

RULE 490 – LIQUEFIED PETROLEUM GAS TRANSFER AND DISPENSING
Adopted 10-24-24

[This rule will be effective on the effective date of an EPA final rulemaking that conditions described in Clean Air Act Sections 172(c)(9) and 182(c)(9) have occurred in the District regarding the 2008 or 2015 8-Hour Ozone National Ambient Air Quality Standards.]

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100 GENERAL

- 101 **PURPOSE:** To limit the emission of volatile organic compounds (VOC) from the transfer and dispensing of liquefied petroleum gas (LPG).
- 102 **APPLICABILITY:** This rule applies to the transfer or dispensing of LPG from any cargo tank, stationary or portable storage tank, or cylinder into any other cargo tank, stationary or portable storage tank, or cylinder.
- 103 **SEVERABILITY:** If any section, subsection, sentence, clause, phrase, or portion of this rule is, for any reason, held invalid, unconstitutional, or unenforceable by any court of competent jurisdiction, such portion is deemed as a separate, distinct, and independent provision, and such holding does not affect the validity of the remaining portions thereof.
- 110 **EXEMPTION – SMALL LPG CONTAINERS:** This rule does not apply to the transfer of LPG into any container with a water capacity of less than 4 gallons.
- 111 **EXEMPTION – RECREATIONAL VEHICLES:** The requirements of Sections 301 and 302 do not apply to any LPG containers that are specifically dedicated and installed for use on recreational vehicles.

200 DEFINITIONS

- 201 **BOBTAIL TRUCK:** Any vehicle equipped with a cargo tank without a trailer and is used to deliver propane.
- 202 **BUBBLE TEST:** A test application of a soap solution, detergent, aerosol spray or similar material that produces visible bubbles at the site of any potential LPG vapor leak source and is observed for bubbles.
- 203 **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, such as a bobtail, mobile fueler, or railroad tank car.
- 204 **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 or dispensing activity.
- 205 **CONTAINER:** Any vessel, including cylinders, stationary or portable tanks, and cargo tanks, used for the transportation or storage of LPG.
- 206 **CYLINDER:** Any container designed, constructed, tested, and marked in accordance with the U.S. Department of Transportation (DOT) specifications, Title 49, Code of Federal Regulations or in accordance with a valid DOT special permit.
- 207 **FILL BY WEIGHT:** The filling of an LPG container without using of a Fixed Liquid Level Gauge and monitoring the fill level by weighing the filled container to prevent overfilling to no more than the maximum rated capacity.
- 208 **FITTING:** Any machine component, piping, tubing, or fixture that attaches to larger parts or is used to connect two or more larger parts.
- 209 **FIXED LIQUID LEVEL GAUGE (FLLG):** A liquid level indicator, also called a bleeder valve or outage gauge, that uses a positive shutoff vent valve to indicate that the liquid level in a container being filled has reached the point at which the indicator communicates with the liquid.

- 210 **LIQUID TIGHT:** Any visible liquid leak rate not exceeding three drops per minute or exhibiting a visible liquid mist.
- 211 **LOW EMISSION FLLG:** A fixed liquid level gauge with a number 72 orifice size (0.025 inch) or physical configuration that results in an equivalent or lower emissions rate that is tested and demonstrated using a method approved in writing by the Air Pollution Control Officer.
- 212 **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, either by themselves or as mixtures: propane, propylene, butane (normal butane or isobutane) and to a lesser extent butylene, and that is stored and transported under pressure in a liquid state.
- 213 **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.
- 214 **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 a maximum emission release of four cubic centimeters of LPG when disconnected.
- 215 **LPG TRANSFER AND DISPENSING FACILITY:** A mobile fueler, or a stationary facility consisting of one or more stationary storage tanks and associated equipment which receives, stores, and either transfers or dispenses LPG to stationary storage tanks, cargo tanks, or portable storage tanks.
- 216 **LPG VAPOR RECOVERY OR EQUALIZATION SYSTEM:** A system installed on an LPG mobile fueler or railroad tank car that facilitates the transfer of liquid LPG and 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 fueler or the railroad tank car.
- 217 **LPG VAPORS:** The organic compounds in vapor form as well as the entrained liquid LPG displaced during LPG transfer and dispensing operations.
- 218 **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.
- 219 **OWNER/OPERATOR:** Any person who owns, leases, or operates any stationary facility or mobile fueler subject to the requirements of this rule.
- 220 **PORTABLE CYLINDER:** A container designed, constructed, tested, and marked in accordance with U.S. Department of Transportation (DOT) specifications Title 49, Code of Federal Regulations or in accordance with a valid DOT special permit. Examples of portable cylinders that contain LPG include those used with small hand torches, forklifts, barbeque grills, and agricultural weed burners.
- 221 **PORTABLE STORAGE TANK:** A container or portable cylinder designed to be easily moved by hand or hand truck (dolly) without mechanical assistance, as opposed to a container or stationary tank designed for stationary installations.
- 222 **RAILROAD TANK CAR:** A mounted cargo tank designated for transport over rail.
- 223 **RECREATIONAL VEHICLE:** Any vehicle or trailer used strictly for noncommercial leisure activities, and is equipped with living space and amenities found in a home.

