

VENTURA COUNTY AIR POLLUTION CONTROL DISTRICT

**RULE 74.33 –LIQUEFIED PETROLEUM GAS TRANSFER OR DISPENSING**

*(Adopted 1/13/2015)*

A. Applicability and Purpose

The purpose of this rule is to reduce Reactive Organic Compound (ROC) emissions associated with the transfer or dispensing of liquefied petroleum gas (LPG). This rule applies to the transfer of LPG to or from any cargo tank, any stationary or portable storage tank, or any cylinder.

B. Equipment and Operation Requirements

1. **LPG Bulk Loading Facilities:** Effective July 1, 2015, no person at an LPG Bulk Loading Facility (defined in Subsection H.14 as having one or more stationary storage tank with a water capacity of 10,000 gallons or more) shall transfer, allow the transfer, or provide equipment used to transfer LPG from any cargo tank to a stationary tank located at the facility or from any stationary storage tank to a cargo tank unless all of the following conditions are met:

- a. All LPG Bulk Loading Facilities shall have an LPG vapor recovery or equalization system capable of recovering all LPG vapors during the transfer process. This system shall be maintained and operated in accordance with the manufacturer specifications and applicable safety regulations.
- b. All vapor return lines and liquid transfer lines are properly connected and maintained so that associated connectors are vapor tight and liquid tight during LPG transfer.
- c. The transfer hose assembly, which includes the hose, fittings, and gaskets, is properly maintained in order to maintain vapor tight conditions.

2. **LPG Transfer and Dispensing Facilities:** Effective July 1, 2015, no person shall transfer LPG at an LPG Transfer and Dispensing Facility from any stationary storage tank, cargo tank, or cylinder into any stationary storage tank, cargo tank, portable storage tank, cylinder, or vehicle fuel tank unless all the following applicable conditions are met:

- a. The **facility stationary storage tank(s)** shall meet one or both of the following two conditions:

- 1). All stationary storage tank Fixed Liquid Level Gauges (FLLGs) are closed during LPG transfer, using a filling technology that monitors the maximum fill level without use of an FLLG; or
  - 2) Stationary source tanks are equipped only with low emission FLLGs according to the following schedule:
    - i. Whenever a tank is put into or taken out of service, the low emission FLLG shall be installed prior to returning the tank to service; and
    - ii. The deadline for installing all low emission FLLGs is January 1, 2017.
- b. The **cargo tank(s)**, if equipped with an FLLG, shall meet one or both of the following two conditions:
- 1) All cargo tank FLLGs are closed while being filled using a filling technology that monitors the maximum fill level without the use of an FLLG; or
  - 2) Cargo tanks are equipped only with low emission FLLGs as follows:
    - i. If a cargo tank is purchased as new or was manufactured after January 13, 2015, it shall be equipped with low emission FLLGs.
    - ii. Whenever a cargo tank is evacuated, the operator shall install low emission FLLGs prior to returning to service.
    - iii. The deadline for installing all low emission FLLGs is no later than 5 years after its last tank hydro testing that occurred prior to January 13, 2015.
- c. If the container(s) receiving LPG are **cylinders or portable storage tanks**, they shall meet one or both of the following two conditions:
- 1) All the cylinder or portable storage tank FLLGs are closed during LPG transfer using a fill by weight technique or alternative technology that monitors the maximum fill level without the use of an FLLG; or
  - 2) All cylinders or portable storage tanks equipped only with low emission FLLGs no later than January 1, 2017.

