REGULATION 7.20 Standard of Performance for New Gasoline Loading Facilities at Bulk Plants

Air Pollution Control District of Jefferson County
Jefferson County, Kentucky

Relates To: KRS Chapter 77 Air Pollution Control
Pursuant To: KRS Chapter 77 Air Pollution Control
Necessity and Function: KRS 77.180 provides that the Air Pollution Control Board may make and enforce all needful orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation provides for the control of volatile organic compound emissions from new gasoline loading facilities at bulk plants.

SECTION 1 Applicability

This regulation applies to each new affected facility which commenced construction, modification, or reconstruction after June 13, l979.

SECTION 2 Definitions

Terms used in this regulation not defined herein shall have the meaning given them in Regulation 1.02.

2.1 "Affected facility" means a bulk gasoline plant.

2.2 "Bottom fill system" means a system of filling transport vehicle tanks through an opening that is flush with the bottom of the transport vehicle tank.

2.3 "Bulk gasoline plant" means a facility for the storage and dispensing of gasoline that employs tank trucks, trailers, railroad cars, or other mobile non-marine vessels for both incoming and outgoing gasoline transfer operations.

2.4 "Gasoline" means any petroleum distillate having a Reid vapor pressure of 4.0 pounds per square inch or greater used as a fuel for internal combustion engines.

2.5 "Submerged fill tube system" means a fill tube the discharge of which is entirely submerged when the liquid level is six inches above the bottom of the transport vehicle tank.

2.6 "Transport vehicle" means tank trucks, trailers, railroad tank cars, or barges.

2.7 "Vapor balance system" means a combination of pipes or hoses which create a closed system between the vapor spaces of a unloading tank and a received tank such that vapors displaced from the receiving tank are transferred to the tank being unloaded.

SECTION 3 Standard for Volatile Organic Compounds

3.1 The owner or operator of an affected facility shall install, maintain, and operate:

3.1.1 Stationary storage tank control devices according to Regulation 7.12 or 6.13.

3.1.2 A vapor balance system for:

3.1.2.1 Filling of stationary storage tanks from transport vehicle tanks and

3.1.2.2 Filling of transport vehicle tanks from stationary storage tanks.

3.1.3 For loading into transport vehicle tanks, either:

3.1.3.1 A submerged fill tube system or

3.1.3.2 A bottom fill system.

3.2 The vapor balance system shall be equipped with fittings which are vapor tight and will automatically close upon disconnection so as to prevent the release of organic material.

3.3 The cross-sectional area of the vapor return hose must be at least 50% of the cross-sectional area of the liquid fill line and free of flow restrictions.

3.4 The vapor balance system must be equipped with interlocking devices which prevent transfer of gasoline until the vapor return hose is connected.

3.5 Transport vehicle tank hatches shall be closed at all times during loading operations.

3.6 There shall be no leaks from the pressure/vacuum relief valves and hatch covers of the stationary storage tanks during loading.

3.7 The pressure relief valves on storage vessels and tank trucks or trailers shall be set to release at no less than 0.7 psig unless a lower setting is required by applicable fire codes.

3.8 The owner or operator shall not load gasoline into any transport vehicle or receive gasoline from any transport vehicle which does not have proper fittings for connection of the vapor balance system, nor shall the owner or operator load or receive gasoline unless the vapor balance system is properly connected and in good working order. Except as provided in section 3.9, the fittings on the transport vehicle tanks must be vapor tight and automatically close upon disconnection so as to prevent the release of organic material.

3.9 The following shall apply to the loading of a transport vehicle tank by means of a submerged fill tube system:

3.9.1 When inserted into the tank, the submerged fill tube system must form a vapor tight seal with the tank; and

3.9.2 Tank hatches are to be opened for the minimum time necessary to insert or remove the submerged fill tube system.

3.10 No owner or operator shall permit gasoline to be spilled, discarded in sewers, stored in open containers, or handled in any other manner that would result in evaporation.

3.11 On or after December 31, 1982, no owner or operator of an affected facility shall allow loading of a tank truck unless the following provisions are met:

3.11.1 Loading of liquid product into gasoline tank trucks shall be limited to vapor-tight gasoline tank trucks using the following procedures:

3.11.1.1 No owner or operator of an affected facility shall allow loading unless the gasoline tank truck and its vapor collection system have been tested as having a pressure change of no more than seventy-five (75) mm water (three (3) in. water) in five (5) minutes when pressurized to 450 mm water (eighteen (18) in. water) and evacuated to 150 mm water (six (6) in. water) using the test procedure in section 3.11.1.2 of this regulation.

3.11.1.2 Method 27, "Determination of Vapor Tightness of Gasoline Delivery Tank Using Pressure-Vacuum Test", specified in 40 CFR 60, Appendix A, July 1, 1991, shall be used to determine compliance with section 3.11.1.1 of this administrative regulation. The owner or operator of the tank truck shall have the tank truck tested annually and shall maintain records of tes data, date of testing, identification of tank truck, tpe of repair, retest data and dat. Records shall be maintained by the owner or operator of the tank truck for two (2) years after the date of testing and shall be made available upon request by the District.

3.11.2 The vapor balance system and associated equipment are designed and operated to prevent gauge pressure in the tank truck from exceeding l8 inches of water and prevent vacuum from exceeding six inches of water;

3.11.3 A pressure tap or any equivalent system as approved by the District is installed on the vapor balance system so that a liquid manometer supplied by the District can be connected by an inspector to the tap in order to determine compliance with section 3.11.2. The pressure tap shall be installed by the owner or operator as close as possible to the connection with the delivery tank, and shall consist of a 1/4 inch tubing connector which is compatible with the use of 3/16 inch inside diameter plastic tubing; and

3.11.4 During loading, there is no reading greater than or equal to 100% of the lower explosive limit (LEL, measured as propane) at a distance of 2.5 centimeters around the perimeter of a potential leak source associated with the vapor balance system of a bulk gasoline plant as detected by a combustible gas detector using the test procedure in section 5.

SECTION 4 Alternate Control System

The owner or operator may elect to use an alternate control system if it can be demonstrated to the District's satisfaction that the alternate system will achieve equivalent control efficiency.

SECTION 5 Compliance

5.1 A new affected facility shall comply with the requirements of this regulation on startup.

5.2 On or after December 31, 1982, the test procedure as defined in "Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems" (OAQPS 1.2-119, EPA) Appendix B or an equivalent procedure approved by the District, shall be used to determine compliance with the standard prescribed in section 3.11 during inspections conducted pursuant to KRS 77.165 or KRS 224.10-100(10).

Adopted v1/7-14-76; effective 6-13-79; amended v2/11-16-83; v3/06-19-19

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