

CHAPTER 13: STAGE I VAPOR RECOVERY

Rule 19.1301 Purpose

The purpose of this chapter is to limit emissions of volatile organic compounds from gasoline stored in stationary dispensing tanks and from gasoline delivered into such tanks.

Rule 19.1302 Applicability

This rule applies to all gasoline dispensing facilities and gasoline service stations and to delivery vessels delivering gasoline to a gasoline dispensing facility or gasoline service station in a nonattainment area; and this rule applies to all persons owning or operating a gasoline distribution facility or gasoline service station in a nonattainment area.

Rule 19.1303 Definitions

- (A) “Coaxial system” means the delivery of the product to the stationary storage tank and the recovery of vapors from the stationary storage tanks occurs through a single coaxial fill tube that is a tube within a tube. Product is delivered through the inner tube, and vapor is recovered through the annular space between the walls of the inner tube and outer tube.
- (B) “Delivery vessel” means tank trucks or trailers equipped with a storage tank and used for the transport of gasoline from sources of supply to stationary storage tanks of gasoline dispensing facilities.
- (C) “Dual point system” means the delivery of the product to the stationary storage tank and the recovery of vapors from the stationary storage tank occurs through two separate openings in the storage tank and two separate hoses between the tank truck and the stationary storage tank.
- (D) “Gasoline” means any petroleum distillate or blend of petroleum distillates with other combustible liquids that is used as a fuel for internal combustion engines and has a Reid vapor pressure of 4.0 psi or greater. This does not include diesel fuel or liquefied petroleum gas (LPG).
- (E) “Gasoline dispensing facility” means any site where gasoline is dispensed to motor vehicle gasoline tanks from stationary storage tanks.
- (F) “Gasoline service station” means any gasoline dispensing facility where gasoline is sold to the motoring public from stationary storage tanks.

- (G) “Independent small business marketer” means a person engaged in the marketing of gasoline unless such person:
- (1)
 - (a) is a refiner, or
 - (b) controls, is controlled by, or is under common control with, a refiner, or
 - (c) is otherwise directly or indirectly affiliated with a refiner or with a person who controls, is controlled by, or is under common control with a refiner, unless the sole affiliation referred to is by means of a supply contract or an agreement or contract to use a trademark, trade name, service mark, or other identifying symbol or name owned by such refiner or any such person; or
 - (2) receives less than 50 percent of his or her annual income from refining or marketing of gasoline.
 - (3) For purposes of this rule, the term “refiner” shall not include any refiner whose total refinery capacity (including the refinery capacity of any person who controls, is controlled by, or is under common control with, such refiner) does not exceed 65,000 barrels per day. For purposes of this section, “control” of a corporation means ownership of more than 50 percent of its stock.
- (H) “Leak free” means a condition in which there is no liquid gasoline escape or seepage of more than three (3) drops per minute from gasoline storage, handling, and ancillary equipment, including, but not limited to, seepage and escapes from above ground fittings.
- (I) “Line” means any pipe suitable for transferring gasoline.
- (J) “Nonattainment area” means a county or counties designated by EPA as not meeting the national ambient air quality standards for ozone.
- (K) “Operator” means any person who leases, operates, controls, or supervises a facility at which gasoline is dispensed.
- (L) “Owner” means any person who has legal or equitable title to the gasoline storage tank at a facility.
- (M) “Poppeted vapor recovery adaptor” means a vapor recovery adaptor that automatically and immediately closes itself when the vapor return line is disconnected and maintains a tight seal when the vapor return line is not connected.

- (N) “Stationary storage tank” means a gasoline storage container that is a permanent fixture.
- (O) “Submerged fill pipe” means any fill pipe with a discharge opening that is entirely submerged when the pipe normally used to withdraw liquid from the tank can no longer withdraw any liquid, or that is entirely submerged when the level of the liquid is:
 - (1) Six inches above the bottom of the tank if the tank does not have a vapor recovery adaptor; or
 - (2) Twelve (12) inches above the bottom of the tank if the tank has a vapor recovery adaptor. If the opening of the submerged fill pipe is cut at a slant, the distance is measured from the top of the slanted cut to the bottom of the tank.
- (P) “Throughput” means the amount of gasoline dispensed at a facility.
- (Q) “Vapor tight” means a condition in which an organic vapor analyzer or a combustible gas detector at a potential volatile organic compounds leak source shows either less than ten thousand (10,000) parts per million when calibrated with methane, or less than twenty percent (20%) of the lower explosive limit when calibrated and operated according to the manufacturer’s specifications.

Rule 19.1304 Exemptions

This rule does not apply to:

- (A) Transfers made to storage tanks at gasoline dispensing facilities or gasoline service stations equipped with floating roofs or their equivalent.
- (B) Stationary storage tanks with a capacity of not more than five hundred fifty (550) gallons, if the tanks are equipped with a submerged fill pipe.
- (C) Stationary storage tanks used exclusively for the fueling of implements of normal farm operations.
- (D) Facilities selling less than ten thousand (10,000) gallons of gasoline per month.
- (E) Independent small business marketers of gasoline selling less than fifty thousand (50,000) gallons per month.
- (F) Any other facility or use exempted by state or federal statute.

Rule 19.1305 Prohibited Activities

No person may cause, allow or permit the transfer of gasoline from any delivery vessel into any stationary storage tank unless such transfer complies with the following requirements:

- (A) The stationary storage tank is equipped with a submerged fill pipe and the vapors displaced from the tank during filling are controlled by a vapor control system as described herein;
- (B) The vapor control system is in good working order and is connected and operating with a vapor tight connection;
- (C) The vapor control system is properly maintained and any damaged or malfunctioning components or elements of design have been repaired, replaced or modified;
- (D) Gauges, meters, or other specified testing devices are maintained in proper working order;
- (E) All loading lines and vapor lines of delivery vessels and vapor collection systems are equipped with fittings that are leak tight and vapor tight;
- (F) All hatches on the delivery vessel are kept closed and securely fastened; and
- (G) The stationary storage tank has been tested, no less than annually, on a schedule acceptable to the Director according to the test methods required herein.

