

## CHAPTER IV L-P Gas

### 401—LEGAL REFERENCES

#### STANDARDS FOR STORAGE, HANDLING AND INSTALLATION.

**§6.1-1. National Board of Fire Underwriters standards adopted.**—The standards of the National Board of Fire Underwriters for the storage and handling of liquefied petroleum gases as recommended by the National Fire Protection Association and as published in Pamphlet No. 58 of the National Board of Fire Underwriters dated July, 1969, shall be the accepted standards for this state, and are hereby adopted subject to additions and exceptions set forth in §6.1-3.

**§6.1-2. National Fire Protection Association standards for piping and appliances adopted.**—The standards for liquefied petroleum gas piping and appliance installations in buildings as set forth in the National Fire Protection Association Pamphlet known as N.F.P.A. Pamphlet No. 54, dated May, 1969, shall be the accepted standards for this state and are hereby adopted subject to additions and exceptions set forth in §6.1-3.

#### §6.1-3. Additions and exceptions to §§6.1-1 and 2.1-2—

(a) When I.C.C. containers, having a capacity of less than 125 gallons, are installed, the three-foot rule shall apply; the piping, fittings, and valves on the high pressure side of the regulator shall withstand a testing pressure of 375 pounds per square inch; and the relief valve shall be set to start discharging at a pressure of 375 pounds per square inch.

(b) When A.S.M.E. or A.P.I.-A.S.M.E. containers are installed, the five-foot rule shall apply; the piping, fittings, and valves on the high pressure side of the regulator shall have a working pressure of at least 250 pounds per square inch and shall be of suitable material and design.

(c) All underground service piping shall rise above ground immediately before entering into a building.

(d) When two or more containers are manifolded to a single service, each container shall be considered independent of the other and all rules and regulations relating to a single container shall apply.

(e) All cut-off valves and regulating equipment exposed to rain, sleet or snow shall be protected against such elements either by design or by a hood.

(f) The term "firm foundation" as used in Division I, section 1.3(b) of N.B.F.U. Pamphlet No. 58 shall be construed to mean that the foundation material has a level top surface; is on solid earth; will not settle or careen; will not deteriorate; and is of a masonry material or wood which has been treated to prevent decay by moisture rot.

(g) No person, firm or corporation shall use liquefied petroleum gas as a source of pressure in lieu of compressed air in operating spray guns and other pressure-operated machines or equipment.

(h) Piping, tubing or regulators shall be considered well supported when they are rigidly fastened in their intended position.

**(EDITOR'S NOTE:** The following recommendations were a part of the resolution under which the North Carolina State Board of Agriculture adopted these regulations on October 17, 1955: "This Board recommends but does not make compulsory at this time, that all containers piping, tubing, valves and accessories used in the distribution of

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liquefied petroleum gas be designed to stand a working pressure of 250 pounds per square inch.”)

**§6.1-4. Venting of appliances.**—Appliances shall be flue connected or otherwise vented as follows:

- (a) When input rate is in excess of 50,000 B.T.U. per hour.
- (b) When in excess of 5,000 B.T.U. per hour, if the input rate exceeds 30 B.T.U. per hour per cubic foot of room space. (Domestic ranges and clothes dryers are exempted from this provision.)
- (c) When heaters are installed in sleeping quarters of transients or in institutions, and in addition such heaters must be equipped with automatic pilot safety cut-off.
- (d) When used as space heaters, except those space heaters not equipped with a flue collar, steam and hot water boilers, warm air furnaces, floor furnaces, recessed heaters, unit heaters and duct furnaces.
- (e) When unlisted appliances have a flue collar.
- (f) When appliance is a gas-fired incinerator.

Note—For Article 2 See Appendix “A”

## 402—EXCERPTS FROM NFPA 58

Pertinent excerpts applicable to inspection, and installation of L-P Gas in the construction industry will be found in the Appendix.