- d. **LPG Low Emission Connectors:** Effective July 13, 2016, no person shall transfer LPG from any container to another without using LPG low emission connectors that are leak tight and vapor tight, except when actively connecting or disconnecting the connector. Qualifying LPG low emission connectors are defined in Subsection H.15, and an official list of qualified low emission connectors will be published on VCAPCD's website and in the rule staff report. Parts not listed may still qualify as low emission connectors provided that product manufacturer documentation showing a maximum 4 cubic centimeters (cc) emission release is provided to APCD personnel upon request. At a minimum, this documentation shall indicate the vendor name, part number, and maximum emissions release in cubic centimeters for each part. Vendors or manufacturers may request in writing that a new or existing products to be added to the official qualified list by providing sufficient written documentation, subject to approval in writing by APCD personnel.
3. **Mobile Fueler Operations:** Effective July 1, 2015, no person shall transfer LPG from any mobile fueler into any stationary storage tank, cargo tank, portable storage tank, cylinder, or vehicle fuel tank unless all the following applicable conditions are met:
- a. The receiving **stationary storage tank(s)** shall meet one or both of the following two conditions:
- 1) All stationary storage tank Fixed Liquid Level Gauges (FLLGs) are closed during LPG transfer, using a filling technology that monitors the maximum fill level without use of an FLLG; or
  - 2) All stationary source tanks are equipped only with low emission FLLGs according to the following schedule:
    - i. Whenever a tank is put into or taken out of service, low emission FLLGs shall be installed prior to returning the tank to service; and
    - ii. The deadline for installing all low emission FLLGs is January 1, 2017.
- b. The receiving **cargo tank(s)**, if equipped with FLLGs, shall meet one or both of the following two conditions:
- 1) All cargo tank FLLGs are closed while being filled using a filling technology that monitors the maximum fill level without the use of an FLLG; or

- 2) Cargo tanks are equipped only with low emission FLLG as follows:
  - i. If the cargo tank was purchased as new or manufactured after January 13, 2015, it shall be equipped only with low emission FLLGs.
  - ii. Whenever a cargo tank is evacuated, the operator shall install low emission FLLGs prior to returning to service.
  - iii. The deadline for installing low emission FLLGs is no later than 5 years after the last tank hydro testing provided that testing occurred prior to January 13, 2015.
- c. If the receiving container is a **cylinder or portable storage tank**, it shall meet one or both of the following two conditions:
  - 1) Cylinder or portable storage tank FLLG is closed during LPG transfer using a fill by weight technique or alternative technology that monitors the maximum fill level without the use of the FLLG;  
or
  - 2) The cylinder or portable storage tank is equipped with a low emission FLLG no later than January 1, 2017.
- d. **LPG Low Emission Connectors:** Effective July 13, 2016, no person shall transfer LPG from one container to another without using LPG low emission connectors that are leak tight and vapor tight, except when actively connecting or disconnecting the connector. Qualifying LPG low emission connectors are defined in Subsection H.15 and an official list of qualified low emission connectors will be published on VCAPCD's website and in the rule staff report. Parts not listed may still qualify as low emission connectors provided that product manufacturer documentation showing a maximum 4 cubic centimeters (cc) emission release is provided to APCD personnel upon request. At a minimum, this documentation must indicate the vendor name, part number, and maximum emissions release in cubic centimeters for each part.
- e. **Railroad Tank Car or Mobile Fueler Operating Requirements:** Any railroad tank car or mobile fueler equipped with an LPG vapor recovery or equalization system shall be maintained and operated in accordance with the specifications of the vapor recovery or equalization system manufacturer.

C. Leak Detection and Repair Program Requirements

Effective July 1, 2015, the operator of any LPG Bulk Loading Facility or any LPG Transfer and Dispensing Facility shall adopt a Leak Detection and Repair Program including but not limited to the following requirements:

1. **Daily Physical Leak Check:** On a daily basis, operators shall physically check all connectors involved with the transfer of LPG for evidence of leakage, such as the presence of odorant, hissing, or staining.
2. **Bubble Test or EPA Method 21 Inspections:** Operators shall inspect all LPG connectors during LPG transfers using the bubble test method or EPA Method 21 at least once every 90 days, or if the time between fillings is greater than 90 days, during or upon completion of the transfer of LPG. Records of these inspections shall be maintained in an inspection log, which shall be maintained for a minimum of two years and be made available to APCD personnel upon request.
3. **Employee Training:** All employees involved in the maintenance or operation of LPG transfer shall be trained in these Leak Detection and Repair (LDAR) Program Requirements (Section C), and the Training Program shall include the following:
  - a. Written training procedures;
  - b. Training frequency and scheduled training dates; and
  - c. Written record of the dates of training provided for each employee.

All employee LDAR training records and written procedures shall be made available to APCD personnel upon request.

4. **Leak Repairs and Recordkeeping:** Any connector found leaking liquid or vapor during inspections pursuant to Subsection C.1 or C.2 shall be removed from service and tagged. This tagged connector shall not be put back into service until it has been repaired or replaced, and re-inspected for leaks. Operators shall keep a written record of all leaks found. This maintenance log shall record the type of leak, date and time leak discovered, date and time leak repaired, name of person who performed the repair and their employer name and phone number, leaking component name (part ID name, part number, and part manufacturer), and location, and description of repair. This log shall be made available to APCD personnel upon request, and all records shall be maintained for at least two years.
5. **Leaks identified by operators and repaired pursuant to Subsection C.4** shall not be considered violations of the liquid tight or vapor tight requirements of this rule.