- 224 **STATIONARY STORAGE TANK:** A container that is used for the storage of LPG, including, but not limited, for residential, commercial, or industrial usage, and includes containers constructed in accordance with the American Society of Mechanical Engineers Code.
- 225 **VALVE:** A device that regulates or isolates the fluid flow in a pipe, tube, tank, or conduit by means of an external actuator.
- 226 **VAPOR TIGHT:** A condition under which the concentration of total organic compounds from any LPG connector does not exceed 10,000 ppm above background, as determined pursuant to Section 501.
- 227 **VOLATILE ORGANIC COMPOUND (VOC):** For the purposes of this rule, "volatile organic compound" has the same meaning as in Rule 101 – GENERAL PROVISIONS AND DEFINITIONS.

300 STANDARDS

- 301 **LPG BULK LOADING FACILITIES:** Effective one year after the effective date of this rule, no person at an LPG bulk loading facility may 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 the all the following conditions are met:
- 301.1 An LPG vapor recovery or equalization system, capable of recovering all LPG vapors, is used during the transfer process. The LPG vapor recovery or equalization system is maintained and operated according to the specifications of the system manufacturer.
 - 301.2 All vapor return lines and liquid lines are properly connected between the cargo tank and the stationary storage tank so that associated connectors are maintained in a vapor tight and liquid tight condition during LPG transfer.
 - 301.3 The transfer hose assembly, which includes the hose, fittings, and gaskets, is properly maintained in order to maintain vapor tight conditions.
- 302 **LPG TRANSFER AND DISPENSING FACILITIES:** Effective one year after the effective date of this rule, no person may 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 the transfer is made under the following conditions, as applicable:
- 302.1 Each stationary storage tank must meet one or both of the following conditions:
 - a. All stationary storage tank FLLGs are closed during LPG transfer, using a filling technology that monitors the maximum fill level without use of an FLLG; or
 - b. The tank is equipped only with low emission FLLGs as follows:
 - 1. Whenever a tank is put into or taken out of service, the tank is equipped only with low emission FLLGs prior to returning the tank to service.
 - 2. Except as provided in Section 302.1(b)(3), all stationary storage tanks must be equipped with low emission FLLGs no later than 18 months after the effective date of this rule.
 - 3. Notwithstanding Section 302.1(b)(2), if the owner/operator demonstrates through documentation prior to 18 months after the effective date of this rule that the stationary storage tank being filled is equipped with an FLLG that cannot be retrofitted with a low emission FLLG in a safe manner without relocation of the stationary storage tank, the stationary storage tank must be equipped with a low emission FLLG no later than 48 months after the effective date of this rule. Such documentation must be

submitted to the Air Pollution Control Officer no later than 48 months after the effective date of this rule.

- 302.2 Each cargo tank, if equipped with FLLGs, must meet one or both of the following conditions:
- a. 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
 - b. The cargo tank is equipped only with low emission FLLGs as follows:
 1. If a cargo tank is purchased as new or manufactured after the effective date of this rule, it must be equipped only with low emission FLLGs.
 2. When a cargo tank is evacuated, it must be equipped only with low emission FLLGs prior to returning to service.
 3. All cargo tanks must be equipped only with low emission FLLGs no later than 60 months after the effective date of the rule.
- 302.3 Each container that is a cylinder or portable storage tank must meet one or both of the following conditions:
- a. The cylinder or portable storage tank FLLG is closed during LPG transfer using a fill by weight technique or an alternative technology that monitors the maximum fill level without the use of the FLLG; or
 - b. The cylinder or portable storage tank is equipped with a low emission FLLG no later than 18 months after the effective date of this rule.
- 302.4 Each LPG transfer from one container to any other container is made using LPG low emission connectors that are liquid tight and vapor tight, except when actively connecting or disconnecting the connector.