## 403.0—OBLIGATIONS TO THE N. C. DEPARTMENT OF AGRICULTURE

For distributors of L-P Gas, their scales, storage containers, piping and auxiliary equipment, all inspection shall be made by representatives of the Gasoline and Oil Division, Department of Agriculture.

In commercial, industrial or residential use where a 2001 gallon or greater (water capacity) L-P Gas storage is planned or when aggregate water capacity exceeds 4000 gallons drawings shall be submitted in duplicate to the L-P Gas Division of the Gasoline and Oil Division of the Department of Agriculture, Raleigh, N.C., for review and approval prior to installation. These plans shall show capacity of container of containers, location above or below grade, orientation and adjacent buildings with some information about the use and occupancy of both buildings it will serve, and the use and occupancy of the adjacent buildings. Distances to these buildings, to property lines, and railroads if any, shall be shown on the drawings, or the drawing shall be made to scale. Container location shall be within an enclosure with a six foot high industrial type fence, with two gates, located on opposite sides or ends, as per NFPA 58.

**§119-49. Minimum standards adopted; power of Board of Agriculture to make changes or additions; regulation by political subdivisions.**—The standards as set forth in Pamphlet No. 58 of the National Fire Protection Association entitled, THE STORAGE AND HANDLING OF LIQUEFIED PETROLEUM GASES dated 1969, and Pamphlet No. 54 of the National Fire Protection Association entitled, INSTALLATION OF GAS APPLIANCES AND GAS PIPING dated 1969, and the rules and regulations promulgated by the North Carolina State Board of Agriculture are hereby adopted as if set forth herein, as safety standards for the design, construction, location, installation and operation of equipment and facilities used in handling,

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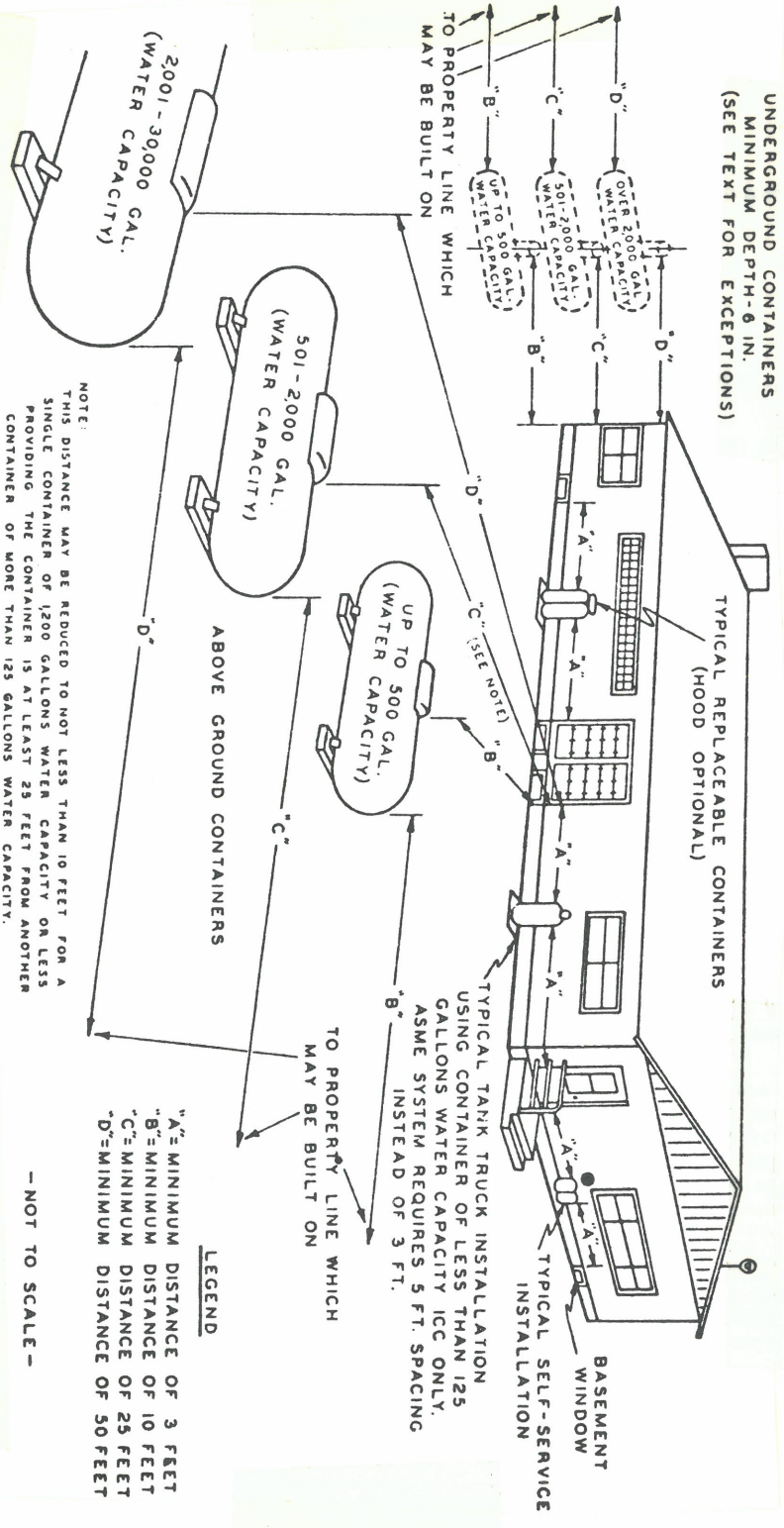
storing, and distribution of liquefied petroleum gas, subject, always, to the power and authority of the North Carolina State Board of Agriculture to adopt, reject, or to add to any provisions set forth in said pamphlets as above entitled after a public hearing held upon fifteen (15) days notice. After adoption by the Board of Agriculture of such provision or provisions as it may consider necessary in furtherance of the purposes of this article, such provision or provisions shall become a part of this Safety Code to the same extent as if written in this article.

