

VENTURA COUNTY AIR POLLUTION CONTROL DISTRICT

**RULE 74.27 - GASOLINE AND ROC LIQUID STORAGE TANK DEGASSING OPERATIONS**

*(Adopted 11/8/94)*

A. Applicability

Effective 3/31/95, this rule shall apply to:

1. Any gasoline storage tank that has a storage capacity greater than 5,000 gallons, and
2. Any storage tank that has a storage capacity greater than 5,000 gallons that stores a reactive organic compound (ROC) liquid, excluding petroleum liquids, having a true vapor pressure equal to or greater than that determined by:

$TVP_{68^{\circ}F} \text{ (psia)} = 2.3 + 23,000/V$ , where V is the volume of the tank in gallons.

B. Requirements

1. No person shall conduct or allow the degassing of any storage tank subject to this rule, unless the emissions are controlled by:
  - a. Liquid displacement into a vapor recovery system, flare, or fuel gas system, or
  - b. An air pollution control device that has a destruction and removal efficiency of at least 95 percent until the vapor concentration in the tank is less than 10,000 ppmv, measured as methane.

Fugitive emissions that do not qualify as a leak shall be allowed around tank openings such as a manhole during a tank degassing operation performed in compliance with this rule.

2. Any receiving vessel used during a tank cleaning operation shall either be bottom loaded or shall be loaded by submerged fill pipe. Any vapors emitted from such vessels during a tank degassing operation shall be controlled pursuant to Subsection B.1.b.
3. Except during an emergency, the Air Pollution Control Officer (APCO) shall be notified verbally or in writing at least 48 hours prior to starting any tank degassing operation. Such notification shall include an identification of the tank(s) to be degassed and the air pollution control method to be employed. If a tank degassing operation was required due to an emergency, the APCO shall be

notified as soon as reasonably possible but no later than four hours after completion of the operation.

C. Exemptions

1. The provisions of Section B of this rule shall not apply to in-service tanks undergoing maintenance, including but not limited to repair of regulators, fittings, deck components, hatches, valves, flame arrestors, or compressors, provided that (1) the operation will take no longer than 24 hours to complete and (2) the maintenance operation does not require the complete draining of product from the tank. 5.]

D. Recordkeeping:

1. Any person using an air pollution control device to comply with this rule shall record:
  - a. The vapor concentration in parts per million (ppm) and gas flow rate in cubic feet per minute entering and exiting the device (except for a flare) upon beginning use of the device and every thirty minutes thereafter. The instrument used to measure vapor concentration shall meet the specifications of EPA Method 21, and
  - b. The tank's vapor concentrations determined in accordance with Subsection E.3, and
  - c. If a refrigerated condenser is used, the condenser temperature in degrees fahrenheit upon beginning use of the condenser and every thirty minutes thereafter.
2. All records shall be maintained for at least two years from the date of each entry and shall be submitted to the APCO upon request.

E. Test Methods

1. The true vapor pressure shall be determined by quantifying the amount of each organic compound using gas chromatographic analysis (ASTM E260-91) or by using product formulation data, and by summing the partial pressures of each compound at 20°C. For the purpose of this calculation, Raoult's Law applies to a blend. The vapor pressure of each single component compound may be determined from ASTM Method D2879-86 or may be obtained from a published source approved by the APCO, such as the sources referenced in 40 CFR 52.741.
2. The methods used for determining the vapor destruction or removal efficiency of an air pollution control device shall be:

- a. EPA Method 2A for measuring the vapor flow through pipes.
  - b. EPA Method 25A for measuring the vapor concentration entering and exiting the device.
3. Compliance with Subsection B.1.b, shall require that the tank vapor concentration remain at or below 10,000 ppmv for at least one hour as demonstrated by measuring the vapor concentration at least four times at 15-minute intervals. The monitoring instrument used to measure the vapor concentration shall meet the specifications of EPA Method 21. The probe inlet of the monitoring instrument shall be located one foot above the bottom of the tank or one foot above the surface of any sludge material on the bottom of the tank. For upright, cylindrical aboveground tanks, the probe inlet shall be (1) located at least 2 feet away from the inner surface of the tank wall and (2) if samples are withdrawn from a manhole, inserted in an opening of no more than one inch diameter on a flexible or inflexible material that is impermeable to ROC vapors and secured over the manhole.

