**02 DEPARTMENT OF PROFESSIONAL AND FINANCIAL REGULATION**

**658 MAINE FUEL BOARD**

**Chapter 14** **PROPANE AND NATURAL GAS CONTAINERS, DISPENSERS, AND PIPING**

**Summary**: This Chapter describes the necessary safety controls, devices and standards for the reduction of fire hazards associated with propane and natural gas storage and transfer equipment (including piping) used in residential, commercial and industrial applications.

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**14.1 Underground Gas Piping**

14.1.1 **Electrically Insulating Fitting Required**

When metallic piping is buried underground, an electrically insulating (dielectric) fitting must be installed before the entrance of the piping into the building. In no case shall the fitting be located after the connection of a bond wire for use with corrugated stainless steel tubing (CSST) or other piping material.

14.1.2 **Limitation on Use of Flare Fittings**

No flare fittings shall be located underground, unless specifically rated for such use and protected from corrosion in accordance with the manufacturer’s instructions.

14.1.3 **Protection of Metallic Piping from Corrosion**

All underground metallic piping must be protected from corrosion. This may be accomplished by sleeving, using a PVC coated pipe material approved for direct burial, or by other corrosion prevention material listed for such use.

**14.2 Liquefied Petroleum Gas, Liquefied Natural Gas and Compressed Natural Gas Containers – General Requirements**

 1. Any ASME container that does not have a data plate or has a plate that is not legible will be considered to be out of compliance and may not be filled**.**

 2. Department of Transportation cylinders and ASME containers must rest on noncombustible materials unless listed for such purpose.

 3. Any cylinder that does not have a legible manufacture date or retest date will be considered to be out of compliance and shall not be filled.

 4.Portable motor fuel containers which are equipped for volumetric filling and meet the requirements of construction and inspection set forth in NFPA 58 may be filled by volume or weight.

 5.For the purpose of container location, exhaust terminations of all residential clothes dryers shall be considered openings into the building and not ignition sources.

 6.For the purpose of container location, all electrical meters and disconnects are considered ignition sources.

**14.3 Identification of Tank Owner**

All liquefied petroleum gas, liquefied natural gas and compressed natural gas containers installed at a consumer site must be identified as follows:

1. The name of the tank owner must be clearly marked in letters which are a minimum of one (1) inch high;

2. The 24-hour emergency contact number of the tank owner must be marked in numbers which are a minimum of one (1) inch high;

3. On tanks which are consumer-owned, the tank must be marked “Consumer Owned” in letters which are a minimum of one (1) inch high; and

4. Aboveground containers must be placed so that the identification information is visible to emergency responders.

**14.4** **Underground Tanks**

14.4.1 Underground tanks must have the requirements of Section 14.3, subsections (1)-(3), clearly marked on the inside of the dome cover.

14.4.2 Underground containers must be installed such that the top of the attached dome is a minimum of six (6) inches above finished grade.

14.4.3 Existing underground tanks installed prior to 2015 must be tested for corrosion protection in accordance with the corrosion protection requirements of NFPA 58 including schedules for continuing testing.

**14.5**  **Container Installation Under Decks** **or Other Structures**

Cylinders and ASME containers of 125 gallons water capacity or less may be located and installed underneath a deck or other structure, provided all of the following conditions are met:

1. The space is completely open to the atmosphere for 50 percent of its perimeter or more;

2. There is a minimum of two (2) feet vertical clearance between the top of the tank and any part of the structure;

3. The maximum aggregate water capacity of such tanks is no more than 250 gallons; and

4. The container is not installed beneath a means of egress, as defined by the local Authority Having Jurisdiction.

**14.6 Vehicle Protection Requirements for Tanks, Gas Piping and Associated Accessory Equipment**

When vehicle protection at an existing installation has been compromised, it shall be replaced to meet current vehicle protection requirements as set forth in this Section and as summarized in the Appendix to this Chapter.

14.6.1 **Responsibility of Installer**

It is the responsibility of the licensee installing the tank(s)/outside piping to provide vehicle protection to the tank(s), outside piping or accessory equipment at time of installation.

