

R307. Environmental Quality, Air Quality.

R307-327. Ozone Nonattainment and Maintenance Areas: Petroleum Liquid Storage.

R307-327-1. Purpose.

The purpose of R307-327 is to establish Reasonably Available Control Technology (RACT), as required by section 182(2)(A) of the Clean Air Act, for petroleum refineries and petroleum liquid storage facilities that are located in any ozone nonattainment or maintenance area. The rule is based on federal control technique guidance documents.

R307-327-2. Applicability.

R307-327 applies to the owner or operator of any petroleum refinery or petroleum liquid storage facility located in any ozone nonattainment or maintenance area.

R307-327-3. Definitions.

The following additional definitions apply to R307-327:

"Average Monthly Storage Temperature" means the average daily storage temperature measured over a period of one month.

"Waxy, Heavy Pour Crude Oil" means a crude oil with a pour point of 50 degrees F or higher as determined by the American Society for Testing and Materials Standard D97-66, "Test for pourpoint of petroleum oils."

R307-327-4. General Requirements.

(1) Any existing stationary storage tank, reservoir or other container with a capacity greater than 40,000 gallons (150,000 liters) that is used to store volatile petroleum liquids with a true vapor pressure greater than 10.5 kilo pascals (kPa) (1.52 psia) at storage temperature shall be fitted with control equipment that will minimize vapor loss to the atmosphere. Storage tanks, except those erected before January 1, 1979, which are equipped with external floating roofs, shall be fitted with an internal floating roof that shall rest on the surface of the liquid contents and shall be equipped with a closure seal or seals to close the space between the roof edge and the tank wall, or alternative equivalent controls, provided the design and effectiveness of such equipment is documented and submitted to and approved by the executive secretary. The owner or operator shall maintain a record of the type and maximum true vapor pressure of stored liquid.

(2) The owner or operator of a petroleum liquid storage tank not subject to (1) above, but containing a petroleum liquid with a true vapor pressure greater than 7.0 kPa (1.0 psia), shall maintain records of the average monthly storage temperature, the type of liquid, throughput quantities, and the maximum true vapor pressure.

R307-327-5. Installation and Maintenance.

(1) The owner or operator shall ensure that all control equipment on storage vessels is properly installed and maintained.

(a) There shall be no visible holes, tears or other openings in any seal or seal fabric and all openings, except stub drains, shall be equipped with covers, lids, or seals.

(b) All openings in floating roof tanks, except for automatic bleeder vents, rim space vents, and leg sleeves, shall provide a projection below the liquid surface.

(c) The openings shall be equipped with a cover, seal, or lid.

(d) The cover, seal, or lid is to be in a closed position at all times except when the device is in actual use.

(e) Automatic bleeder vents shall be closed at all times except when the roof is floated off or landed on the roof leg supports. Rim vents shall be set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting.

(f) Any emergency roof drain shall be provided with a slotted membrane fabric cover or equivalent cover that covers at least 90 percent of the area of the opening.

(2) The owner or operator shall conduct routine inspections from the top of the tank for external floating roofs or through roof hatches for internal floating roofs at six month or shorter intervals to insure there are no holes, tears, or other openings in the seal or seal fabric.

(a) The cover must be uniformly floating on or above the liquid and there must be no visible defects in the surface of the cover or petroleum liquid accumulated on the cover.

(b) The seal(s) must be intact and uniformly in place around the circumference of the cover between the cover and tank wall.

(3) A close visible inspection of the primary seal of an external floating roof is to be conducted at least once per year from the roof top unless such inspection requires detaching the secondary seal, which would result in damage to the seal system.

(4) Whenever a tank is emptied and degassed for maintenance, an emergency, or any other similar purpose, a close visible inspection of the cover and seals shall be made.

(5) The executive secretary must be notified 7 days prior to the refilling of a tank that has been emptied, degassed for maintenance, an emergency, or any other similar purpose. Any non-compliance with this rule must be corrected before the tank is refilled.

R307-327-6. Retrofits for Floating Roof Tanks.

