Section 25 - Bulk Gasoline Terminals.
11/29/94

a. Applicability.

1. This Section applies to the total of all the loading racks at any bulk gasoline terminal that deliver liquid product into gasoline tank trucks.

2. Any facility that becomes or is currently subject to the provisions of this Section by exceeding the throughput specified in the definition of bulk gasoline terminal in Section 2 of this regulation will remain subject to these provisions even if its throughput later falls below the applicability threshold. Any facility that is currently subject to a state or federal rule promulgated pursuant to the Clean Air Act Amendments of 1977 by exceeding an applicability threshold is and will remain subject to these provisions, even if its throughput or emissions have fallen or later fall below the applicability threshold.

b. Standards for loading racks at bulk gasoline terminals.

1. All the loading racks at a bulk gasoline terminal subject to this Section shall be equipped with a vapor collection system designed to collect the organic compound liquids or vapors displaced from gasoline tank trucks during product loading.

2. Each vapor collection system shall be designed to prevent any VOC vapors collected at one loading rack from passing to another loading rack.

3. Loadings of liquid product into gasoline tank trucks shall be limited to vapor-tight gasoline tank trucks using the following procedures:

i. The owner or operator shall obtain the vapor tightness documentation described in paragraphs (d)(1) and (d)(2) of this Section for each gasoline tank truck that is to be loaded at the loading racks subject to this Section.

ii. The owner or operator shall require the tank identification number to be recorded as each gasoline tank truck is loaded at the terminal.

iii. The owner or operator shall cross-check each tank identification number obtained in paragraph (b)(3)(ii) of this Section with the file of tank vapor tightness documentation within 2 weeks after the corresponding tank is loaded.

iv. The terminal owner or operator shall notify the owner or operator of each non-vapor-tight gasoline tank truck loaded at the loading racks subject to this Section that the tank truck is not vapor-tight within 3 weeks after the loading has occurred.

v. The terminal owner or operator shall take steps to assure that the non-vapor-tight gasoline tank truck will not be reloaded at a loading rack subject to this Section until vapor tightness documentation for that tank truck is obtained.

4. The terminal owner or operator shall act to ensure that loadings of gasoline tank trucks at the loading racks subject to this Section are made only into tank trucks equipped with vapor collection equipment that is compatible with the terminal's vapor collection system.

5. The terminal owner or operator shall act to ensure that the terminal's and the tank truck's vapor collection systems are connected during each loading of a gasoline tank truck at the loading racks subject to this Section.

6. The vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the gasoline tank truck from exceeding 4,500 Pascals (Pa) (450 millimeters [mm] of water) during product loading. This level shall not be exceeded when measured by the procedures specified in paragraph (c)(1) of this Section.

7. No pressure-vacuum vent in the bulk gasoline terminal's vapor collection system shall begin to open at a system pressure less than 4,500 Pa (450 mm of water).

8. Each calendar month, the vapor collection system, the vapor control system, and each loading rack that loads gasoline tank trucks shall be inspected for total organic compounds liquid or vapor leaks during product transfer operations. For purposes of this paragraph, detection methods incorporating sight, sound, or smell are acceptable. Each detection of a leak shall be recorded and the source of the leak repaired within 15 calendar days after it is detected.

9. The total organic compound emissions to the atmosphere from the vapor collection system due to the loading of liquid product into gasoline tank trucks shall not exceed 80 milligrams per liter (mg/L) (4.7 grains per gallon [grain/gal]) of gasoline loaded.

10. Loading of gasoline tank trucks shall be restricted to the use of submerged fill.

c. Test methods and procedures.

1. In determining compliance with paragraph (b)(6) of this Section, the following procedures shall be used:

   i. Calibrate and install a pressure measurement device (liquid manometer or equivalent instrument) capable of measuring up to 500 millimeters (mm) (20 inches [in.]) of water gauge pressure with ±2.5 mm (0.098 in.) of water precision.

   ii. Connect the pressure measurement device to a pressure tap in the terminal's vapor collection system, located as close as possible to the connection with the gasoline tank truck.

   iii. During the performance test, record the pressure every 5 minutes (min) while a gasoline tank truck is being loaded, and record the highest instantaneous pressure that occurs during each loading. Every loading position shall be tested at least once during the performance test.

2. In determining compliance with the mass emission limitation of paragraph (b)(9) of this Section, the following reference methods shall be used:

   i. In determining volume at the exhaust vent:

      A. Method 2B for combustion vapor control systems.

      B. Method 2A for all other vapor control systems.

   ii. In determining total organic compounds concentration at the exhaust vent, Method 25A or 25B. The calibration gas shall be either propane or butane.