14.6.2 **Responsibility of Delivery Technician**

It is the responsibility of the delivery technician to assure that all gas tanks and associated piping and accessory equipment are protected from vehicular damage prior to the introduction of gas to that system.

14.6.3 **Spacing**

14.5.3.1 There must be a maximum of thirty-six (36) inches of space between pieces or sections of vehicle protection.

14.5.3.2 Vehicle protection must be located a minimum of twenty-four (24) inches from containers.

14.6.4 **Guardrail**

Guardrail posts must be set in a minimum of thirty-six (36) inches below grade and extend a minimum of thirty-six (36) inches above finished grade.

14.6.5 **Bollards**

14.6.5.1 Bollards must be set a minimum of thirty-six (36) inches below grade in cement and must extend a minimum of thirty-six (36) inches above finished grade.

14.6.5.2 Bollards protecting vapor systems must be at least four (4) inches in diameter and filled with concrete.

14.6.5.3 Bollards protecting Bulk Plants, Dispensers, vaporizers and liquid piping must be at least six (6) inches in diameter and filled with concrete.

14.6.6 **Wooden Posts**

Wooden posts must consist of a minimum six (6) inch x six (6) inch pressure-treated material and must be set a minimum of thirty-six (36) inches below grade and extend at least thirty-six (36) inches above finished grade.

14.6.7 **Boulders**

Boulders at least thirty-six (36) inches in diameter (all directions) and meeting the spacing criteria of subsection 14.6.3 above may be used.

14.6.8 **Concrete Barriers and Blocks**

Concrete barriers and blocks at least thirty-six (36) inches high and meeting the spacing criteria of subsection 14.6.3 above may be used.

14.6.9 **Non-Standard Protection Systems**

Non-standard engineered vehicle protection systems must be reviewed and approved by the senior fuel inspector prior to being placed into service.

14.6.9.1 **Initial Review by Senior Fuel Inspector; Appeal to Board**

The senior fuel inspector may grant the application for non-standard vehicle protection in whole or in part or may deny the application. The senior fuel inspector’s disposition of the application must be provided to the applicant in writing and must include written notice of the applicant’s opportunity to appeal the disposition to the Board in writing within thirty (30) days of the applicant’s receipt of the disposition. The appeal must include an explanation of the reason for the appeal and a statement of the relief sought by the applicant. An appeal is deemed to be made on the date of its receipt by the Board. Untimely appeals will not be considered.

14.6.10 **Plastic Barriers**

Plastic “Type K” barriers filled with sand which meet the height and space criteria of this Chapter may be used.

**14.7** **Propane or Natural Gas Dispensing Stations**

All installations of dispensing stations must comply with the following requirements:

* + 1. Propane dispensers must be installed in accordance with NFPA 58.
		2. Liquified or compressed natural gas dispensers must be installed in accordance with NFPA 52.
		3. Dispenser installations are required to have the electrician get an electrical permit, and the permit approved by an electrical inspector, before the license can be issued.

14.7.4 All propane or natural gas dispensing stations must have available to the operator a chart showing permissible filling capacities of containers

14.7.5 All propane or natural gas dispensing stations must post signs indicating no smoking allowed within twenty-five (25) feet. Such signs shall be visible from all directions of the dispenser.

14.7.6 Dispensing station actuators on internal valves and emergency shut-off valves must not be operated with a flammable gas.

14.7.7 All dispensing stations shall be enclosed with a minimum six (6) feet (1.8 m) high industrial type chain-link fence meeting clearance and egress requirements of NFPA 58. All piping, valves and pumps shall be within the enclosure.

14.7.8 All Propane dispensing stations must post signs indicating “no smoking allowed within 25’”, “Propane” and the “UN1075” hazard placard. Such signs shall be visible from all directions of the dispenser.

14.7.9 All Natural Gas dispensing stations must post signs indicating “no smoking allowed within 25 feet”, “Natural Gas” and the “UN 1972” hazard placard. Such signs shall be visible from all directions of the dispenser.

14.7.10 When delivering propane to a dispensing station, the delivery technician must verify that the dispensing station has a valid license prior to completing the delivery. If the dispensing station is not licensed, the delivery shall not be completed until such time as the dispenser has been properly licensed.

