Ind 9.003 Inspections. (1) The authorized inspectors of the department, upon presenting appropriate credentials to the owner, operator, or agent in charge, are authorized—

(a) To enter without delay and at reasonable times any factory, plant, establishment, construction site, or other area, workplace or environment where work is performed by an employee of an employer; and

(b) To inspect and investigate during regular working hours and at other reasonable times, and within reasonable limits and in a reasonable manner, any such place of employment and all pertinent conditions, structures, machines, apparatus, devices, equipment, and materials therein, and to question privately any such employer, owner, operator, agent or employee.

(2) The inspector before making his inspection shall contact a representative of the employer and a representative authorized by his employees who shall be given an opportunity to accompany the inspector during the physical inspection of any workplace under subsection (1) for the purpose of aiding such inspection.

(a) Where there is no authorized employee representative, the inspector shall consult with a reasonable number of employees concerning matters of health and safety in the workplace.

Note: The department policy is not to give advance notice, but in the scheduling and in the act of inspecting it may not always be possible to avoid advance notice or to obtain accompaniment as, for example, inside boilers or in precarious locations of elevator installations, but otherwise these rules will be diligently observed.

History: Cr. Register, April, 1973, No. 208, eff. 5–1–73.

Ind 9.01 Basic rules. (1) Every person, firm, association or corporation actually performing the work of installing equipment utilizing liquefied petroleum gas for fuel purposes shall furnish the customer or user of said equipment, at time of installation, a statement, a form which is acceptable to the department, showing that the design, construction, location and installation of said equipment conforms with the rules and regulations adopted by the department.

(a) The written statement shall cover installations of 20 pound gas rated containers and larger.

(2) Persons installing containers of 125 gallon water capacity up to and including 2,000 gallon water capacity for permanent* installations shall submit a written report at time of such installations to the chief of the fire department, if there is one, otherwise to the department.

* **Note:** The term "permanent" is intended to designate installations at a fixed geographic location.

(3) Temporary installations at construction sites. (a) A written notification for use of liquefied petroleum gas deliveries of 100 pound gas rated containers or larger shall be made to the chief of the fire department, if there is one, otherwise to the department, by the responsible receiving contractor at the time of initial delivery.

(4) Three sets of plans for all installations using containers over 2,000 gallon water capacity shall be submitted and approval granted by the department before such installations are made.

(5) Odorizing Gases. (a) All liquefied petroleum gases shall be effectively odorized by an approved agent of such character as to indicate positively, by distinct odor, the presence of gas down to con-

centration in air of not over 1/5 the lower limit of flammability. Odorization, however, is not required if harmful in the use of further processing of the liquefied petroleum gas, or if odorization will serve no useful purpose as a warning agent in such use or further processing.

Note: The lower flammable limits of the more commonly used LP-gases are: propane, 2.15%; butane, 1.55%. These figures represent volumetric percentages of gas in gas-air mixtures.

(b) The odorization requirements of section Ind 9.01 shall be considered to be met by the use of 1.0 pounds of ethyl mercaptan, 1.0 pounds of thiophane or 1.4 pounds of amyl mercaptan per 10,000 gallons of LP-gas. However, this listing of odorants and quantities shall not exclude the use of other odorants that meet the odorization requirements of section Ind 9.01.

History: Cr. Register, May, 1961, No. 65, eff. 6–1–61; r. and recr. Register, May, 1972, No. 197, eff. 6–1–72.

Ind 9.02 Approval of equipment and systems. (1) Each system utilizing ICC containers shall have their container valves, connectors, manifold valve assemblies and regulators (bases, hoods, or cabinets if desired):

(a) Listed by Underwriters' Laboratories, Inc., or,

(b) Listed by a nationally recognized testing laboratory, or,

(c) Inspected and approved by the department.

Note: Where necessary to alter, or to repair such listed systems in the field in order to provide for different operating pressures, change from vapor to liquid withdrawal, and the like, such changes may be made by use of component parts which have been individually listed by one of the above for use with LP-gas.

(2) Each system for domestic and/or commercial use utilizing containers of 2,000 gallons or less water capacity, other than those bearing the ICC stamping, shall be:

(a) Listed by Underwriters' Laboratories, Inc., or,

(b) Listed by a nationally recognized testing laboratory, or,

(c) Inspected and approved by the department.

charging plant and storage containers shall be enclosed by a suitable fence (so-called "manproof") which shall have the gates locked when the plant is unattended.

(b) At a trailer coach location directly from a tank truck into the container or containers installed at any one trailer coach with the following limitations. No vapor or liquid shall be vented to the atmosphere. The container charging operation shall be performed only by qualified personnel. When containers are accumulated at the tank truck for charging such charging shall not be done within 50 feet of the nearest building, trailer, or group of buildings nor within 25 feet of public streets or highways. Private streets, roads, or rights of way shall not be classed as public streets or highways.

