

Rule 227 Vapor Recovery Requirements At Bulk Petroleum Loading Facilities

RULE 227 CONTENTS

1. PURPOSE
2. APPLICABILITY
3. EXEMPTIONS
4. DEFINITIONS
5. REQUIREMENTS
6. PROHIBITION OF USE OF DEFECTIVE GASOLINE STORAGE TANK AND PHASE I EQUIPMENT
7. RECORDKEEPING
8. ADMINISTRATIVE REQUIREMENTS AND COMPLIANCE SCHEDULE

RULE 227

- 1 **PURPOSE:** The purpose of this Rule is to reduce the emissions of gasoline vapors from gasoline transfer operations at bulk gasoline facilities.
- 2 **APPLICABILITY:** This Rule shall apply to all new, modified, and existing bulk gasoline facilities.
- 3 **EXEMPTIONS:** The owner or operator of any bulk gasoline facility subject to the provisions of this Rule may send a written request to the Air Pollution Control Officer (APCO) to consider information (based on substantial cost documentation and a cost-effectiveness analysis over the expected life of the required equipment modifications), which would demonstrate that complying with the requirements of this Rule at an affected facility will exceed a cost of \$2,000 per ton of VOC removed. The APCO may determine that a facility shall be exempted from complying with such requirements until such time that the APCO receives new information to indicate that the above cost-effectiveness can be achieved at the applicable facility. In such case, the exemption shall cease thirty (30) days after written notice is provided to the facility owner or operator by the APCO. The APCO shall publish a notice of any intention to issue a determination of exemption in this regard and accept and consider written comments on such action for thirty (30) days prior to the final decision.

4 DEFINITIONS

- 4.1 **Bottom Loaded:** A gasoline delivery vehicle shall be considered to be bottom loaded when the fuel transfer and vapor return lines have separate, independent, and dedicated attachments on the delivery vehicle when the inlet is flush with the bottom of the storage device, and when the delivery vehicle hatch remains closed during gasoline transfer.
- 4.2 **Bulk Gasoline Facility:** A distributing facility that receives gasoline by tank truck, stores it in stationary tanks, and loads it into tank trucks for delivery to retail service stations or other distribution points.
- 4.3 **CARB Certified Vapor Recovery System:** A vapor recovery system which has been certified by the California Air Resources Board (CARB) pursuant to Section 41954 of the California Health and Safety Code.
- 4.4 **Gasoline:** Any organic liquid (including petroleum distillates and methanol) having a Reid vapor pressure of four (4) pounds or greater and used as a motor vehicle fuel or any fuel which is commonly or commercially known or sold as gasoline.
- 4.5 **Gasoline Delivery Vehicle:** Any motor vehicle used for the transportation and unloading of gasoline.
- 4.6 **Gasoline Storage Tank:** Any storage container, reservoir, or tank used for

the storage of gasoline.

- 4.7 Gasoline Throughput:** The total annual volume of gasoline transferred from the bulk gasoline facility to gasoline delivery vehicles for off-site distribution.
- 4.8 Gasoline Vapors:** Any and all organic compound vapors displaced from gasoline storage tanks or gasoline delivery vehicles during the transfer of gasoline. Any liquid gasoline entrained in the displaced vapors shall be included when measuring the total mass of organic vapors emitted during gasoline transfer operations.
- 4.9 Leak Free:** A liquid leak of less than three (3) drops per minute excluding losses which occur upon disconnecting transfer fittings, provided such disconnect losses do not exceed 10 milliliters (0.34 fluid ounces) per disconnect, averaged over three disconnects.
- 4.10 Phase I Vapor Recovery System:** A gasoline vapor recovery system which recovers vapors during the transfer of gasoline from delivery vehicles into stationary storage tanks.
- 4.11 Reid Vapor Pressure:** The absolute vapor pressure of volatile crude oil and volatile non-viscous petroleum liquids, except liquefied petroleum gases, as determined by ASTM-323-58 (American Society for Testing and Materials).
- 4.12 Retail Service Station:** Any motor vehicle fueling station subject to the payment of California sales tax on gasoline sales.
- 4.13 Submerged Fill Pipe:** Any discharge pipe or nozzle which meets either of the following conditions:
- Where the tank is filled from the top, the end of the discharge pipe or nozzle must be totally submerged when the liquid level is 15 cm (6 inches) from the bottom of the tank. Where the tank is filled from the side, the discharge pipe or nozzle must be totally submerged when the liquid level is 46 cm (18 inches) from the bottom of the tank (also known as "Offset Fill Pipe").
- 4.14 Vapor Tight:** A leak of less than 20% of the lower explosive limit on a combustible gas detector measured at a distance of 2.5 cm (1 inch) from the source or no visible evidence of air entrainment in the sight glasses of liquid delivery hoses.

5 REQUIREMENTS

- 5.1 Phase I:** No owner or operator of a bulk gasoline facility shall permit the

transfer of gasoline from gasoline delivery vehicles into gasoline storage tanks at bulk gasoline facilities unless a CARB-certified Phase I vapor recovery system is used.

- 5.2 Gasoline Transfer:** No owner or operator of a bulk gasoline facility shall permit the transfer of gasoline from a gasoline storage tank to a gasoline delivery vehicle unless the vehicle is Bottom Loaded or a Submerged Fill Pipe is used. Gasoline transfer operations utilizing CARB-certified vapor recovery equipment shall be exempt from this requirement.
- 5.3 Equipment Maintenance:** All equipment associated with delivery and loading operations shall be maintained to be leak free, vapor tight and in good working order.
- 5.4 Operating Practices:** Gasoline shall not be spilled, discarded in sewers, stored in open containers, or handled in any other manner that would result in evaporation to the atmosphere.
- 6 PROHIBITION OF USE OF DEFECTIVE GASOLINE STORAGE TANK OR PHASE I EQUIPMENT:** Whenever the APCO or his designee determines that a gasoline storage tank, Phase I vapor recovery system, or any component thereof contains a defect that substantially impairs the effectiveness of the vapor recovery equipment, the APCO or his designee shall mark such system or component "Out of Order". No person shall use or permit the use of such marked component or system until it has been repaired, replaced, or adjusted as required to permit proper operation, and the APCO or his designee has reinspected it or has authorized its use pending reinspection.
- 7 RECORDKEEPING:** Each owner or operator of a bulk gasoline facility shall keep monthly records of all gasoline deliveries to the bulk facility. Such records shall be stored on-site for a period of two (2) years and made available for inspection by the APCO upon request.
- 8 ADMINISTRATIVE REQUIREMENTS AND COMPLIANCE SCHEDULE**
- 8.1 Required Modification Authority to Construct Applications:** By January 1, 1999, any person subject to this Rule shall submit an application for Authority to Construct for any modifications required to achieve compliance with the requirements of this Rule.
- 8.2 Final Compliance:** By July 1, 1999, any person subject to this Rule shall demonstrate final compliance with all applicable standards and requirements of this Rule.