D. Recordkeeping Requirements

1. **Low Emission FLLG and Low Emission Connector Installations:** Each operator of an LPG Bulk Loading or LPG Transfer and Dispensing Facility shall maintain the following records for a minimum of five years, and these records shall be made available to APCD personnel upon request:
  - a. Purchase records of all low emission FLLGs and low emission connectors installed to comply with this rule including component name, part ID number, quantity purchased, and component manufacturer.
  - b. Records of all low emission FLLGs and connectors installed.
2. **Mobile Fuelers or Railroad Tank Cars:** Each operator of a Mobile Fueler or Railroad Tank Car equipped with an LPG vapor recovery or equalization system shall maintain records to demonstrate that the system is maintained and operated according to manufacturer's specifications.
3. **Compliance Documentation:** The operator of any LPG Bulk Loading or LPG Transfer and Dispensing Facility shall maintain documentation originating from the part manufacturer that shows any Low Emission Connector or FLLG installed to comply with the requirements in Section B of this rule meets the applicable specifications as defined in Section H, Definitions. This documentation shall be made available to APCD personnel upon request.
4. **Posting of Rule:** The operator of any LPG Bulk Loading or LPG Transfer and Dispensing Facility shall post a legible copy of this rule on site reasonably close to the subject equipment, or be easily accessible to operating personnel.
5. **Initial Inventory Low Emission Connectors Reporting (LPG Bulk Facilities):** By July 1, 2017, the operator of any LPG Bulk Facility shall submit to the APCO an end of year inventory of all facility located LPG low emission connectors, including all LPG low emission connectors installed on facility-owned or leased mobile fuelers associated with the transfer or storage of LPG for the year 2016. This inventory shall include the specific storage or transfer equipment or operation involved and the manufacturer and identification or part number of all low emission connectors.
6. **FLLG Inventory Reporting Years 2016-2020 (LPG Bulk Facilities):** By July 1 of each year from 2017 through 2021, the operator of an LPG bulk loading facility shall submit to the APCO an end of year inventory of all facility located containers, including all facility-owned or leased mobile fuelers associated with the transfer and storage of LPG that are equipped with one or more low emission FLLGs for the prior calendar year. This inventory shall include a summary, by

size and classification, and include the associated number of installed low emission FLLGs.

E. Exemptions

1. The provisions of this rule shall not apply to the transfer of LPG into any container with a water capacity of less than four (4) gallons.
2. The provisions of this rule shall not apply to facilities that are subject to Rule 74.7, Fugitive Emissions of Reactive Organic Compounds at Petroleum Refineries and Chemical Plants.
3. The equipment/operation requirements of Subsection B shall not apply to LPG cylinders that are specifically dedicated for and installed for use on recreational vehicles.
4. This rule shall not apply to any LPG tank truck loading facility subject to both VCAPCD Rule 71.3, Transfer of ROC Liquids and VCAPCD Rule 74.10, Components at Crude Oil and Natural Gas Production and Processing Facilities.

F. Test Methods and Procedures

1. Measurements of vapor tight leak concentrations shall be determined in accordance with EPA Reference Method 21 using appropriate analyzer calibrated with methane. The calibration, maintenance, and operation of the appropriate analyzer shall follow manufacturer's recommendations. The analyzer shall be calibrated before inspection on the day of inspection.

G. Violations

Failure to comply with any provision of this rule shall constitute a violation of this rule.

H. Definitions

1. "Bobtail Truck": Any vehicle that is equipped with a cargo tank without a trailer and is used to deliver propane.
2. "Bubble Test": The test application of a soap solution, detergent, or aerosol spray or similar material that produces visible bubbles at the site of any potential LPG vapor leak source.
3. "Cargo Tank": Any container used to transport LPG and is either mounted on a conventional truck chassis or is an integral part of a cargo transporting vehicle, including but not limited to a bobtail, mobile fueler, or rail tank car.

