

RULE 424. STORAGE AND TRANSFER OF GASOLINE

(Adopted 2/23/88; Last Revised 11/16/2016)

A. APPLICABILITY. The provisions of this Rule shall apply to the storage and transfer of gasoline. The storage of gasoline in containers with more than 40,000 gallons capacity shall also be regulated by the provisions of Rule 425, Storage of Volatile Organic Compounds.

B. DEFINITIONS. For the purposes of this Rule, the following definitions shall apply:

1. "Bottom Loaded": A gasoline delivery vessel shall be considered to be undergoing bottom loading when:
 - a. the fuel transfer and vapor return lines have separate, independent, and dedicated attachments on the delivery vessel; and
 - b. the fuel transfer inlet is flush with the bottom of the storage container; and
 - c. the delivery vessel hatches remain closed and leak free during fuel transfer.
2. "Bulk Transfer": The transfer or "pump-out" of the entire contents of a storage container so that the container is empty of product.
3. "CARB-Certified Vapor Recovery System": A vapor recovery system or equipment which has been certified by the California Air Resources Board (CARB) pursuant to Section 41954 of the California Health and Safety Code (H&SC).
4. "CARB Executive Orders": Orders generated by the CARB that document the requirements of specific vapor control equipment and procedures used in Phase I and II vapor control.
5. "Excavation": Exposure to view by digging.
6. "Existing Facility": Any gasoline dispensing facility, bulk plant or terminal operating, constructed, or under construction as of May 22, 1996.
7. "Gasoline": Any organic liquid (including petroleum distillates and methanol) having a Reid vapor pressure of four (4) pounds per square inch absolute (psia) 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.
8. "Gasoline Bulk Plant": A gasoline distribution facility which receives gasoline by gasoline delivery vessel, stores it in stationary tanks, and loads it into gasoline delivery vessels for delivery to service stations or other distribution points.

9. "Gasoline Delivery Vessel": A truck, trailer, or railroad car with a storage device used to transport gasoline.
10. "Gasoline Dispensing Facility": Any stationary facility which dispenses gasoline directly into the fuel tanks of motor vehicles. This facility shall be treated as a single source which includes all necessary equipment for the exclusive use of the facility, such as nozzles, dispensers, pumps, vapor return lines, plumbing, and storage containers.
11. "Gasoline Terminal": A gasoline distribution facility which receives gasoline by pipeline, ship or barge, and has a permitted gasoline throughput of greater than 20,000 gallons per day.
12. "Gasoline Vapors": The volatile organic compounds in the displaced vapors including any entrained liquid gasoline.
13. "Hold-Open Latch": The integral component of a gasoline dispensing nozzle which permits the nozzle to remain open without a sustained effort on the part of the refueler.
14. "Leak":
 - a. "Liquid Leak" is the dripping of a liquid containing gasoline at a rate of more than three (3) drops per minute.
 - b. "Vapor Leak" is an emission of gasoline vapors which is measured as greater than 10,000 parts per million when measured with a methane calibrated gas detector, measured at a minimum distance of one centimeter from the source in accordance with EPA Reference Method 21, compliance with the static pressure integrity requirements as determined by TP-201.3, bagging of individual components, or the presence of bubbles using liquid leak detector solution.
 - c. The following are exceptions to the above definitions and are not considered by this Rule to be leaks:
 - 1) Liquid leaks from a well maintained disconnecting transfer fitting of not more than 10 milliliters per disconnect, averaged over three disconnects.
 - 2) Gaseous emissions from pressure relief devices on storage containers when the process pressure exceeds the limit setting specified for the device.
 - 3) Gaseous emissions from the nozzle boot-vehicle interface on Phase II vapor recovery systems.
15. "Mobile Refueler": Any tank truck or trailer that is used to transport and dispense gasoline from an onboard storage container into any motor vehicle or aircraft fuel tank.

