

# Oregon Office of State Fire Marshal

## License and Permits Branch Liquefied Petroleum Gas Program



### Common Residential LPG Inspection Elements

NOTE: Building Codes Divisions (BCD) have jurisdiction downstream of the first stage regulator.

**Mechanical Permits are required for LPG piping systems.** Two common deficiencies found downstream of the first stage regulator are lack of evidence that tracer wire was entrenched with poly-type piping, and the point of discharge of the second-stage regulator vent in regards to sources of ignition and openings below such points of discharge. **National Fire Protection Association (NFPA) 58-6.9.4.6, NFPA 58-6.8.1.6 , NFPA 58-6.8.1.7 & Oregon Mechanical Specialty Code (OMSC) OMSC-C410.3** The tank installation notice must be complete and accurate, including a detailed site map. Notices of tank installation are necessary for all new installations, and for **all** change outs. **Oregon Revised Statute (ORS) 480.450**

1. The required specific tank data and data plate must be legible. **NFPA 58-5.2.1.1 & 58-5.2.8**
2. If the container is in a recognized floodplain (per county planning department data) it shall be securely anchored to prevent floatation due to high water. **NFPA 58-6.6.1.6**
3. A container must have a 6-foot clearance by vertical plane downward from high overhead voltage lines. **NFPA 58-6.4.5.12**
4. Containers over 125 gallons water capacity must be 20 feet from other fuel storages having flash points below 200 degrees F. Containers under 125 gallons are exempt from this standard as long as the adjacent fuel tank is less than 660 gallons. **NFPA 58-6.4.5.5 & 58-6.4.5.6**
5. All piping, fittings, and tubing components must be made of materials in accordance with **NFPA 58-5.9.1.1** (e.g.) wrought iron, steel, copper, brass, polyethylene, etc.
6. Regulators should be attached directly to the service valve. If flexible connectors (pigtailed, copper tubing, etc) are used they must be less than 60 inches long. **NFPA 58-6.9.6 & 58-6.8.1.1**
7. Pressure relief valves must be unobstructed and covered with an industry standard weather cap with the ability to drain any water that might enter. **NFPA 58-6.7.2.4**
8. Containers and piping systems must be leak free. **NFPA 58 & Oregon Fire Code**
9. Containers must not have signs of denting, bulging, gouging or excessive corrosion. **NFPA 58-5.2.1.4.** National Board Inspection Code Appendix H: Recommended Guide for the Inspection of Pressure Vessels in LP Gas Service.
10. Tanks must be painted and maintained. **NFPA 58-6.6.1.4**
11. Shut off valves and all tank appurtenances must be easily accessible. **NFPA 58-6.6.1.5 & 5.7.8.1(F)**
12. Structures, including aesthetic fencing, cannot be built around or over containers. Aesthetic fencing may be built around containers only under certain specifications. See Oregon Fire Code Interpretation No. 08-01. ASME containers cannot be placed under decks.
13. Containers made after July 1, 1961, must have a Check-Lok® or other applicable liquid withdrawal valve. **NFPA 58-5.7.4.1(B) & LP Gas Code Handbook 2008 58-3.3.1 (commentary)**

14. The system must be a two-stage regulator system, an integral regulator system, or a 2 psi regulator system. **NFPA 58-6.8.2**
15. The container's pressure relief valve, liquid level vent, and fill valve must be at least 10 feet (in all directions) from exterior sources of ignition, direct vent, or mechanical air intakes.  
**NFPA 58-6.3.10 & NFPA 58 Table 6.3.9**
16. The pressure relief valve point of discharge on ASME containers must have 5 feet of horizontal clearance to openings below the point of discharge. **NFPA 58-6.3.9**
17. Regulator vent points of discharge must have 3 feet of horizontal clearance from openings below the point of discharge and 5 feet (in all directions) from exterior sources of ignition.  
**NFPA 58-6.8.1.6 & 58-6.8.1.7**
18. Regulator vents must be installed pointing downward or under an industry standard lid or dome. Regulator vents positioned near an opening in a lid or dome are susceptible to the elements.  
**NFPA 58-6.8.1.5**
19. A gas system must be installed in a way that protects it from physical damage. This includes regulators, valves, piping and other appurtenances. **NFPA 58-5.7.8.2, NFPA 54-7.2.1, 54-5.8.4 & ORSC G2415.7**
20. Any portion of tanks must be located with respect to adjacent containers, buildings, or lines of adjoining property that can be built on, in accordance with **NFPA 58-6.3.1 Table 6.3.1 & NFPA 58-6.3.12.**
21. Containers must have level, firm and stable foundations. Typically, positioned solidly on concrete blocks (ASME containers minimum 1 heavy block per support leg), or concrete pads. Vertical 420# DOT cylinders typically required 3 concrete blocks, or pad. Containers must not be in contact with the ground. Hollow blocks are prohibited. See Exhibit 6.12 LP Gas Code Handbook 2008.  
**NFPA 58-6.6.3.1 & 58-6.6.2.1**
22. Combustible materials including weeds, long dry grass, fire wood, stacked lumber, etc., must be separated from containers by a minimum of 10 ft. **NFPA 58-6.4.5.2**

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