(1) Except where specifically exempted in (3) below, all existing external floating roof tanks with capacities greater than 950 barrels (40,000 gals) shall be retrofitted with a continuous secondary seal extending from the floating roof to the tank wall (a rim-mounted secondary seal) if:

(a) The tank is a welded tank, the true vapor pressure of the contained liquid is 27.6 kPa (4.0 psia) or greater and the primary seal is one of the following:

(i) A metallic type shoe seal, a liquid-mounted foam seal, a liquid-mounted liquid-filled seal, or

(ii) Any other primary seals that can be demonstrated equivalent to the above primary seals.

(b) The tank is a riveted tank, the true vapor pressure of the contained liquid is 10.5 kPa (1.5 psia) or greater, and the primary seal is as described in (a) above.

(c) The tank is a welded or riveted tank, the true vapor pressure of the contained liquid is 10.5 kPa (1.5 psia) or

greater and the primary seal is vapor-mounted. When such primary seal closure device can be demonstrated equivalent to the primary seals described in (a) above, these processes apply.

(2) The owner or operator of a storage tank subject to this rule shall ensure that all the seal closure devices meet the following requirements:

(a) There shall be no visible holes, tears, or other openings in the seals or seal fabric.

(b) The seals must be intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall.

(c) For vapor mounted primary seals, the accumulated area of gaps between the secondary seal and the tank wall shall not exceed 21.2 cm² per meter of tank diameter (1.0 in² per ft. of tank diameter) and the width of any gap shall not exceed 1.27 cm (1/2 in.). The owner or operator shall measure the secondary seal gap annually and make a record of the measurement.

(3) The following are specifically exempted from the requirements of (1) above:

(a) External floating roof tanks having capacities less than 10,000 barrels (420,000 gals) used to store produced crude oil and condensate prior to custody transfer.

(b) A metallic type shoe seal in a welded tank that has a secondary seal from the top of the shoe seal to the tank wall (a shoe mounted secondary seal).

(c) External floating roof tanks storing waxy, heavy pour crudes.

(d) External floating roof tanks with a closure seal device or other devices installed that will control volatile organic compounds (VOC) emissions with an effectiveness equal to or greater than the seals required in (1) above. It shall be the responsibility of the owner or operator of the source to demonstrate the effectiveness of the alternative seals or devices to the executive secretary. No exemption under (3) shall be granted until the alternative seals or devices are approved by the executive secretary.

R307-327-7. Alternate Methods of Control.

(1) Any person may apply to the executive secretary for approval of an alternate test method, an alternate method of control, an alternate compliance period, an alternate emission limit, or an alternate monitoring schedule. The application must include a demonstration that the proposed alternate produces an equal or greater air quality benefit than that required by R307-327, or that the alternate test method is equivalent to that required by these rules. The executive secretary shall obtain concurrence from EPA when approving an alternate test method, an alternate method of control, an alternate compliance period, an alternate emission limit, or an alternate monitoring schedule.

(2) Manufacturer's operational specifications, records, and testings of any control system shall use the applicable EPA Reference Methods of 40 CFR Part 60, the most recent EPA test methods, or EPA-approved state methods, to determine the efficiency of the control device. In addition, the owner or operator must meet the applicable requirements of record keeping for any control device. A record of all tests, monitoring, and inspections required by R307-327 shall be

maintained by the owner or operator for a minimum of 2 years and shall be made available to the executive secretary or the executive secretary's representative upon request. Any malfunctioning control device shall be repaired within 15 calendar days after it is found by the owner or operator to be malfunctioning, unless otherwise approved by the executive secretary.

(3) For purposes of determining compliance with emission limits, VOCs and nitrogen oxides will be measured by the test methods identified in federal regulation or approved by the executive secretary. Where such a method also inadvertently measures compounds with negligible photochemical reactivity, an owner or operator may exclude these negligibly reactive compounds when determining compliance with an emissions standard.

R307-327-8. Compliance Schedule.

All sources within any newly designated nonattainment area for ozone shall be in compliance with this rule within 180 days of the effective date of designation to nonattainment.

KEY: air pollution, petroleum, gasoline, ozone

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