26.11.13.00

Title 26 DEPARTMENT OF THE ENVIRONMENT

Subtitle 11 AIR QUALITY

Chapter 13 Control of Gasoline and Volatile Organic Compound Storage and Handling

Authority: Environment Article,§§1-101, 1-404, 2-101—2-103, 2-301—2-303, 10-102, and 10-103, Annotated Code of Maryland

26.11.13.01

.01 Definitions.

A. In this chapter, the following terms have the meanings indicated.

B. Terms Defined.

(1) "Bulk gasoline plant" means a gasoline storage and distribution facility with a maximum daily throughput of 20,000 gallons (75,500 liters) or less which receives gasoline from bulk terminals, stores it in tanks, then dispenses the gasoline via trucks to local farms, businesses, and gasoline dispensing facilities.

(2) "Bulk gasoline terminal" means a gasoline storage facility with a minimum daily throughput greater than 20,000 gallons (75,500 liters) which receives gasoline by pipeline, ship, or barge and delivers gasoline to bulk gasoline plants or to commercial or retail accounts by tank truck.

(3) "External floating roof" means a double deck or a pontoon single deck cover in an open top tank which rests upon, and is supported by, the liquid being contained.

(4) "Gasoline" means a petroleum distillate or alcohol, or their mixtures, having a true vapor pressure within the range of 1.5 to 11 pounds per square inch absolute (psia) (10.3 to 75.6 kilonewtons/square meter) that is used as fuel for internal combustion engines or aircraft.

(5) "Gasoline leak" means a reading equal to or greater than 100 percent of the lower explosive limit measured as propane at a distance of 1 inch from any point on the perimeter of a potential leak source.

(6) "Internal floating roof" means a double deck or a pontoon single deck cover which rests upon and is supported by the liquid being contained in a closed top tank.

(6-1) "Marine vessel" means any tank ship or barge that transports volatile organic compounds (VOCs) in bulk as cargo.

(7) "Motor vehicle" means a vehicle registered with the Maryland Motor Vehicle Administration or the equivalent agency of any other state.

(8) "Pipeline breakout station" means a facility that receives gasoline from a main pipeline and distributes the gasoline by smaller spur pipelines to bulk gasoline terminals.

(9) "Primary seal" means a continuous seal in a storage tank that extends from a floating roof to the tank wall to prevent the escape of vapors into the atmosphere.

(10) "Secondary seal" means a continuous seal in a storage tank that extends from the floating roof to the tank wall covering the entire primary seal.

(11) "Tank truck" means a truck or trailer equipped with storage tanks and used for the transport of gasoline or volatile organic compounds (VOC) from sources of supply to stationary storage tanks.

(12) "Vapor balance system" means coaxial or dual piping that creates a closed system between a tank truck and a stationary storage tank and contains the vapors during the transfer of gasoline.

(13) "Vapor control system" means any piping, hoses, equipment, and devices that collect and process gasoline or VOC vapor, using a vapor processing system.

(14) "Vapor processing system" means any equipment used for recovering or oxidizing VOC vapors.

26.11.13.02

.02 Applicability and Exemptions.

A. A source which is subject to the provisions of this chapter is also subject to the provisions of any other chapter. However, when this chapter establishes an emission standard for a specific installation which differs from the general emission standard in COMAR 26.11.01—.09, this chapter takes precedence.

B. This chapter applies throughout the State. The NSPS requirements under 40 CFR Part 60, Subpart K (effective June 11, 1973), Subpart Ka (effective May 18, 1978), Subpart Kb (effective July 23, 1984), and Subpart XX apply throughout the State.

C. Exemptions for Large Storage Tanks.

(1) A welded tank is exempt from the secondary seal requirements of Regulation .03B(2)(a) of this chapter if it contains gasoline or VOC with a TVP less than 4 psia (2.75 kilonewton/square meter) and has a primary seal.

(2) The secondary seal requirements under Regulation .03A(1)(b)(i) of this chapter do not apply if the storage tank is equipped with a liquid mounted seal.

D. The provisions of this chapter do not apply to the filling of a motor vehicle's fuel tank.

E. If a source becomes subject to any requirement in this chapter because it exceeds a regulation applicability level, the source shall continue to be subject to all applicable requirements, regardless of whether future throughput is below the regulation threshold.

26.11.13.03

.03 Large Storage Tanks.