16. "Motor Vehicle": Has the same meaning as defined in Section 415 of the Vehicle Code.
17. "New Facility": Any gasoline dispensing facility, bulk plant or terminal which is not constructed or under construction as of May 22, 1996.
18. "On-board Refueling Vapor Recovery (ORVR) system": vehicle-based vapor recovery system required by Title 13, California Code of Regulations, section 1978, or Part 86, Code of Federal Regulations.
19. "ORVR fleet facility": a gasoline dispensing facility that is exempted from Phase II vapor recovery requirements because it primarily fuels vehicles equipped with vapor recovery.
20. "Owner or Operator": The owner or operator of a facility which stores or transfers gasoline.
21. "Phase I Vapor Recovery System": A gasoline vapor recovery system or equipment which recovers the vapors during the transfer of gasoline from delivery vessels into gasoline storage containers.
22. "Phase II Vapor Recovery Plumbing": All portions of a CARB-certified Phase II vapor recovery system excluding those components installed above ground.
23. "Phase II Vapor Recovery System": A gasoline vapor recovery system which recovers vapors during the fueling of motor vehicles from stationary storage containers.
24. "Retail Service Station": Any new or existing motor vehicle fueling facility subject to payment of California sales tax on gasoline sales.
25. "Submerged Fill Pipe": Any fill pipe or discharge nozzle which meets any one of the following conditions:
 - a. If the storage container is filled from the top, the discharge opening must be entirely submerged when the liquid level is 6 inches above the bottom of the container.
 - b. If the storage container is filled from the side, the discharge opening must be entirely submerged when the liquid level is 18 inches above the bottom of the container.
26. "Switch Loading": The loading of an organic liquid other than gasoline into a delivery vessel where the previous load was gasoline.
27. "Tank Replacement": Replacement of one or more stationary gasoline storage containers at an existing gasoline dispensing facility or excavation of 50 percent

or more of an existing gasoline dispensing facility's total underground liquid gasoline piping from the stationary storage containers to the gasoline dispensers.

28. "Throughput": The volume of gasoline dispensed at a gasoline dispensing facility.

C. EXEMPTIONS

1. The provisions of this Rule shall not apply to gasoline storage containers used exclusively for wind machines in agricultural operations.
2. The provisions of this Rule shall not apply to gasoline storage containers with a capacity of less than 250 gallons.
3. The requirements for Phase I vapor recovery in Subsections D.2 or D.3 of this Rule shall not apply to the following:
 - a. Any gasoline storage container with a capacity of less than 1,500 gallons.
 - b. Any gasoline storage container used the majority of the time for the fueling of implements of husbandry as defined in Division 16, Chapter 1, of the Vehicle Code.
 - c. Any gasoline storage container used exclusively to fuel motor vehicles with a fuel capacity of five gallons or less.
 - d. Any gasoline storage container at an existing facility which receives gasoline exclusively from delivery vessels that are not required to be equipped with vapor recovery systems as described in Subsection C.6.a, unless the storage container is already equipped with Phase I vapor recovery in which case Subsection F.1 applies.
 - e. Any stationary source with gasoline storage containers that has not exceeded a gasoline throughput of 6,000 gallons per year per container.
 - f. The temporary storage of gasoline in flexible containers to support equipment responding to an emergency or for the purposes of training to support such equipment.
 - g. Deliveries made and equipment used to completely fill stationary tanks for the purpose of leak testing, provided that such deliveries do not exceed 1,000 gallons at each tank.
4. The requirement for Phase II vapor recovery in Subsection D.4 shall not apply to:
 - a. The transfer of gasoline from a stationary storage container which is exempt from the provisions of Subsection D.2.
 - b. An existing gasoline dispensing facility with an annual gasoline throughput from storage containers other than those described in

Subsections C.3.a, b, c, and d of less than 240,000 gallons during the calendar year prior to May 22, 1996. If during any calendar year thereafter the gasoline throughput at the facility equals or exceeds 240,000 gallons, this exemption shall cease to apply, regardless of Subsection C.4.c, commencing with the first day of the following calendar year.

- c. An existing dispensing facility until the time of tank replacement regardless of Subsection C.4.b.
5. The requirement for vapor recovery in Subsections E.1 and E.3 of this Rule shall not apply to:
 - a. Gasoline bulk plants where the average gasoline throughput after May 22, 1996, has not exceeded 4,000 gallons per day during any 30 calendar day period and the gasoline throughput has not exceeded 200,000 gallons during any 12 calendar month period.
 - b. Gasoline bulk plants which exclusively service mobile refuelers and/or exempt accounts.
 6. The requirement for vapor recovery in Subsection F.1 of this Rule shall not apply to:
 - a. Any delivery vessel which receives gasoline exclusively from a gasoline terminal or bulk plant which is not required to be equipped with vapor recovery systems as described in Subsection C.4.
 - b. Mobile refuelers.
 7. Facilities which can demonstrate to the APCO that at least ninety percent (90%) of the vehicles refueled at the facility are owned by a common operator and equipped with onboard refueling vapor recovery (ORVR) system. This exemption shall not apply to facilities required by state law to have Phase II vapor recovery.