303 **LEAK DETECTION AND REPAIR PROGRAM:** Effective one year after the effective date of this rule, the owner/operator of an LPG bulk loading facility or an LPG transfer and dispensing facility must implement a leak detection and repair program, including but not limited to the following requirements:

- 303.1 Daily Physical Leak Check: On a daily basis, physically check all connectors involved with the transfer for evidence of leakage, such as the presence of odorant, hissing, or staining.
- 303.2 Bubble Test or EPA Method 21 Inspection: Inspect all LPG connectors during LPG transfers using the bubble test or EPA Method 21 at least once every 90 days, or if the time between the fillings is greater than 90 days, during or upon completion of the transfer of LPG. Visible bubbles when using the bubble test or a total organic compound concentration greater than 10,000 ppmv when using EPA Method 21 constitute a leak.
- 303.3 Employee Training: Conduct a periodic training program for any employee involved in the maintenance or operation of LPG transfer. The training program must incorporate written training procedures, training frequency, scheduled training dates, and written record of the dates and training provided for each employee.
- 303.4 Leak Repair: Remove from service and tag any connector identified as leaking pursuant to Section 303.1 or 303.2. The connector may not be put back into service until the leaky connector is repaired or replaced, and re-inspected for leaks. The owner/operator must keep a written record of all leaks found pursuant to Section 502.2. Leaks identified by the owner/operator that are removed from service, tagged, repaired or replaced, re-inspected, and documented will not be considered violations of this rule.

304 **MOBILE FUELER OR RAILROAD CARGO TANK MAINTENANCE:** Effective one year after the effective date of this rule, the owner/operator of a mobile fueller or railroad cargo tank equipped with an LPG vapor recovery or equalization system must operate the system in accordance with the manufacturer's specifications and perform system maintenance in accordance with the manufacturer's schedule.

400 ADMINISTRATIVE REQUIREMENTS

- 401 **INITIAL LOW EMISSION CONNECTOR INVENTORY SUBMITTAL FOR BULK LOADING FACILITIES:** By July 1 after the end of the first full calendar year that the requirements in Section 302 are in effect, the owner/operator of an LPG bulk loading facility must submit to the Air Pollution Control Officer (APCO) an end-of-year inventory, for the prior calendar year, of all low emission connectors installed at the facility and those installed on facility-owned or leased LPG mobile fuelers associated with the transfer or storage of LPG. The inventory submittal must include the specific transfer or storage equipment involved and the manufacturer and identification or part number of all low emission connectors. In addition, any connectors installed at the facility or on facility-owned or facility-leased mobile fuelers that are not low emission must be identified. The submittal must be in electronic format.
- 402 **ANNUAL SUBMITTAL OF LOW EMISSION FLLG INSTALLATIONS FOR BULK LOADING FACILITIES:** Beginning July 1 after the end of the first full calendar that the requirements in Section 302 are in effect and ending after five consecutive annual submittals: By July 1 each year, the owner/operator of an LPG bulk loading facility must submit to the APCO an end-of-year inventory, for the prior calendar year, of all facility 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. The inventory submittal must include a summary, by size and classification, and include the associated number of installed low emission FLLGs. The submittal must be in electronic format.

500 MONITORING AND RECORDKEEPING

- 501 **TEST METHOD – LEAK CONCENTRATIONS:** If Method 21 is used to comply with Section 303.2 instead of the bubble test, leak concentrations of total organic compounds must be determined using United States Environmental Protection Agency Reference Method 21, with an appropriate analyzer calibrated with methane. The analyzer must be calibrated before inspection on the day of inspection.
- 502 **RECORDKEEPING:**
- 502.1 The owner/operator of an LPG bulk loading facility or an LPG transfer and dispensing facility subject to the requirements of Section 301 or 302 must maintain purchase and installation 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.
- 502.2 The owner/operator of an LPG bulk loading facility or an LPG transfer and dispensing facility must maintain a maintenance log of all leaks found. The maintenance log must include the type of leak, location of leak, date and time leak discovered, date and time leak repaired, name of person who performed the repair and their employer's name and phone number, leaking connector name (part ID name, part number, and part manufacturer), and description of the repair.
- 502.3 The owner/operator of a mobile fueler or a railroad tank car subject to the requirements of Section 304 must maintain on-site maintenance records of the vapor recovery or equalization system and a copy of the manufacturer's maintenance schedule.
- 502.4 Records must be maintained on site for a continuous 5-year period and submitted to the Air Pollution Control Officer by July 1 of each year for the previous calendar year. The submittal must be in electronic format.