Rule 19.1306 Record Keeping

The following records shall be maintained for not less than two (2) years and the same shall be made available for inspection by the Division:

- (A) The scheduled date for maintenance and testing, and the date that a malfunction was detected;
- (B) The date the maintenance and testing was performed or the malfunction corrected; and
- (C) The date the component or element of design of the control system was repaired, replaced, or modified.
- (D) Monthly totals of gallons of gasoline sold by the facility.

Rule 19.1307 Inspections

- (A) The premises of any gasoline dispensing facility or gasoline service station shall be available for inspection by representatives of the Division.
- (B) The process of transfer of gasoline from any delivery vessel into any stationary storage tank shall be subject to observation and inspection by representatives of the Division.

Rule 19.1308 Vapor Recovery Systems

- (A) The vapor control system required by Rule 19.1305 of this rule shall include one or more of the following:
 - (1) A vapor-tight line from the stationary storage tank to the delivery vessel and:
 - (a) For a coaxial vapor recovery system, either a poppeted or unpoppeted vapor recovery adaptor;
 - (b) For a dual point vapor recovery system, a poppeted vapor recovery adaptor;
 - (2) A refrigeration-condensation system or equivalent designed to recover or destroy at least 90 percent by weight of the organic compounds in the displaced vapor.
- (B) If an unpoppeted vapor recovery adaptor is used, the tank liquid fill connection shall remain covered either with a vapor-tight cap or a vapor return line except when the vapor return line is being connected or disconnected.
- (C) If an unpoppeted vapor recovery adaptor is used, the unpoppeted vapor recovery adaptor shall be replaced with a poppeted vapor recovery adaptor when the tank is replaced or upgraded.
- (D) Where vapor lines from the storage tanks are manifolded, poppeted vapor recovery adaptors shall be used. No more than one tank is to be loaded at a time if the manifold vapor lines have a nominal pipe size of less than three (3) inches. If the manifold vapor lines have a nominal pipe size of three (3) inches or larger, then two tanks at a time may be loaded.
- (E) Vent lines on stationary storage tanks shall have pressure release valves or restrictors.

Rule 19.1309 Gasoline Delivery Vessels

- (A) Gasoline delivery vessels shall be designed and maintained to be vapor-tight during loading and unloading operations and during transport.
- (B) Gasoline delivery vessels shall be tested, no less than annually, on a schedule acceptable to the Director according to the test methods required herein.
- (C) Gasoline delivery vessels shall sustain a pressure change of no more than 750 pascals (3 in. of H₂O) in five (5) minutes when pressurized to a gauge pressure of 4,500 pascals (18 in. of H₂O) or evacuated to a gauge pressure of 1,500 pascals (6 in. of H₂O) during testing.

Rule 19.1310 Owner/Operator Responsibility

- (A) It shall be the responsibility of owners and operators of gasoline dispensing facilities and gasoline service stations to assure compliance with this rule and to disallow the transfer from any delivery vessel that does not comply with those requirements of this rule applicable to delivery vessels.
- (B) It shall be the responsibility of owners, operators and drivers of delivery vessels to assure compliance with this rule and to refuse to transfer from any delivery vessel that does not comply with those requirements of this rule applicable to delivery vessels.
- (C) It shall be the responsibility of owners and operators of gasoline dispensing facilities and gasoline service stations to properly maintain, repair, replace, modify, and test the vapor recovery system components of stationary storage tanks regulated herein.
- (D) It shall be the responsibility of owners and operators of gasoline dispensing facilities, gasoline service stations, and gasoline delivery vehicles to repair and retest equipment within fifteen (15) days of a test that exceeds the limitations set forth herein.

Rule 19.1311 Test Methods

- (A) Test method for leak detection:
 - (1) Within four (4) hours prior to monitoring, the organic vapor analyzer or combustible gas detector shall be suitably calibrated in a manner and with the gas specified by the manufacturer for twenty percent (20%) of the lower explosive limit response, or calibrated with methane for a ten thousand (10,000) parts per million response.

- (2) The probe inlet shall be two and one-half (2.5) centimeters or less from the potential leak source when searching for leaks.
 - (3) The highest detector reading and location for each incident of detected leakage shall be recorded, along with the date, time and name of the person performing the testing. If no gasoline vapor is detected, that fact shall be recorded.
- (B) Control efficiency of vapor recovery systems and vapor collection/processing systems shall be determined according to EPA Method 2A and either EPA Method 25A or 25B. EPA Method 2B shall be used for vapor incineration devices.
- (C) Vapor pressure of gasoline shall be determined using American Society for Testing and Materials (ASTM) Method D323-94 or ASTM Method D4953-93. Method D323-94 shall be used for gasoline either containing no oxygenates or MTBE (methyl ethyl butyl ether) as the sole oxygenate. Method D-4953-93 shall be used for oxygenated gasoline.

Rule 19.1312 Effective Date

- (A) The requirements of this rule shall be effective within nonattainment areas one (1) year after the designation by EPA of an area as a nonattainment area.
- (B) In the case of an independent small business marketer with sales of fifty thousand (50,000) gallons or more per month, this rule shall be phased-in as follows:
- (1) Thirty-three percent (33%) of facilities shall be in compliance at the end of the first year;
 - (2) Sixty-six percent (66%) at the end of the second year; and,
 - (3) One hundred percent (100%) at the end of the third year.