

**Section 30 - Petroleum Liquid Storage in  
External Floating Roof Tanks.**

11/29/94

a. Applicability.

1. This Section applies to any petroleum liquid storage tank that is equipped with an external floating roof and that has a capacity greater than 150,000 liters (L) (40,000 gallons [gal]).
2. This Section does not apply to any petroleum liquid storage tank that:
  - i. Is used to store waxy, heavy-pour crude oil.
  - ii. Has a capacity less than 1,600,000 L (420,000 gal) and is used to store produced crude oil and condensate prior to lease custody transfer.
  - iii. Contains a petroleum liquid with a maximum true vapor pressure less than 10.5 kiloPascals (kPa) (1.5 pounds per square inch atmospheric [psia]) provided that records are kept consistent with paragraph (e)(2) of this Section.
  - iv. Contains a petroleum liquid with a maximum true vapor pressure less than 27.6 kPa (4.0 psia) that:
    - A. Is of welded construction.
    - B. Presently possesses a metallic-type shoe seal, a liquid-mounted foam seal, a liquid-mounted liquid-filled type seal, or other closure device of demonstrated equivalence approved by the Administrator of the U.S. EPA as part of a State Implementation Plan (SIP) or Federal Implementation Plan (FIP) revision.
  - v. Is of welded construction, equipped with a metallic-type shoe primary seal and has a secondary seal from the top of the shoe seal to the tank wall (shoe-mounted secondary seal).

- b. Definitions. As used in this Section, all terms not defined herein shall have the meaning given them in the November 15, 1990 Clean Air Act Amendments, or in Section 2 of this regulation.

"Waxy, heavy-pour crude oil" means a crude oil with a pour point of 10°C (50°F) or

higher as determined by the American Society for Testing and Materials Standard D97-66, "Test for Pour Point of Petroleum Oils".

- c. Standards. No owner of a petroleum liquid storage vessel subject to this Section shall store a petroleum liquid in that tank unless:
1. The tank has been fitted with one of the following:
    - i. A continuous secondary seal extending from the floating roof to the tank wall (rim-mounted secondary seal).
    - ii. A closure or other device that controls VOC emissions with an effectiveness equal to or greater than a seal required under paragraph (c)(1)(i) of this Section and is approved by the Administrator of the U.S. EPA as part of a SIP or FIP revision.
  2. All seal closure devices meet the following requirements:
    - i. There are no visible holes, tears, or other openings in the seal(s) or seal fabric.
    - ii. The seal(s) are intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall.
    - iii. For vapor-mounted primary seals, the accumulated area of gaps exceeding 0.32 centimeter (cm) (0.125 inch [in.]) in width between the secondary seal and the tank wall shall not exceed 21.2 square centimeters per meter (cm<sup>2</sup>/m) (1.0 square inch per foot [in.<sup>2</sup>/ft]) of tank diameter, as determined by the method in paragraph (f) of this Section.
  3. All openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves, are equipped with:
    - i. Covers, seals, or lids in the closed position except when the openings are in actual use.
    - ii. Projections into the tank that remain below the liquid surface at all times.

4. Automatic bleeder vents are closed at all times except when the roof is being floated off or being landed on the roof leg supports.
5. Rim vents are set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting.
6. Emergency roof drains are provided with slotted membrane fabric covers or equivalent covers that cover at least 90 percent of the area of the opening.

d. Inspections.

The owner or operator of a petroleum liquid storage tank with an external floating roof subject to this Section shall:

1. Perform routine inspections semiannually in order to ensure compliance with paragraph (c) of this Section (the inspections shall include a visual inspection of the secondary seal gap).
2. Measure the secondary seal gap annually in accordance with paragraph (f) of this Section when the floating roof is equipped with a vapor-mounted primary seal.

e. Recordkeeping.

1. The owner or operator of any petroleum liquid storage tank with an external floating roof subject to this Section shall maintain the following records in a readily accessible location for at least 5 years and shall make copies of the records available to the Department upon verbal or written request:
  - i. Records of the types of volatile petroleum liquids stored.
  - ii. Records of the maximum true vapor pressure of the liquid as stored.
  - iii. Records of the results of the inspections performed in accordance with paragraph (d) of this Section.
2. The owner or operator of a petroleum liquid storage vessel with an external floating roof exempted from this Section by paragraph (a)(2)(iii), but containing a petroleum liquid with a true vapor pressure greater than 7.0 kPa (1.0 psia), shall maintain the following records in a readily accessible location for at least 5 years and shall make copies of the records available to the Department upon verbal or written request:

- i. Records of the average monthly storage temperature.
    - ii. Records of the type of liquid stored.
    - iii. Records of the maximum true vapor pressure for all petroleum liquids with a true vapor pressure greater than 7.0 kPa (1.0 psia).
  3. The Department may, upon written notice, require more frequent inspections or modify the monitoring and recordkeeping requirements, when necessary to accomplish the purposes of this Section.
- f. Compliance provisions. Compliance with paragraph (c)(2)(iii) of this Section shall be determined by:
  1. Physically measuring the length and width of all gaps around the entire circumference of the secondary seal in each place where a 0.32 cm (0.125 in.) uniform diameter probe passes freely (without forcing or binding against the seal) between the seal and tank wall.
  2. Summing the area of the individual gaps.
- g. Reporting. The owner or operator of any facility containing sources subject to this Section shall comply with the requirements in Section 5 of this regulation.