History: Cr. Register, May, 1961, No. 65, eff. 6–1–61.

Ind 9.14 Tank car or transport truck unloading points and operations. (1) The track of tank car siding shall be relatively level.

(2) A "Tank car connected" sign shall be installed at the active end or ends of the siding while the tank car is connected for unloading.

(3) While cars are on sidetrack for unloading, the wheels at both ends shall be blocked on the rails.

(4) A man shall be in attendance at all times while the tank car, cars or trucks are being unloaded.

(5) The pipe line to which the unloading hoses are connected shall be equipped with a back flow check valve to prevent discharge of the LP Gas from the receiving container and line in case of line hose and fittings rupture.

(6) The tank car or transport truck unloading point should be located with due consideration to the following:

(a) Proximity to railroads and highway traffic.

(b) The distance of such unloading point from adjacent property.

(c) With respect to buildings on installer's property.

(d) Nature of occupancy.

(e) Topography.

(f) Type of construction of buildings.

(g) Number of tank cars or transport trucks that may be safely unloaded at one time.

(h) Frequency of unloading.

(7) Where practical, the distance of the unloading point should conform to the distances in section Ind 9.05 (2), except that lesser distances may be used, keeping in mind the above items and upon approval of the authority having jurisdiction.

History: Cr. Register, May, 1961, No. 65, eff. 6–1–61.

Ind 9.15 Electrical connections and open flames. (1) All electrical equipment in vaporizer houses, except those housing direct fired vaporizers, pumphouses and cylinder filling rooms, or other similar locations shall be of the type approved for use in Class I, Group D, Hazardous Locations in the Wisconsin State Electrical Code.

(2) Open flames or other sources of ignition shall not be permitted in vaporizing houses except those housing direct fired vaporizers, pumphouses, container charging rooms, or other similar locations. No direct fired vaporizers shall be permitted in pumphouses or container charging rooms.

History: Cr. Register, May, 1961, No. 65, eff. 6–1–61.

Ind 9.16 Liquid level gauging device. (1) All containers, including those stamped ICC, with water capacity less than 200 pounds shall be charged by weight, except in connection with use of liquefied petroleum gas as a motor fuel.

(2) Each container, except containers charged by weight, shall be equipped with a liquid level gauging device of approved design. These gauges shall be used in charging containers as required in section Ind 9.11.

(3) All gauging devices shall be arranged so that the maximum liquid level for butane, for a 50–50 mixture of butane and propane, and for propane, to which the container may be charged is readily determinable. The gallonage capacity (section Ind 9.11), whether for cylindrical or spherical containers, and whether for use with aboveground or underground containers shall be marked on either the system nameplate or gauging device or part may be on the system nameplate and part on the gauging device.

(4) Gauging devices that require bleeding of the product to the atmosphere, such as the rotary tube, fixed tube and slip tube, shall be so designed that the bleed valve maximum opening is not larger than a No. 54 drill size, unless provided with excess flow valve.

(5) Gauging devices shall have a design working pressure of at least 250 psig.

(6) Length of fixed tube device shall be designed to indicate the maximum level to which the container may be filled for the product contained. This level shall be based on the volume of the product at 40° F. at its maximum permitted filling density for aboveground containers and at 50° F. for buried containers. Refer to appendix E for calculating filling point for which tube shall be designed.

(7) (a) When a fixed tube device is used on containers other than those stamped ICC, the length of the dip tube, expressed in inches carried out to one decimal place and prefixed with the letters "DT" shall be stamped on the exterior of the device.

(b) When a fixed tube device is used on containers stamped ICC, the length of the dip tube expressed in inches, carried out to one decimal place and prefixed with letters "DT" shall be stamped on the exterior of the device and on the container.

(8) Gauge glasses of the columnar type shall be restricted to charging plants where the fuel is withdrawn in the liquid phase only. They shall be equipped with valves having metallic hand wheels, with excess-flow valves, and with extra heavy glass adequately protected with a metal housing applied by the gauge manufacturer. They shall be shielded against the direct rays of the sun. Gauge glasses of the columnar type are prohibited on tank trucks, and on motor fuel tanks, and on containers used in domestic, commercial and industrial installations.

(9) Gauging devices of the float, or equivalent type which do not require flow for their operation and having connections extending to a point outside the container do not have to be equipped with excess flow valves provided the piping and fittings are adequately designed to withstand the container pressure and are properly protected against physical damage and breakage.

History: Cr. Register, May, 1961, No. 65, eff. 6–1–61.

feet from important buildings, or regularly busy thoroughfare. No such storage shall be located immediately adjacent to schools, churches, hospitals, athletic fields or other points of public gathering.

(b) Containers shall be in a suitable enclosure or otherwise protected against tampering.