A. Closed Top Tanks.

(1) Equipment Requirements. A person may not place or store gasoline or VOC having a TVP between 1.5 psia (10.3 kilonewton/square meter) and 11 psia (75.6 kilonewton/square meter), inclusive, in any closed top tank with a capacity of 40,000 gallons (151,400 liters) or greater unless the:

(a) Tank's gauging and sampling devices are gas tight except when in use; and

(b) Tank is equipped with one of the following properly installed, operating, and well maintained emission control systems:

(i) An internal floating roof equipped with a primary and secondary seal;

(ii) A pressure tank system that maintains a pressure at all times to prevent loss of vapors to the atmosphere; or

(iii) A vapor control system capable of collecting the vapors from the tank and disposing of these vapors to prevent their emission to the atmosphere.

(2) Seal Requirements.

(a) There shall be no visible holes, tears, or other openings in a seal or seal fabric.

(b) Each seal shall be intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall.

(c) The accumulated area of the gaps between the secondary seal and the tank wall and between the seal and other obstructions inside the tank (that is, ladder, roof supports) that are greater than 1/8 inch in width may not exceed 1.0 square inch per foot of tank diameter.

(d) The secondary seal requirement in §A(1)(b) of this regulation is waived until completion of an internal inspection as required in §A(3)(b) and (c)of this regulation. However, the secondary seal shall be installed not later than 5 years after the effective date of this regulation.

(3) Inspection Requirements. A person owning a gasoline or VOC storage tank subject to §A(1)(b)(i) of this regulation shall:

(a) Perform an annual visual inspection of the internal floating roof and seals from the roof hatch and record the findings;

(b) If the visual inspection shows noncompliance with the seal requirements in §A(2)(a) and (b) of this regulation, or liquid gasoline or VOC on the roof, perform an internal inspection of the floating roof and seals;

(c) After installing the secondary seal as required in §A(2)(d) of this regulation, conduct an internal inspection of each tank and its seals within 10 years from the date of the last internal inspection; and

(d) Notify the Department of an intended internal tank inspection at least 15 days before the proposed inspection date.

(4) Inspection Procedures. A person owning or operating a gasoline or VOC storage tank shall determine the total seal gap by summing the areas of the individual gaps. The lengths and widths of the gaps are measured by passing a 1/8 inch diameter probe between the seal and the tank wall and other obstructions in the tank. (The probe should move freely without forcing or binding against the seal.)

B. Open Top Tanks.

(1) Applicability.

(a) The use of open top tanks is prohibited for gasoline or VOC having a TVP exceeding 11 psia (75.6 kilonewton/square meter).

(b) Open top storage tanks at pipeline breakout stations are exempt from the secondary seal requirements in §B(2)(a) of this regulation.

(2) Equipment Requirements. A person may not place or store gasoline or VOC having a TVP of 1.5 psia (10.3 kilonewton/square meter) or greater in any open top tank with a capacity of 40,000 gallons (151,400 liters) or greater unless it is equipped with a properly installed and maintained external floating roof that meets all the following requirements:

(a) The external floating roof shall be equipped with a primary and secondary seal.

(b) Openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves, shall be equipped with a projection below the liquid surface. The opening with projections shall also be equipped with a cover, seal, or lid, which shall be maintained in a closed position at all times, except when the device is in actual use.

(c) Automatic bleeder vents shall be closed at all times except when the roof is resting on the roof supports. Rim vents shall be set to the open position when the roof is being floated off the leg supports or at the manufacturer's recommended setting.

(d) Roof drains shall be provided with a slotted membrane fabric or equivalent cover that encapsulates at least 90 percent of the area of the drain opening.

(3) Seal Requirements.

(a) There shall be no visible holes, tears, or other openings in a seal or seal fabric.

(b) Each seal shall be intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall.

(c) The accumulated area of the gaps between the secondary seal and the tank wall that are greater than 1/8 inch in width may not exceed 1.0 square inch per foot of tank diameter.

(4) Inspection Requirements. A person who owns or operates an open top gasoline or VOC storage tank shall meet all of the following requirements:

(a) Perform semiannual routine visual inspections of the primary and secondary seals.

(b) Once a year, determine the total secondary seal gap by summing the areas of the individual gaps between the secondary seal and the tank wall over the entire circumference of the tank. The lengths and widths of the gaps are measured by passing a 1/8 inch uniform diameter probe between the seal and tank wall. (The probe shall move freely without forcing or binding against the seal.)