3. Immediately prior to a performance test required to determine compliance with paragraphs (b)(6) and (b)(9) of this Section, all potential sources of vapor and liquid leakage from the terminal's vapor collection system equipment shall be monitored for leaks according to the procedures in **Appendix "F"** of this regulation. The monitoring shall be conducted only while a gasoline tank truck is being loaded. A reading of 10,000 parts per million by volume (ppmv) or greater as methane shall be considered a leak. All leaks shall be repaired prior to conducting the performance test.

4. The test procedure for determining compliance with paragraphs (b)(6)

and (b)(9) of this Section is as follows:

i. All testing equipment shall be prepared and installed as specified in the appropriate test methods.

ii. The time period for a performance test shall be not less than 6 hours, during which at least 300,000 L (80,000 gal) of gasoline are loaded. If the throughput criterion is not met during the initial 6 hours, the test may be either continued until the throughput criterion is met, or resumed the next day with another complete 6 hours of testing. As much as possible, testing should be conducted during the 6-hour period in which the highest throughput normally occurs.

iii. For intermittent vapor control systems:

A. The vapor holder level shall be recorded at the start of the performance test. The end of the performance test shall coincide with a time when the vapor holder is at its original level.

B. At least two startups and shutdowns of the vapor processor shall occur during the performance test. If this does not occur under automatically controlled operation, the system shall be manually controlled.

iv. The volume of gasoline dispensed during the performance test period at all loading racks whose vapor emissions are controlled by the vapor processing system being tested shall be determined. This volume may be determined from terminal records or from gasoline dispensing meters at each loading rack.

v. An emission testing interval shall consist of each 5-minute period during the performance test. For each interval:

A. The reading from each measurement instrument shall be recorded.

B. The volume exhausted and the average total organic compounds concentration in the exhaust vent shall be determined, as specified in the appropriate test method. The average total organic compounds concentration

shall correspond to the volume measurement by taking into account the sampling system response time.

vi. The mass emitted during each testing interval shall be calculated as follows:

$$M_{ei} = 10^{-6} K V_{es} C_e$$

where:

M_{ei} = Mass of total organic compounds (milligrams [mg]) emitted during testing interval i.

V_{es} = Volume of air-vapor mixture exhausted (cubic meters [m^3]), at standard conditions.

C_e = Total organic compounds concentration (measured as carbon) at the exhaust vent (ppmv).

K = Density of calibration gas (milligrams/cubic meter [mg/m^3]) at standard conditions.

= 1.83×10^6 for propane.

= 2.41×10^6 for butane.

s = Standard conditions, 20°C and 760 millimeters of mercury (mm Hg).

vii. The total organic compounds mass emissions shall be calculated as follows:

$$E = \frac{\sum_{i=1}^{n} M_{ei}}{L}$$

where:

E = Mass of total organic compounds emitted per volume of gasoline loaded, mg/L.

M_{ei} = Mass of total organic compounds emitted during testing interval i, mg.

L = Total volume of gasoline loaded, L.

n = Number of testing intervals.

5. The owner or operator may adjust the emission results to exclude the methane and ethane content in the exhaust vent by any method approved by the Department.

d. Recordkeeping. The owner or operator of a facility subject to the requirements of this Section shall maintain the following records in a readily accessible location for at least 5 years and shall make these records available to the Department upon verbal or written request.

1. The tank truck vapor tightness documentation required under paragraph (b)(3) of this Section shall be kept on file at the terminal in a permanent form available for inspection.

2. The documentation file for each gasoline tank truck shall be updated at least once per year to reflect current test results as determined by Method 27. This documentation shall include, at a minimum, the following information:

i. Test title: Gasoline Delivery Tank Pressure Test
EPA Reference Method 27.

ii. Tank owner and address.

iii. Tank identification number.

iv. Testing location.

v. Date of test.

vi. Tester name and signature.

vii. Witnessing inspector, if any: Name, signature, and affiliation.

viii. Test results: Actual pressure change in 5 min, recorded in mm of water (average for two runs).

3. A record of each monthly leak inspection required under paragraph (b)(8) of this Section shall be kept on file at the terminal. Inspection records shall include, at a minimum, the following information:

i. Date of inspection.

ii. Findings (may indicate no leaks discovered or location, nature, and severity of each leak).

iii. Leak determination method.

iv. Corrective action (date each leak repaired, reasons for any repair interval in excess of 15 calendar days).

v. Inspector name and signature.

4. The terminal owner or operator shall keep documentation of all notifications required under paragraph (b)(3)(iv) of this Section on file at the terminal.

5. Daily records shall be maintained of gasoline throughput.

e. Reporting. The owner or operator of any facility containing sources subject to this Section shall comply with the requirements in Section 5 of this regulation.