4. “Connector”: Any component including an adapter, hose, fitting, valve or coupling used in association with the transfer of LPG from one container to another, and is disconnected following completion of an LPG transfer activity.
5. “Container”: Any vessel, including cylinders, stationary or portable tanks, and cargo tanks, used for the transporting or storage of LPG.
6. “Cylinder”: Any container designed, constructed, tested and marked in accordance with U.S. DOT specifications.
7. “Fill by Weight”: The filling of an LPG container without the use of a Fixed Liquid Level Gauge and monitoring the fill level by the filled container weight to prevent overfilling to no more than the maximum rated capacity.
8. “Fitting “: Any machine component, piping, tubing, or fixture that attaches to larger parts or is used to connect two or more larger parts.
9. “Fixed Liquid Level Gauge (FLLG)”: A liquid level indicator, also called a bleeder valve used in propane containers, to accurately indicate a tank’s fill level to ensure safe tank refilling and transfer operations or to verify the accuracy of an existing overfill prevention device.
10. “Inspection”: The use of a bubble test by the operator to physically survey LPG connectors for evidence of leakage. Use of an alternate test method in Section F may be substituted for an inspection.
11. “Liquid Tight”: Equipment is not liquid tight if a liquid leak occurs where the visible liquid leak rate exceeds 3 or more drops per minute or exhibits a visible liquid mist.
12. “Low Emission Fixed Liquid Level Gauge”: A Fixed Liquid Level Gauge with a number 72 orifice size (0.025 inches) or physical configuration that results in a equivalent or lower emission rate test and demonstrated using a method approved in writing by the APCO.
13. “Liquefied Petroleum Gas (LPG)”: An organic compound having a vapor pressure not exceeding that allowed for commercial propane, which is composed predominantly of the following hydrocarbons: propane, propylene, butane, and to a lesser extent butylenes, and is stored and transported under pressure in a liquid state.
14. “LPG Bulk Loading Facility”: An LPG transfer and dispensing facility where the primary function is to store LPG for further distribution and has one or more stationary storage tanks with a water capacity of 10,000 gallons or more.

15. “LPG Low Emission Connector”: Any component, including an adapter, hose, fitting, valve, or coupling used to transfer LPG from one container to another and is designed to result in the maximum emission release of four (4) cubic centimeters of LPG when disconnected.
16. “LPG Transfer and Dispensing Facility”: A stationary facility consisting of one or more stationary storage tanks and associated equipment that receives, stores, and either transfers or dispenses LPG to stationary storage tanks, cargo tanks, or portable storage tanks.
17. “LPG Vapor Recovery or Equalization System”: A system installed on an LPG mobile fueler or a rail tank car that while transferring LPG liquid allows for the collection and recovery of LPG vapors displaced or emitted from the stationary storage tank or cargo tank when LPG is transferred to or from the mobile refueler or the rail tank car.
18. “LPG Vapors”: The organic compounds in vapor form as well as entrained liquid LPG displaced during transfer and/or dispensing operations.
19. “Mobile Fueler”: Any cargo tank, tanker truck or trailer, including a bobtail truck, which is used to transport LPG stored in an onboard cargo tank.
20. “Operator”: Any person who owns, leases, or operates any stationary facility or mobile fueler subject to the requirements of this rule.
21. “Portable Cylinder”: A container designed, constructed, tested, and marked in accordance with DOT specifications, including but not limited to, those LPG containers used for small hand torches, forklifts, barbecue grills, and weed burners.
22. “Portable Storage Tank”: A container or portable cylinder designed to be easily moved by hand or hand truck (dolly) without mechanized assistance, as opposed to a container or stationary tank designed for stationary installations.
23. “Railroad Tank Car”: A mounted cargo tank transported over rail.
24. “Reactive Organic Compound (ROC)”: As defined in Rule 2 of these rules. The term "volatile organic compound" (VOC) is equivalent to ROC.
25. “Recreational Vehicle”: Any vehicle or trailer used for strictly noncommercial leisure activities, and is equipped with living space and amenities found in a home.
26. “Stationary Storage Tank”: A container used for the storage of LPG, including, but not limited for, residential, commercial or industrial usage, and includes

containers constructed in accordance with American Society of Mechanical Engineers (ASME) specifications.

27. “Valve”: A device that regulates or isolates the fluid flow in a pipe, tube, tank, or conduit by means of an external actuator.
28. “Vapor-Tight”: Any component, valve, adapter, hose, coupling, or fitting is considered to be “vapor-tight” if the leak measurement using EPA Method 21 is 10,000 ppm or lower when tested in accordance with Subsection F.1.