Any municipality or political subdivision may adopt and enforce a Safety Code dealing with the handling of liquefied petroleum gas, which code shall conform with the code adopted by the State Board of Agriculture, and the inspection service rendered by such municipality of political subdivision shall conform to the requirements of the inspection service rendered by the State Board of Agriculture in the enforcement of this article. (1955. c. 487; 1959, c. 796, s. 2; 1961, c. 1072; 1963, c. 671; 1967, c. 1231, ss. 1. 2.)

(6-8-76) Page 4-3—Add new paragraph 404.0 as follows: 404.4 CONTAINER SPACING: Storage containers shall be located in accordance with Figure 404.0.



UNDERGROUND CONTAINERS  
 MINIMUM DEPTH-6 IN.  
 (SEE TEXT FOR EXCEPTIONS)



TYPICAL TANK TRUCK INSTALLATION  
 USING CONTAINER OF LESS THAN 125  
 GALLONS WATER CAPACITY ICC ONLY.  
 ASME SYSTEM REQUIRES 5 FT. SPACING  
 INSTEAD OF 3 FT.

LEGEND  
 "A"=MINIMUM DISTANCE OF 3 FEET  
 "B"=MINIMUM DISTANCE OF 10 FEET  
 "C"=MINIMUM DISTANCE OF 25 FEET  
 "D"=MINIMUM DISTANCE OF 50 FEET

NOTE:  
 THIS DISTANCE MAY BE REDUCED TO NOT LESS THAN 10 FEET FOR A  
 SINGLE CONTAINER OF 1200 GALLONS WATER CAPACITY OR LESS  
 PROVIDING THE CONTAINER IS AT LEAST 25 FEET FROM ANOTHER  
 CONTAINER OF MORE THAN 125 GALLONS WATER CAPACITY.

FIGURE 404—CONTAINER SPACING

— NOT TO SCALE —