petroleum refineries, chemical plants, bulk plants and bulk terminals.

(Amended March 17, 1982; July 20, 1983; March 4, 1992)

8-25-110 Deleted March 4, 1992

8-25-111 Deleted September 6, 1989

8-25-112 Deleted September 6, 1989

8-25-113 Exemption, Controlled Seal Systems For Pumps Except for Section 8-25-504, the provisions of this Rule shall not apply to pump seals vented to a vapor recovery or disposal system which reduces the emissions of organic compounds from the pump seals to less than 0.3 pound per day.

(Amended August 4, 1982; July 20, 1983; March 4, 1992; June 1, 1994)

8-25-114 Deleted September 6, 1989

8-25-115 Limited Exemption, Initial Boiling Point: The provisions of Sections 8-25-401, 402, 403, 405 and 503 shall not apply to pumps and compressors which handle organic liquids having an initial boiling point greater than 150°C (302°F).

(Adopted March 4, 1992)

8-25-116 Exemption, Research and Development Facilities: The provisions of this rule shall not apply to pumps and compressors which produce only non-commercial products solely for research and development purposes. (Adopted March 4, 1992)

8-25-117 Limited Exemption, Small Facilities: The provisions Section 8-25-302, 303, 304, 305 and 306 of this rule shall not apply to facilities which have less than 10 pumps.

(Adopted March 4, 1992)

8-25-118 Exemption, Controlled Seal Systems For Compressors Except for Section 8-25-504, the provisions of this Rule shall not apply to compressor seals vented to a vapor recovery or disposal system which reduces the emissions of organic compounds from the compressor seals to less than 1.7 pound per day.

(Adopted March 4, 1992; Amended June 1, 1994)

8-25-200 DEFINITIONS

8-25-201 Background: The ambient concentration of total organic compounds determined at least 1 meter (3 feet) upwind from the pump or compressor seal to be inspected and not influenced by any specific emission point as indicated by a hydrocarbon analyzer specified by Section 8-25-501.

(Amended March 17, 1982; September 6, 1989; March 4, 1992)

8-25-202 Essential Pump or Compressor: A pump or compressor which cannot be taken out of service without reducing by more than 33% the throughput of the process unit which it serves.

8-25-203 Leak Minimization: Reducing the leak to the lowest achievable level using best modern practices and without shutting down the process which the pump or compressor serves. (Amended August 4, 1982; March 4, 1992)

8-25-204 Leak Repair: Tightening, adjusting or replacing the seal of a pump or compressor which reduces leakage to the atmosphere below the applicable standard in Section 8-25-301, 302, 303, 305 or 307. (Amended August 4, 1982; March 4, 1992)

- 8-25-205 Process Unit:** A manufacturing process which is independent of other processes and is continuous when supplied with a constant feed or raw materials and sufficient storage facilities for the final product.
- 8-25-206 Petroleum Refinery:** Any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants or other products through distillation of petroleum or through redistillation, cracking, rearrangement or reforming of unfinished petroleum derivatives.
- 8-25-207 Chemical Plant:** Any facility engaged in producing organic or inorganic chemicals and/or manufacturing chemical products by chemical processes. Any facility or operation that has 28 as the first two digits in their Standard Industrial Classification Code as determined from the Standard Industrial Classification Manual. Chemical plants include, but are not limited to, facilities that manufacture: industrial inorganic and organic chemicals; plastic and synthetic resins, synthetic rubber, synthetic and other man made fibers; drugs; soap, detergents and cleaning preparations, perfumes, cosmetic and other toilet preparations; paints, varnishes, lacquers, enamels and allied products; agricultural chemicals; safflower and sunflower oil extracts; re-refining.
(Adopted July 20, 1983; Amended March 4, 1992)
- 8-25-208 Liquid Leak:** Dripping of liquid organic compounds at a rate of greater than 3 drops per minute and a concentration of organic compounds as indicated by a hydrocarbon analyzer specified by Section 8-25-501 that exceeds the applicable leak standard in Section 8-25-301, 302, or 303. Adopted September 6, 1989; March 4, 1992)
- 8-25-209 Bulk Plants and Terminals:** A distribution facility which is subject to Regulation 8, Rule 6, 33 or 39. (Adopted March 4, 1992)
- 8-25-210 Organic Compound:** Any compound of carbon, excluding methane, carbon monoxide, carbonic acid, metallic carbides or carbonates and ammonium carbonate. (Adopted March 4, 1992)
- 8-25-211 Quarter:** One of the four consecutive 3-month divisions of the calendar year beginning on January 1. (Adopted March 4, 1992)
- 8-25-212 Inspection:** The determination of the concentration of total organic compounds leaking from a pump or compressor using a portable hydrocarbon analyzer as required by Section 8-25-501. (Adopted March 4, 1992)
- 8-25-213 Leak:** The concentration of total organic compounds as indicated by a hydrocarbon analyzer specified by Section 8-25-501 measured above background, expressed as methane and measured 1 centimeter or less from the leak source. (Adopted March 4, 1992)
- 8-25-214 Total Organic Compounds:** The concentration of organic compounds as indicated by a hydrocarbon analyzer as specified by Section 8-25-501. Effective January 1, 1995, total organic compounds shall include methane. (Adopted March 4, 1992)
- 8-25-215 Turnaround:** The scheduled shutdown of a unit for maintenance and repair work. (Adopted March 4, 1992)
- 8-25-216 Reciprocating Pump:** A positive displacement pump in which a plunger or piston displaces a given volume of fluid for each stroke. (Adopted March 4, 1992)
- 8-25-217 Gear Pump:** A rotary pump in which two or more gears mesh to provide a pumping action. (Adopted March 4, 1992)
- 8-25-218 Small Facility:** A chemical plant that has less than 10 pumps. (Adopted March 4, 1992)
- 8-25-219 Large Facility:** A chemical plant that has 10 or more pumps. (Adopted March 4, 1992)
- 8-25-300 STANDARDS**
- 8-25-301 Pump and Compressor Operating Requirements:** Until January 1, 1993 for large facilities, a person shall not use any pump or compressor handling precursor organic compounds in a petroleum refinery or chemical plant if the concentration of precursor organic compounds exceeds 10,000 ppm (expressed as methane),