(c) Notify the Department of an intended tank inspection at least 15 days before the proposed inspection date.

(5) Requirements for Pipeline Breakout Stations. A person may not transfer gasoline through an open top gasoline storage tank at a pipeline breakout station unless the vapor space between the floating roof and the tank bottom is reduced to less than or equal to 20 inches (0.457 meter) in height.

C. Record Keeping for Large Storage Tanks. The owner or operator shall:

(1) Record the results of all inspections of floating roofs and seals;

(2) Record all repairs or replacement of the seals, and include in the record the date and the action taken;

(3) For each tank, record the average monthly storage temperature and throughput; and

(4) Maintain all records for at least 2 years, and make these records available to the Department upon request.

26.11.13.04

.04 Loading Operations.

A. Bulk Gasoline Terminals.

(1) Standards. The owner or operator of a bulk gasoline terminal shall:

(a) Equip the loading system with a vapor control system designed to collect all vapors and control at least 90 percent of all vapors from the loading racks, and emissions from the loading rack may not exceed:

(i) 0.29 pound of VOC per 1,000 gallons (35 milligrams per liter) of gasoline or VOC loaded in Areas III and IV and Calvert, Cecil, Charles, and Frederick counties; or

(ii) 0.67 pounds of VOC per 1,000 gallons (80 milligrams per liter) of gasoline or VOC loaded in Area I and Caroline, Dorchester, Kent, Queen Anne's, St. Mary's, Somerset, Talbot, Wicomico, and Worcester counties.

(b) Design and operate the vapor control system and the gasoline loading equipment so that during loading:

(i) The gasoline tank truck pressure does not exceed 18 inches of water, and vacuum does not exceed 6 inches of water; and

(ii) There are no gasoline leaks in the system when tested by the method referenced in §A(3)(a) of this regulation during loading or unloading operations.

(c) Equip the loading rack with a top submerged or bottom loading system.

(2) Compliance and Record Keeping.

(a) Testing.

(i) Vapor control systems shall be tested for compliance with §A(1)(a) of this regulation once every 5 years, during the period between May and September 15.

(ii) The owner or operator shall notify the Department not less than 15 days before the scheduled test date, and notification shall contain a copy of the test protocol.

(iii) A copy of the test results shall be submitted to the Department not more than 60 days after the test date.

(b) The owner or operator shall keep a record of all maintenance and repairs performed on the vapor recovery unit for 2 years, and make these records available upon request by the Department.

(3) Test Procedures.

(a) Testing for leak-tight conditions, as required in §A(1)(b)(ii) of this regulation, shall be conducted as prescribed in Method 1008 of the Department's Technical Memorandum 91-01, "Test Methods and Equipment Specifications for Stationary Sources" January 1991, as amended through Supplement 3 (October 1, 1997), which is incorporated by reference in COMAR 26.11.01.04C.

(b) The test procedures to determine mass emission rate compliance as required in §A(1)(a) of this regulation, shall be as prescribed in Method 1009 of the Department's Technical Memorandum 91-01, "Test Methods and Equipment Specifications for Stationary Sources" January 1991, as amended through Supplement 3 (October 1, 1997), which is incorporated by reference in COMAR 26.11.01.04C.

B. Bulk Gasoline Plants.

(1) Applicability. Section B(2) of this regulation applies to a person owning or operating a bulk gasoline plant with a daily throughput of 4,000 gallons (15,140 liters) or greater.

(2) Equipment Standards.

(a) The owner or operator of a bulk gasoline plant shall:

(i) Equip the loading rack with a vapor balance system which shall be properly installed, maintained, and used;

(ii) Equip the loading rack with a top submerged or bottom loading system; and

(iii) Comply with the leak-tight requirements as specified in §A(1)(b) of this regulation.

(b) Stage I Vapor Recovery. A person who owns or operates a bulk plant may not cause or permit gasoline to be unloaded from a tank truck or trailer into a stationary storage tank unless the loading system is equipped with a vapor balance line that shall be properly installed, maintained, and used.

C. Small Storage Tanks.

(1) Applicability. This section applies to a person who owns or operates:

(a) A gasoline storage tank that has a tank capacity greater than 2,000 gallons but less than 40,000 gallons; or

(b) A gasoline tank truck used to transfer gasoline into a storage tank that is listed in §C(1)(a) of this regulation.