F. Definitions:

1. "Aboveground tank": Any tank, including pipes and ancillary connections used for the storage of organic liquids, that is more than 50 percent above the surface of the ground.
2. "Air pollution control device": A device such as a thermal or catalytic incinerator, a carbon adsorber, a condenser, or any such combination that functions by destroying or recovering a stream of ROC vapors such that only a small fraction of the ROC mass that enters the device is emitted to the atmosphere. A flare shall be considered to meet a destruction and removal efficiency of 95 percent. Air pollution control device does not include a vapor recovery system.
3. "Bottom loaded": A receiving vessel is bottom loaded when the liquid transfer and vapor return lines have separate, independent, and dedicated attachments on the truck or tank, when the inlet is flush with the tank bottom, and when the truck and trailer hatches remain closed during liquid transfer.
4. "Degassing": The removal of organic vapors from a stationary storage tank for the purpose of removing the tank, cleaning the tank's interior, or making repairs to the tank that would require the complete removal of product from the tank.
5. "Emergency": An unplanned and unexpected event that, if not immediately attended to, presents a safety or public health hazard or an unreasonable financial burden.

6. "Gasoline": Any petroleum distillate having a Reid vapor pressure of 4.0 pounds per square inch or greater, which is sold or intended for sale for use in motor vehicles or engines and is commonly or commercially known or sold as gasoline.
7. "Leak":
  - a. A leak exists when a reading in excess of 10,000 ppm, as methane, above background, is obtained using an appropriate portable hydrocarbon analyzer and when sampling is performed according to the procedures specified in EPA Method 21 - Appendix A 40 CFR Part 60, or
  - b. A leak exists when the dripping of liquid containing reactive organic compounds at a rate of more than three (3) drops per minute is observed.

A "leak" is not a gaseous emission from pressure relief devices on tanks when the process pressure exceeds the limit specified for the device.

8. "Liquid Displacement": The removal of ROC vapors from within a storage tank drained of liquid product by introducing into the tank a liquid having an ROC modified Reid vapor pressure (mRVP) of less than 0.5 psia until at least 90 percent of the tank's vapor volume has been displaced, with the mRVP determined using American Standard for Testing Materials (ASTM) D 323-82 conducted at 68°F.
9. "Modified Reid Vapor Pressure" (mRVP): the Reid vapor pressure measured at 70°F using ASTM D 323-82.
10. "Reactive organic compound (ROC) liquid": Any reactive organic compound as defined in Rule 2, Definitions, of these rules.
11. "Receiving vessel": A vessel used to receive liquids or sludge material removed from an ROC liquid storage tank during a tank degassing operation.
12. "Sludge material": Solid or semisolid material such as basic sediment that deposits on the bottom of storage tanks subject to this rule. Sludge material is not considered the liquid product in tanks that is regularly transferred, used, or sold as a part of normal business operations.
13. "Submerged fill pipe": Any fill pipe or discharge nozzle which meets any one of the following conditions:
  - a. The discharge opening is entirely submerged when the liquid level is six inches above the bottom of the container.

- b. When applied to a container that is loaded from the side, the discharge opening is entirely submerged when the liquid level is 18 inches above the bottom of the container.
  - c. When applied to a container that is bottom loaded, the discharge opening is entirely submerged when the liquid level is six inches above the bottom of the container.
14. "Tank": A container, constructed primarily of nonearthen materials, used for the purpose of storing or holding gasoline or ROC liquids.
  15. "Tank cleaning": The removal of sludge material from a tank either to restore the tank to its original intended volume or to abandon or remove the tank from service.
  16. "Vapor": All hydrocarbon compounds that are not in either a liquid or solid state.
  17. "Vapor destruction and removal efficiency": The percentage by weight of ROC that enters an air pollution control device during a tank degassing operation that is not emitted to the atmosphere.
  18. "Vapor recovery system": Any reactive organic compound vapor control system which is designed to prevent the release or venting of reactive organic compound gases to the atmosphere under normal operating conditions. For the purpose of this definition, a vapor recovery system meets the specification of Subsection C.3 in Rule 71.2 or is installed pursuant to Rule 71.1.