D. REQUIREMENTS - GASOLINE STORAGE CONTAINERS AND DISPENSING FACILITIES

1. Any person transferring or permitting the transfer of gasoline into any gasoline storage container with 250 gallons or more capacity shall use a permanently installed submerged fill pipe with a connection that is free of leaks.
2. Any gasoline storage container which has a capacity greater than 1,500 gallons and less than or equal to 40,000 gallons and is not otherwise exempt under Section C shall be equipped with the following:
 - a. A CARB-certified Phase I vapor recovery system; and

- b. A CARB-certified pressure-vacuum relief valve.
3. Any person transferring or permitting the transfer of gasoline from a gasoline delivery vessel into any storage container with 250 gallons or more capacity shall use a CARB-certified Phase I vapor recovery system if installed. The vapor recovery system shall be designed and operated as certified by the CARB.
4. No owner or operator shall transfer, permit the transfer or provide equipment for the transfer of gasoline from a stationary storage container at a gasoline dispensing facility into a motor vehicle fuel tank unless a CARB-certified Phase II vapor recovery system is installed and used during the transfer.
5. No owner or operator shall use or permit the use of any Phase II system or any component thereof containing a defect identified in Title 17, California Code of Regulations, Section 94006 until it has been repaired, replaced, or adjusted, as necessary to remove the defect.
6. All vapor recovery equipment shall be maintained in good working order and shall be leak free, except for the connection between the Phase II vapor recovery nozzle faceplate and the motor vehicle fill pipe during vehicle refueling.
7. The operator of each retail facility using a Phase II vapor recovery system shall conspicuously post operating instructions, the Air Resources Board toll-free telephone number for complaints and the District office telephone number in the immediate gasoline dispensing area.
8. All Phase II vapor recovery system gasoline dispensing nozzles shall be equipped with a hold-open latch except where prohibited by law or the local fire marshal.
9. Underground tank lines shall be gravity drained to the tank, and aboveground tanks shall be equipped with dry breaks such that upon disconnection of transfer fittings, the disconnect losses do not exceed 10 milliliters (0.34 fluid ounces) per disconnect, averaged over three disconnects.
10. No person shall perform or permit the bulk transfer of gasoline from a storage container with a storage capacity greater than or equal to 1,500 gallons unless:
 - a. The bulk transfer is performed using a vapor collection and transfer system capable of returning the displaced vapors to the stationary storage container;
 - b. The storage container will be removed soon after the bulk transfer; or
 - c. The storage container will be filled with water for testing.

E. REQUIREMENTS - GASOLINE BULK PLANTS AND GASOLINE TERMINALS

1. Gasoline Bulk Plants: Any person transferring or permitting the transfer of gasoline into a gasoline delivery vessel at a gasoline bulk plant shall use a

permanently installed and properly connected CARB-certified vapor recovery system. This vapor recovery system shall prevent emission to the atmosphere of at least 90 percent by weight of the gasoline vapors displaced during loading of delivery vessels.

2. Gasoline Bulk Terminals: Any person transferring or permitting the transfer of gasoline into a gasoline delivery vessel at a gasoline terminal shall use a permanently installed and properly connected CARB-certified vapor collection and processing system. This collection and processing system shall limit the VOC emissions to 0.08 pounds or less per 1,000 gallons of gasoline loaded.
 - a. Gasoline delivery vessels shall be bottom loaded only.
 - b. The vapor processing portion of the vapor collection and processing system shall consist of one of the following:
 - 1) An adsorption system, incineration system, or condensation system.
 - 2) A vapor handling system which directs all vapors to a fuel gas system.
 - 3) Other equipment, approved by the Air Pollution Control Officer (APCO), which has been demonstrated to limit the VOC emissions to 0.08 pounds or less per 1,000 gallons of gasoline loaded as determined by CARB Test Method TP 203.1.
3. No person shall switch load at a gasoline bulk plant or at a gasoline terminal unless such transfer is made using a permanently installed CARB-certified vapor recovery system as required by Subsection E.1 or E.2 of this Rule.

F. REQUIREMENTS - GASOLINE DELIVERY VESSELS

1. No person shall unload gasoline from a gasoline delivery vessel to a storage container that is equipped with a Phase I vapor recovery system or load gasoline into a gasoline delivery vessel at a bulk plant or terminal equipped with a vapor recovery system unless the gasoline delivery vessel is permanently equipped with a vapor recovery system that has been certified by the CARB pursuant to H&SC Section 41962. This certification must be verified annually by the CARB.
2. No person shall open the hatch on any gasoline delivery vessel for visual inspection, unless:
 - a. The duration that the hatch is open for the visual inspection is no more than three minutes; and
 - b. Transfer or pumping has been stopped for at least three (3) minutes prior to opening; and

- c. The hatch is closed and leak free before transfer or pumping is resumed.
3. Any gasoline delivery vessel, manufactured and purchased after March 27, 1978, shall be equipped with a vapor recovery system with a system design approved by the CARB.
4. No person shall operate, or allow the operation of, a gasoline delivery vessel required to have a vapor recovery system by Subsection F.1 of this Rule, unless:
 - a. The vapor recovery system is installed and maintained in compliance with the CARB requirements for certification; and
 - b. A State of California decal is displayed attesting to the vapor integrity of the tank per H&SC Section 41962; and
 - c. A pressure-vacuum relief valve is installed and set at 90 percent of the maximum safe pressure and vacuum ratings of the vessel.

G. OPERATION AND MAINTENANCE REQUIREMENTS

1. Any vapor recovery system or other equipment installed pursuant to any provision of this Rule shall be maintained and operated:
 - a. In the same manner as when certified by the CARB;
 - b. In good working order and shall not leak; and
 - c. So that it does not cause the pressure in a gasoline delivery vessel to exceed 18 inches water gauge or the vacuum to exceed six (6) inches water gauge.
2. Any person storing or transferring gasoline shall follow good operating practices including, but not limited to: preventing spills, storing gasoline in closed containers, and disposing of gasoline in compliance with all state and local regulations.

H. TEST METHODS

1. The control efficiency of the vapor recovery systems at gasoline bulk plants, as specified in Subsection E.1, shall be determined using CARB Test Method TP 202.1.
2. The emission rate of the collection and processing systems at gasoline bulk terminals, as specified in Subsection E.2, shall be determined using CARB Test Method TP 203.1.
3. The Reid vapor pressure shall be determined using the American Society of Testing and Materials (ASTM) Method D 323.

I. RECORDKEEPING REQUIREMENTS

1. Any person wishing to maintain an exemption from the provisions of Section C of this Rule based on throughput shall keep monthly throughput records to substantiate that exemption.
2. Any person claiming an exemption from the provisions of this Rule based on storage container size, shall, upon the request of the APCO:
 - a. Provide records documenting the storage container size at the time of purchase and installation; or
 - b. Conduct measurements to verify the volume of the storage container.
3. Test reports required by this Rule shall be dated and shall contain the company name, address, and telephone number of the party conducting the testing.
4. A record of all maintenance conducted on any part of a vapor recovery system shall be maintained in chronological order showing the date, description and location of any equipment replaced, and a description of the system problem which required repair. The log shall also indicate the date, time, and duration of any system malfunction.
5. Records shall be made available to the APCO upon request and shall be maintained for a period of three (3) years.

J. COMPLIANCE SCHEDULE

1. The owner or operator of any new facility or source, subject to this Rule, obtaining an initial District Permit to Operate on or after May 22, 1996, shall comply with the provisions of this Rule at the time gasoline is first stored at the facility.
2. The owner or operator of any existing facility or source previously required to be equipped with a vapor recovery system shall comply with the requirements of this Rule on and after May 22, 1996.
3. Any person required to modify or replace existing equipment to comply with this Rule shall submit a complete Authority to Construct application to the APCO no later than November 22, 1996.
4. Unless subject to Subsection J.1 or J.2, the owner or operator of any facility or source subject to this Rule shall demonstrate final compliance no later than November 22, 1997.