measured at a distance of 1 cm or less from the potential source, unless the following requirements are satisfied:

- 301.1 If the pump or compressor is not essential, that pump or compressor shall be repaired within 15 days of discovery of the leak.
- 301.2 If the spare pump or compressor also exceeds the limitation of this section, leak repairs to either pump or compressor shall be completed within 15 days of discovery of its leak and the other pump or compressor may be operated until repairs are completed.
- 301.3 Deleted September 6, 1989
- 301.4 Deleted September 6, 1989
- 301.5 If the pump or compressor has a packed seal and is essential, the leak shall be minimized within 15 days of its discovery.
- 301.6 If the pump or compressor is essential, and has been leak minimized as required by subsection 8-25-301.5 and still exceeds the limitation of this section, that pump or compressor shall be repaired at the next scheduled turnaround of the process unit.

(Amended August 4, 1982; July 20, 1983; September 6, 1989; March 4, 1992)

8-25-302 Pumps: Effective January 1, 1993, any pump that leaks in excess of the standard specified in the table below is a violation of this rule unless the leak has been discovered by the operator, minimized within 24 hours and repaired within 7 days; or if the leak has been discovered by the APCO, repaired within 24 hours.

Effective Date	Leak Standard
January 1, 1993	1000 ppm
January 1, 1997	500 ppm

(Adopted March 4, 1992)

8-25-303 Compressors: Effective January 1, 1993, any compressor that leaks in excess of the standard specified in the table below is a violation of this rule unless the leak has been discovered by the operator, minimized within 24 hours and repaired within 7 days; or if the leak has been discovered by the APCO, repaired within 24 hours.

Effective Date	Leak Standard
January 1, 1993	1000 ppm
January 1, 1997	500 ppm

(Adopted March 4, 1992)

8-25-304 Non-repairable Pumps and Compressors: Effective January 1, 1993, any pump or compressor which cannot be repaired as required by Section 8-25-302 or 303 must comply with the following conditions:

304.1 The pump or compressor must be repaired or replaced within 5 years or at the next scheduled turnaround, whichever is first.

304.2 For pumps and compressors subject to this rule including those pumps and compressors exempted under Section 8-25-113, the number of pumps and compressors awaiting repair shall not exceed the values expressed in the table below. Spared pumps and compressors must be repaired and cannot be included in the percent awaiting repair.

Effective Date	Percent
January 1, 1993	10%
January 1, 1997	1%

(Adopted March 4, 1992)

8-25-305 New or Replaced Pumps and Compressors: Effective January 1, 1995, any repaired or replaced pump or compressor as required by Subsection 8-25-304.1 or any new pump or compressor, except reciprocating or gear pumps, shall not leak in excess of 500 ppm for four consecutive quarters. (Adopted March 4, 1992)

8-25-306 Repeat Leakers: Effective January 1, 1993, any pump or compressor found to be leaking 2 times in a year by the APCO in excess of the standard shall comply with the requirements of Sections 8-25-304 and 305. (Adopted March 4, 1992)

8-25-307 Liquid Leak: Effective January 1, 1993, any pump or compressor having a liquid leak as defined in Section 8-25-214 is a violation of this rule unless the leak has been discovered by the operator, minimized within 24 hours and repaired within 7 days.

(Adopted March 4, 1992)

8-25-400 ADMINISTRATIVE REQUIREMENTS

8-25-401 Measurement Schedule: Any person subject to this Rule shall comply with the following inspection requirements:

401.1 Any pump or compressor subject to this Rule which exceeds the limitations of Section 8-25-301, 302, 303, 305, or 307 shall be measured for leaks within 7 days after leak repairs.

401.2 Pumps and compressors subject to this Rule shall be measured for leaks at least once a quarter by the person subject to this Rule.

(Amended August 4, 1982; July 20, 1983; September 6, 1989; March 4, 1992)

8-25-402 Inspection Plan: Any pump or compressor with a leak in excess of the applicable limitation in Section 8-25-301, 302, 303, 305 or 307 which has been detected by the operator and is awaiting repair shall be identified in a manner which is readily observable by the APCO.

(Adopted July 20, 1983; Amended September 6, 1989; March 4, 1992)

8-25-403 Visual Inspection Schedule: All pumps and compressors handling organic compounds shall be visually inspected daily for leaks. If a leak is observed, the concentration of organic compounds shall be determined.

(Amended August 4, 1982; Renumbered July 20, 1983; Amended September 6, 1989)

8-25-404 Deleted March 4, 1992

8-25-405 Pump and Compressor Identification: All pumps or compressors shall be identified with a unique permanent identification code approved by the APCO. This identification code shall be used to refer to the pump or compressor location, and corresponding records relating to the pump or compressor or its successors.

(Amended 8/4/82; Amended and Renumbered 7/20/83; Amended 3/4/92)

8-25-406 Leaking Pumps and Compressors: Any pump or compressor found to be leaking in excess of the applicable standard of Section 8-25-301, 302, 303, or 307 shall be tagged with a brightly colored weatherproof tag indicating the date the leak was detected.

(Adopted March 4, 1992)

8-25-500 MONITORING AND RECORDS

8-25-501 Portable Hydrocarbon Detector: Any instrument used for the measurement of organic compounds shall be a combustible gas indicator that has been approved by the APCO, and shall meet the specifications and performance criteria of, and be calibrated in accordance with, EPA Reference Method 21 (40 CFR 60, Appendix A).

(Amended August 4, 1982; September 6, 1989; March 4, 1992)

8-25-502 Deleted March 4, 1992

8-25-503 Records: Any person subject to the requirements of this rule shall maintain records that provide the following information:

503.1 The pump or compressor identification code, type and location.

503.2 The date of all inspections and reinspections and the corresponding leak concentration measured as specified by Section 8-25-400.

503.3 Records shall be maintained for at least 5 years and shall be made available upon request.

503.4 Monthly records of all non-repairable pumps and compressors subject to the provisions of Section 8-25-304 shall be maintained and contain the identification code, equipment type, location, last unit turnaround date, leak concentration monthly measurement and date, and total number of all non-repairable pumps and compressors awaiting repair.

(Adopted March 4, 1992)

8-25-504 Burden of Proof: The burden of proof of eligibility for exemption from this rule is on the operator.

(Adopted June 1, 1994)

8-25-600 MANUAL OF PROCEDURES

- 8-25-601 Analysis of Samples:** Samples of organic compounds as defined in Section 8-25-114 shall be analyzed for Initial Boiling Point as prescribed in ASTM D 1078-78.
(Adopted March 17, 1982; March 4, 1992)
- 8-25-602 Inspection Procedure:** Inspection of pumps and compressors shall be conducted as prescribed by EPA Reference Method 21 (40 CFR 60, Appendix A).
(Adopted September 6, 1989; March 4, 1992)
- 8-25-603 Determination of Control Efficiency:** The control efficiency as specified by Section 8-25-113 shall be determined by any of the following methods: 1) BAAQMD Manual of Procedures, Volume IV, ST-7, 2) EPA Method 25 or 25A. A source shall be considered in violation if the VOC emissions measured by any of the referenced test methods exceed the standards of this rule.
(Adopted March 4, 1992; Amended June 1, 1994)