

**2.8a      Storage Vessels for Petroleum Liquids (Constructed after May 18, 1978)**

**2.8.1a      Applicability and Designation of Affected Facility**

- (a) Except as provided in paragraph (b) of this section, the affected facility to which the provisions of this source category apply is each storage vessel for petroleum liquids subject to Section 1.1 of this text and for which construction is commenced after May 18, 1978.
- (b) Each petroleum liquid storage vessel with a capacity of less than 1,589,873 liters (420,000 gallons) used for petroleum or condensate stored, processed or treated prior to custody transfer, is exempt from the requirements of this source category unless otherwise stated by the Director.

**2.8.2a      Testing and Procedures**

- (a) Except as provided in §1.2(b), compliance with the standards shall be determined as follows or in accordance with an equivalent procedure, as provided in §60.114a:
  - (1) The owner or operator of each storage vessel to which this source category applies which has an external floating roof shall meet the following requirements:
    - (i) Determine the gap areas and maximum gap widths between the primary seal and the tank wall, and the secondary seal and the tank wall according to the following frequency and furnish the Director with a written report of the results within 60 days of performance of gap measurements:
      - (A) For primary seals, gap measurements shall be performed within 60 days of the initial fill with petroleum liquid and at least once every five years thereafter. All primary seal inspections or gap measurements which require the removal or dislodging of the secondary seal shall be accomplished as rapidly as possible and the secondary seal shall be replaced as soon as possible.
      - (B) For secondary seals, gap measurements shall be performed within 60 days of the initial fill with petroleum liquid and at least once every year thereafter.
      - (C) If any storage vessel is out of service for a period of one year or more, subsequent refilling with petroleum liquid shall be considered initial fill for the purposes of paragraphs (b)(1)(i)(A) and (b)(1)(i)(B) of this section.
      - (D) Keep records of each gap measurement at the plant for a period of at least 2 years following the date of measurement. Each record shall identify the vessel on which the measurement was performed and shall contain the date of the seal gap measurement, the raw data obtained in the measurement process required by paragraph (a)(1)(ii) of this section and the calculation required by paragraph (a)(1)(iii) of this section.
      - (E) If either the seal gap calculated in accord with paragraph (a)(1)(iii) of this section or the measured maximum seal gap exceeds the limitations specified by §60.112a<sup>1</sup>, a report shall be furnished to the Director within 60 days of the date of measurements. The report shall identify the vessel and list each reason why the vessel did not meet the specifications of §60.112a<sup>1</sup>. The report shall also describe the actions necessary to bring the storage vessel into compliance with the specifications of §60.112a<sup>1</sup>.
    - (ii) Determine gap widths in the primary and secondary seals individually by the following procedures:
      - (A) Measure seal gaps, if any, at one or more floating roof levels when

the roof is floating off the roof leg supports.

- (B) Measure seal gaps around the entire circumference of the tank in each place where a 1/8" diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the tank wall and measure the circumferential distance of each such location.
- (C) The total surface area of each gap described in paragraph (b)(1)(ii)(B) of this section shall be determined by using probes of various widths to accurately measure the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.
- (iii) Add the gap surface area of each gap location for the primary seal and the secondary seal individually. Divide the sum for each seal by the nominal diameter of the tank and compare each ratio to the appropriate ratio in the applicable standard.
- (iv) Provide the Director 30 days prior notice of the gap measurement to afford the Director the opportunity to have an observer present.
- (2) The owner or operator of each storage vessel to which this source category applies which has a vapor recovery and return or disposal system shall provide the following information to the Director on or before the date on which construction of the storage vessel commences.
- (i) Emission data, if available, for a similar vapor recovery and return or disposal system used on the same type of storage vessel, which can be used to determine the efficiency of the system. A complete description of the emission measurement method used must be included.
- (ii) The manufacturer's design specifications and estimated emission reduction capability of the system.
- (iii) The operation and maintenance plan for the system.
- (iv) Any other information which will be useful to the Director in evaluating the effectiveness of the system in reducing VOC emissions.

2.8.3a Monitoring of Operations

- (a) Except as provided in paragraph (d) of this section, the owner or operator subject to this source category shall maintain a record of the petroleum liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during the respective storage period.
- (b) Available data on the typical Reid vapor pressure and the maximum expected storage temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517, unless the Director specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).
- (c) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa (2.0 psia) or whose physical properties preclude determination by the recommended method is to be determined from available data and recorded if the estimated true vapor pressure is greater than 6.9 kPa (1.0 psia).
- (d) The following are exempt from the requirements of this section:
- (1) Each owner or operator of each storage vessel storing a petroleum liquid with a Reid vapor pressure of less than 6.9 kPa (1.0 psia) provided the maximum true vapor pressure does not exceed 6.9 kPa (1.0 psia).
- (2) Each owner or operator of each storage vessel equipped with a vapor recovery and

return or disposal system in accordance with the requirements of the 60.112a(a)(3) and (b).

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<sup>\*</sup>Code of Federal Regulations, Title 40, Part 60.