14.7.11 **Dispenser Weather Shelters**

Where propane, compressed natural gas or liquefied natural gas dispensers are installed beneath a weather shelter to cover the working space while filling operation is in progress, the following requirements must be met:

(1) The weather shelter must be designed to prevent accumulation or entrapment of ignitable vapors and shall not be enclosed for more than 50% of its perimeter.

(2) All electrical equipment installed beneath the weather shelter or enclosure must be suitable for Class I, Division 1 hazardous (classified) locations.

(3) The weather shelter and supporting structure must be made from noncombustible materials.

(4) No portion of the container supplying gas to the dispenser may be located beneath the weather shelter.

**14.8 Self-Service Dispensing Stations**

All installations of self-service dispensers at dispensing stations must comply with the following requirements in addition to the requirements of 14.7:

14.8.1 **Operating Instructions**

Operating instructions must be conspicuously posted in the dispensing area.

14.8.2 **View of Operator**

The dispensing area must be in clear view of the operator on duty at all times.

14.8.3 **Communications**

The operator must be able to communicate with persons in the dispensing area at all times.

14.8.4 **Warning Signs**

Warning signs incorporating the following or equivalent wording must be conspicuously posted in the dispensing area:

1. “The filling of portable propane and natural gas containers is prohibited;”

2. “No Smoking;”

3. “Stop Motor and Extinguish All Pilots - Extinguish all pilots and gas ignition systems. All appliances must be in the ‘off’ position;” and

4. “Remove All Occupants from Vehicles Containing Propane Appliances.”

14.8.5 **Emergency Breakaway Device**

The dispensing station must have an emergency breakaway device under the dispensing unit that will retain the product on both sides of the breakaway point, or other devices affording equivalent protection.

14.8.6 **Thermally Activated Shut-off**

The dispensing station must have a thermally operated shutoff designed to shut off all transfer operations in case of a fire.

14.8.7 **Listing**

Motor fuel dispensing devices for compressed natural gas, liquefied natural gas, and liquefied petroleum gas must be listed.

14.8.8 **Hose Assemblies**

Listed hose assemblies must be used to dispense fuel. Hose length at automotive service stations must not exceed eighteen (18) feet (5.5 meters).

14.8.9 **Code Compliance Required: LP, LNG, CNG Dispensers**

Dispensing devices for liquefied petroleum gas (LP), liquefied natural gas (LNG) or compressed natural gas (CNG) must meet all requirements of the appropriate Sections of NFPA 58 for LP, and NFPA 52 for LNG and CNG dispensers. When a LP, LNG or CNG dispenser is located at a facility where other fuels are dispensed, it also meet the requirements of NFPA 30A.

**14.9**  **Cylinder Exchange** **Systems**

14.9.1 **Vehicle Protection**

Vehicle protection shall be provided in accordance with 14.6 where any type of vehicle traffic is expected at the location of any cylinder exchange system.

14.9.2  **Location**

Cylinder exchange systems shall be located no less than ten (10) feet from any

 opening into a building.

**Appendix**

**VEHICLE PROTECTION**

**BARRIERS:**

 Stone: Minimum 36 inches high

 Maximum 3 feet between stones

 Concrete Blocks: Minimum 36 inches high

 Maximum 3 feet between blocks

 Highway Barriers: Minimum 32 inches high

 Maximum 3 feet between blocks

**GUARD RAIL:**

 Standard Steel: Minimum 36 inches high

 Minimum post depth 3 feet in ground

 Maximum 3 feet breaks between sections for access

 Special Engineered: Must be reviewed and approved by the Maine Fuel Board

**STEEL BOLLARDS:** 4 inch minimum diameter filled with concrete

BULK PLANTS AND DISPENSERS -6 inch diameter filled with concrete

 Minimum 36 inches high

 Minimum 3 feet below grade in cement (all sizes)

 Maximum 3 feet between bollards

**WOODEN POSTS:** Minimum 6 inch X 6 inch pressure treated

 Minimum 36 inches high

 Minimum 3 feet below grade in cement

 Maximum 3 feet between posts

STATUTORY AUTHORITY: 32 M.R.S. § 18123(2)

EFFECTIVE DATE:

 September 16, 2023 – 2023-170