(c) Valves and safety devices shall be protected against accumulations of ice and snow. Protective caps shall be deemed adequate.

History: Cr. Register, May, 1961, No. 65, eff. 6–1–61.

Ind 9.82 Fire protection. Storage locations other than supply depots separated and located apart from dealer, reseller, or user establishment, shall be provided with at least one approved portable fire extinguisher having a minimum rating of 8–B,C. Ratings shall be in accordance with the Standard for Installation, Maintenance and Use of Portable Fire Extinguishers.

Note 1. Fire extinguisher ratings will be found on the label containing the Underwriters' Laboratories approval, on the extinguisher. In the case of units having the old classification system, the conversion tables NFPA #10 may be used to determine proper rating.

Note 2. Copies of the above Standards for the Installation, Maintenance and Use of Portable Fire Extinguishers, June, 1959 edition, are available for inspection at the office of the Industrial Commission, Secretary of State and Revisor of Statutes, or they may be procured for personal use from the National Fire Protection Association, 60 Batterymarch Street, Boston 10, Mass.

History: Cr. Register, May, 1961, No. 65, eff. 6–1–61.

Ind 9.83 General. (1) Containers in storage shall have valves closed even though they may be empty.

(2) Containers which require valve protecting caps shall have such caps in place hand tight while in storage.

History: Cr. Register, May, 1961, No. 65, eff. 6–1–61.

PART VII

LIQUEFIED PETROLEUM GAS SERVICE STATIONS

Ind 9.84 Liquefied petroleum gas service stations. Liquefied petroleum gas service stations apply to storage containers and dispensing devices and pertinent equipment in service stations where liquefied petroleum gas is stored and is dispensed into fuel tanks of motor vehicles. (See section Ind 9.70 for requirements covering use of liquefied petroleum gas as a motor fuel.) All basic rules apply to this section unless otherwise noted. Containers and pertinent equipment shall comply with the requirements as outlined herein as well as with other requirements of the department.

History: Cr. Register, May, 1961, No. 65, eff. 6–1–61; am. Register, May, 1972, No. 197, eff. 6–1–72.

Ind 9.85 Design working pressure and construction of storage containers. Storage containers shall be constructed in accordance with the Wisconsin Boiler and Unfired Pressure Vessel Code and classified as to container type as follows:

Container Type	For Gases with Vapor Press. Not to Exceed lb. per sq. in. gauge at 100° F.	Minimum Design Working Pressure of Container lbs. per square inch gauge	
		Containers Stamped ASME U-68, U-69	Containers Stamped U-200, U-201 or ASME or API-ASME
Col. (1)	Col. (2)	Col. (3)	Col. (4)
200*	215	200	250

Note: * Container type may be increased by increments of 25. The minimum design pressure of containers shall be 100% of the container type designation when constructed under 1949 or earlier editions of the ASME Code (Par. U–68 and U–69). The minimum design pressure of containers shall be 125% of the container type designation when constructed under: (1) the 1949 ASME Code (U–200 and U–201), (2) 1950, 1952, 1956 and 1959 editions of the ASME Code, and (3) all editions of the API–ASME Code.

History: Cr. Register, May, 1961, No. 65, eff. 6–1–61.

Ind 9.86 Container valves and accessories. (1) A filling connection on the container shall be fitted with one of the following:

(a) A combination back-pressure check and excess flow valve,

(b) One double or two single back-pressure valves,

(c) A positive shut-off valve, in conjunction with either:

1. An internal back-pressure valve, or

2. An internal excess flow valve.

Note: In lieu of an excess flow valve, filling connections may be fitted with a quick-closing internal valve, which shall remain closed except during operating periods. The mechanism for such valves may be provided with a secondary control which will cause it to close automatically in case of fire. When a fusible plug is used its melting point shall not exceed 220° F.

(2) A filling pipe inlet terminal not on the container shall be fitted with a positive shut-off valve in conjunction with either a back pressure check valve, or an excess flow check valve.

(3) All openings in the container except those listed below shall be equipped with approved excess flow check valves:

(a) Filling connections as provided in section Ind 9.86 (1).

(b) Safety relief connections as provided in section Ind 9.06 (2).

(c) Liquid level gauging devices as provided in sections Ind 9.06 (4) and Ind 9.16 (4).

(d) Pressure gauge connections as provided in section Ind 9.06 (5).

(4) All container inlets and outlets except those listed below shall be labeled to designate whether they connect with the vapor or liquid (labels may be on valves):

(a) Safety relief valves.

(b) Liquid level gauging devices.

(c) Pressure gauges.

(5) Each storage container shall be provided with a suitable pressure gauge.

History: Cr. Register, May, 1961, No. 65, eff. 6–1–61.

Ind 9.87 Safety relief valves. (1) All safety relief devices shall be installed as follows: