

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

**RULE 449 -- TRANSFER OF GASOLINE INTO VEHICLE FUEL TANKS**

*(Adopted 2-5-75) (Amended 9-15-75, 6-1-76, 8-3-77, 9-29-87, 12-17-91, 2-2-95, 4-3-97, 09-26-02)*

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## 100 GENERAL

- 101 **PURPOSE:** To limit the emission of gasoline vapor into the atmosphere when motor vehicle fuel tanks are filled.
- 102 **APPLICABILITY:** The provisions of this rule shall apply to the transfer of gasoline from any stationary storage tank or delivery vessel into any motor vehicle fuel tank.
- 110 **EXEMPTION, DISPENSING EQUIPMENT FOR EMERGENCY MOTOR VEHICLES:** The provisions of this rule shall not apply to dispensing equipment that is used exclusively for the fueling of emergency motor vehicles while on location at an emergency.
- 111 **EXEMPTION, DISPENSING EQUIPMENT FOR ODD FILL CONFIGURATION:** The provisions of this rule shall not apply to dispensing equipment that is used exclusively for the fueling of motor vehicles where the motor vehicle fill-neck configuration, location, or other design feature prevents compliance with Section 301 when the motor vehicles are fueled with booted vapor recovery nozzles that are part of a balance Phase II recovery systems.
- 112 **EXEMPTION, DISPENSING EQUIPMENT FOR IMPLEMENTS OF HUSBANDRY:** The provisions of this rule shall not apply to dispensing equipment which is used primarily for the fueling of implements of husbandry as such vehicles are defined in Division 16 (Section 36000 et seq) of the California Vehicle Code, if such container is equipped with a permanent submerged fill pipe.
- 113 **EXEMPTION, MAINTENANCE INSPECTION:** The maintenance inspection requirements in Section 303 shall not be required on Saturdays, Sundays, and holidays for gasoline dispensing facilities with a six month average monthly gasoline throughput of less than 100,000 gallons.

## 200 DEFINITIONS

- 201 **BACKGROUND:** A reading as methane on a portable hydrocarbon detection instrument which is determined at least three (3) meters upwind from the affected device to be inspected and uninfluenced by any specific emission point.
- 202 **DELIVERY VESSEL:** Any motor vehicle used for the transportation of gasoline.
- 203 **EMERGENCY:** An unforeseen combination of circumstances that calls for immediate action to prevent further injury, loss of life or damage to property.
- 204 **EMERGENCY MOTOR VEHICLE:** A motor vehicle used for fire fighting purposes.
- 205 **EXISTING VAPOR RECOVERY SYSTEM:** A vapor recovery system for which the owner or operator has received an Authority to Construct or a Permit to Operate on or before September 26, 2002.
- 206 **GASOLINE:** Any petroleum distillate having a Reid vapor pressure of 4 pounds per square inch or greater as determined by a method specified in Section 501.1
- 207 **GASOLINE DISPENSING FACILITY:** An intermediate fueller or a stationary source consisting of one or more storage tanks and associated equipment that receives, stores, and dispenses gasoline to motor vehicle fuel tanks.
- 208 **HOLD-OPEN LATCHES:** A hold-open latch is any device permanently attached to a gasoline dispensing nozzle for the purpose of providing a continuous flow of gasoline after the operator has started the flow, without the operator's continued assistance.

- 209 **INTERMEDIATE FUELLER:** A delivery vessel used to dispense gasoline directly to a motor vehicle fuel tank.
- 210 **LEAK FREE:** A liquid leak of less than three drops per minute.
- 211 **MOTOR VEHICLE:** Any vehicle which is self-propelled and operates on a highway.
- 212 **NEW VAPOR RECOVERY SYSTEM:** A vapor recovery system for which the owner or operator receives an Authority to Construct after September 26, 2002.
- 213 **SIX MONTH AVERAGE MONTHLY GASOLINE THROUGHPUT:** The sum of a gasoline dispensing facility's total gasoline throughput for six months divided by six.
- 214 **VAPOR TIGHT:** A condition under which the concentration of total organic compounds does not exceed 10,000 ppm (expressed as propane) above background, as determined pursuant to Section 501.2.

### 300 STANDARDS

- 301 **VAPOR RECOVERY REQUIRED:** A person shall not transfer, or permit the transfer of, gasoline from a stationary storage container or delivery vessel with a capacity of 250 gallons or more into any motor vehicle fuel tank with a capacity of 5 gallons or more unless the displaced gasoline vapors or gases are processed by a vapor recovery system that shall prevent emission to the atmosphere of at least 95%, by weight of the hydrocarbon vapors displaced from the motor vehicle fuel tank during the transfer of gasoline into the fuel tank. The vapor recovery system may collect displaced vapors for reprocessing or destruction and it must be certified by the California Air Resources Board.
- 302 **EQUIPMENT MAINTENANCE:** A person shall not transfer, or permit the transfer, or provide equipment for the transfer, of gasoline from a stationary storage container subject to the provisions of Section 301 into any motor vehicle fuel tank of 5 gallons or more capacity unless:
- 302.1 The vapor recovery system is operating in accordance with the applicable California Air Resources Board certification, the manufacturer's specifications, and is maintained to be leak free, vapor tight, and in good working order; and
- 302.2 The equipment is operated and maintained without any of the applicable defects listed in California Administrative Code Section 94006, Subchapter 8, Chapter 1, Part III, of Title 17.
- 303 **MAINTENANCE INSPECTION:**
- 303.1 Beginning March 27, 2003, maintenance inspections, except as provided in Section 113, shall be conducted for each day the vapor recovery system is operated to ensure that vapor recovery system components that are verifiable through direct measurement or observation are in proper working order. Any equipment with a major defect listed in California Code of Regulations, Title 17, Part III, Chapter 1, Subchapter 8, Section 94006, shall be removed from service and tagged to ensure that is not used until it is repaired and brought into compliance before being returned to service.
- 303.2 The owner or operator of a vapor recovery system shall insure that the removal from service of one component of a vapor recovery system with multiple components will not result in gasoline liquid or vapors entering the atmosphere. If the removal of the defective component of the vapor recovery system does not ensure the integrity of the rest of the vapor recovery system, then the entire vapor recovery system shall be shutdown and repaired prior to returning to service.
- 303.3 Defects discovered during the maintenance inspection and repaired in accordance with Title 17, Division 3, Subchapter 7.5, Chapter 1, Section 93101 of California Code of Regulations such that after repair gasoline liquid or vapors do not enter the atmosphere shall not constitute a violation of Rule 449.

- 304 **PROHIBITION OF USE:** Whenever a Phase II vapor recovery system, or any component thereof, contains a defect specified by the Air Resources Board pursuant to Section 41960.2(c) of the Health and Safety Code or specified in Section 302 of this rule, the Air Pollution Control Officer 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 Air Pollution Control Officer has reinspected it or has authorized its use pending reinspection.
- 305 **POSTING OF OPERATING INSTRUCTIONS:** The operator of each retail facility utilizing a Phase II system shall conspicuously post in the gasoline dispensing area operating instructions for the system and the Sacramento Metropolitan Air Quality Management District's or the California Air Resources Board's telephone number for complaints. The instructions shall clearly describe how to fuel motor vehicles correctly with vapor recovery nozzles utilized at the station, and shall include a warning that topping off may result in spillage or recirculation of gasoline.
- 306 **HOLD OPEN LATCHES:** All gasoline dispensing nozzles subject to Section 301 shall be equipped with hold open latches unless the usage of the hold open latch is prohibited by the local fire Marshall.

#### 400 ADMINISTRATIVE REQUIREMENTS

- 401 **COMPLIANCE SCHEDULE:** The owner or operator of a vapor recovery system subject to the requirements of Section 301 shall conduct and pass the first reverification tests required by Section 402.1 as follows:
- 401.1 For a gasoline dispensing facility that has passed performance or reverification tests between October 1, 2001 and September 30, 2002: within 13 months of the most recent successful tests.
- 401.2 All other gasoline dispensing facilities: by March 1, 2003.
- 402 **TEST REQUIREMENTS FOR VAPOR RECOVERY SYSTEM:** The following requirements are to verify the proper operation of a vapor recovery system.
- 402.1 **Required Tests:** Except as specified in the relevant California Air Resources Board Executive Orders, performance and reverification tests shall include the following, as applicable, according to the test methods specified in Section 501 of this rule:
- a. Static Pressure (Leak Decay) Test
  - b. Air-to-Liquid (A/L) ratio test
  - c. Dynamic Back Pressure Test, and
  - d. Liquid Removal Test for balance systems with liquid removal device required by the California Air Resources Board Executive Orders if more than 100mL of liquid is found in the vapor path. This shall be determined by lowering the gasoline dispensing nozzle into a container and draining all liquid, then measuring the amount of liquid using a graduated cylinder or graduated beaker.
- 402.2 **New or Modified Vapor Recovery System:** Within 30 calendar days of completion of construction of any new or modified vapor recovery system, the owner or operator shall conduct and pass all applicable performance tests.
- 402.3 **Existing Vapor Recovery System:** The owner or operator shall conduct and pass all applicable reverification tests pursuant to the following schedule and within the time frame presented in Section 401.
- a. **Testing Frequency:** The owner/operator of a gasoline dispensing facility shall perform and pass reverification tests at a frequency determined by the six month average monthly gasoline throughput. The six month period shall begin on the first of the month immediately following the most recent successful test.
    1. Gasoline dispensing facilities with a six month average monthly gasoline throughput of 100,000 gallons or greater shall conduct and

pass reverification tests within 30 days of the end of the six-month period.

2. Gasoline dispensing facilities with a six-month average monthly gasoline throughput less than 100,000 gallons shall conduct and pass reverification tests within one year of the most recent successful test.
3. If California Air Resources Board-certified in-station diagnostics are used, the Air Pollution Control Officer may change the required frequency of reverification testing to no less than once every two years if allowed by the applicable California Air Resources Board Executive Orders.

403 **OPERATION AND MAINTENANCE MANUAL:** No later than March 27, 2003, the owner/operator of a vapor recovery system shall have available an operation and maintenance manual. The manual shall be kept on-site and made available to any person who operates, inspects, maintains, repairs, or tests the vapor recovery equipment as well as the Air Pollution Control Officer upon request. The manual shall, at a minimum, include the following current information:

- 403.1 All applicable California Air Resources Board Executive Orders, Approval Letters, and District permits,
- 403.2 Manufacturer's manual(s) for all installation, operation and maintenance procedures as required to be provided by California Air Resources Board CP-201 and any additional instruction provided by the manufacturer,
- 403.3 System and/or component testing requirements, including test schedules and passing criteria for each of the standard tests listed in Section 402, and
- 403.4 Protocol for performing daily maintenance inspections, including the components to be inspected and the defects requiring repair.

404 **NOTIFICATION OF TESTING:** At least 7 days prior to performance or reverification testing, the owner or operator shall notify the Air Pollution Control Officer of the exact date and time of the test. If the vapor recovery system fails any of the applicable tests and the necessary repairs are performed that same day, the owner or operator may retest the vapor recovery system on the same day without re-notification, provided that the reasons for the test failure and any repairs performed are properly documented in the test reports and repair records.

## 500 MONITORING AND RECORDS

501 **TESTING PROCEDURE:** The performance and reverification tests shall be conducted in accordance with the following test methods. All test methods referenced in this section shall be the most recent version approved by the U.S. Environmental Protection Agency, California Air Resources Board, and the Air Pollution Control Officer or as stated in the applicable Executive Orders. When more than one test method is referenced, a violation of any method is a violation of the rule.

- 501.1 Vapor pressures may be obtained from standard reference texts or may be determined by ASTM D-2879-97 or ASTM D-323-99a.
- 501.2 Vapor tightness shall be determined using EPA Reference Method 21 or California Air Resources Board TP-204.3.
- 501.3 The static pressure (leak decay) test shall be performed according to the Bay Area Air Quality Management District Manual of Procedures, Source Test Procedure ST-30 or California Air Resources Board TP-201.3 or TP-201.3B, as applicable.
- 501.4 The dynamic back pressure test shall be performed according to the Bay Area Air Quality Management District Manual of Procedures, Source Test Procedure ST-27, or California Air Resources Board TP-201.
- 501.5 The air-to-liquid volume ratio of a Phase II vapor recovery system shall be determined by California Air Resources Board TP-201.5.
- 501.6 The liquid removal rate of a Phase II vapor recovery system shall be determined by the Bay Area Air Quality Management District Manual of Procedures, Source Test Procedure ST-37, or California Air Resources Board TP-201.6.

501.7 Only calibrated equipment meeting the calibration range and intervals specified by California Air Resources Board and the equipment manufacturer shall be used to conduct any performance or reverification test.

502 **RECORDKEEPING:** A person subject to this rule shall maintain the following records and make them available for review by the Air Pollution Control Officer upon request.

502.1 Results of the tests specified in Section 402 shall be delivered to the Air Pollution Control Officer within thirty (30) days of the completion of the test. The test results shall contain the following information:

- a. Name, location, address, and telephone number of the facility tested  
Sacramento Metropolitan Air Quality Management District permit number
- b. Name, address and phone number of the person or company performing the test
- c. Date of the test
- d. Test data
- e. Number of nozzles tested
- f. Number of tanks tested
- g. Statement of pass or fail

502.2 Daily maintenance inspection reports shall include at least the following:

- a. Date and time of inspection
- b. List of defects from the California Code of Regulations, Title 17, Part III, Chapter 1, Subchapter 8, Section 94006 that are applicable to the vapor recovery equipment and have a verification procedure of "direct observation" or "direct measurement"
- c. Notation by person performing inspection whether each defect is present
- d. Description of any defects discovered
- e. Action taken upon discovery of a defect
- f. Name and signature of person performing inspection

502.3 The following records must be retained by the owner or operator for a period not less than 3 years (5 years for sources subject to the requirements of Rule 207, Title V of the Federal Operating Permit Program):

- a. Maintenance records for the vapor recovery system
- b. Repair records for the vapor recovery system
- c. Daily maintenance inspection reports
- d. Records of repairs performed as a result of defects discovered during daily maintenance inspections
- e. Performance test results
- f. Reverification of performance test results
- g. Monthly gasoline throughput

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