(2) Stage I Vapor Recovery. An owner or operator of a gasoline tank truck or an owner or operator of a stationary storage tank subject to this regulation may not cause or permit gasoline to be loaded into a stationary tank unless the loading system is equipped with a vapor balance line that is properly installed, maintained, and used.

D. General Standards. A person may not cause or permit gasoline or VOC having a TVP of 1.5 psia (10.3 kilonewtons/square meter) or greater to be loaded into any tank truck, railroad tank car, or other contrivance unless the:

(1) Loading connections on the vapor lines are equipped with fittings that have no leaks and that automatically and immediately close upon disconnection to prevent release of gasoline or VOC from these fittings; and

(2) Equipment is maintained and operated in a manner to prevent avoidable liquid leaks during loading or unloading operations.

E. Alternative Compliance Procedures. In lieu of satisfying the requirements of §D(1) of this regulation, a person may instead utilize:

(a) An overhead loading rack installation which transfers VOC other than gasoline having a TVP of 1.5 psia (10.3 kilonewtons/square meter) from railroad tank car to tank trucks, or vice versa, using drip pans and other spill control equipment to limit the release of any product during post loading disconnections and any one of the following control practices or combination thereof:

(i) Walking the hose clear of fluids;

(ii) Running a pump to clear the line of fluids; or

(iii) Application of inert gas to clear the line of fluids; or

(b) An alternative equivalent vapor containment method approved by the Department and the EPA as a revision to the Maryland State Implementation Plan.

26.11.13.05

.05 Gasoline Leaks from Tank Trucks.

A. Equipment Standards. A person may not allow a gasoline tank truck to be filled or emptied unless the tank has been certified as capable of sustaining a pressure change of not more than 3 inches of water in 5 minutes when pressurized to a gauge pressure of 18 inches of water (4,479 kilonewtons/square meter), or evacuated to a gauge pressure of 6 inches of water (1,493 kilonewtons/square meter), during a test, according to the procedure referenced in §B(2) of this regulation.

B. Method of Compliance. A person who owns or operates a gasoline tank truck subject to this regulation shall:

(1) Conduct a certification test annually, in accordance with the test method referenced in §B(2) of this regulation;

(2) Use the certification test procedures as prescribed in Method 1007 of the Department's Technical Memorandum 91-01, "Test Methods and Equipment Specifications for Stationary Sources" January 1991, as amended through Supplement 3 (October 1, 1997), which is incorporated by reference in COMAR 26.11.01.04C; and

(3) Complete any needed repairs, and retest within 15 days of the original test date.

C. Determination of Compliance.

(1) A person who owns or operates a gasoline tank truck shall display the certification test expiration date on the truck. This expiration date shall be placed near the Department of Transportation Certification plate required by 40 CFR §178.340-10B.

(2) The Department may at any time monitor gasoline tank trucks for leak-tight conditions using the procedures described in Method 1008 of the Department's Technical Memorandum 91-01, "Test Methods and Equipment Specifications for Stationary Sources" January 1991, as amended through Supplement 3 (October 1, 1997),which is incorporated by reference in COMAR 26.11.01.04C.

D. Record Keeping and Reporting.

(1) A person who owns or operates a gasoline tank truck shall:

(a) Maintain records of all tests, repairs, and retests for at least 2 years after the respective dates of completion;

(b) Submit to the Department, upon request, copies of certification test records from tests required in Regulation .04A(3)(a) of this chapter.

(2) The records shall contain the following information:

(a) Gasoline tank truck tank number;

(b) Date of test;

(c) Date and type of repair, if applicable;

(d) Date of retest, if applicable;

(e) The initial test pressure and the time of the reading;

(f) The final test pressure and the time of the reading;

(g) The initial test vacuum and the time of the reading;

(h) The final test vacuum and the time of the reading.

26.11.13.06

.06 Plans for Compliance.

A person who is not in compliance with this chapter and owns or operates an installation located in Allegany, Caroline, Dorchester, Garrett, Kent, Queen Anne's, St. Mary's, Somerset, Talbot, Washington, Wicomico, or Worcester counties shall submit a Plan for Compliance for approval by the Department. The plan for compliance shall be submitted not later than April 15, 1993, and include an expeditious schedule to achieve compliance not later than May 15, 1995.