RESCINDED, REFER TO INTERPRETATION #08-01

OREGON FIRE CODE

Interpretations and Technical Advisories

A collaborative service by local and state fire professionals, along with our stakeholders and customers, to provide consistent and concise application of Oregon's fire prevention and life safety regulations.

Date: August 9, 2005

Ruling: Interpretation No. 05-02 (Revised #02-23)

Subject: LP-Gas Tank (Container) Concealment

Code Reference: 2004 Oregon Fire Code, Section 3807.3.

Question(s): 1) Is it permissible to conceal LP-Gas tanks (containers)?

2) What are the requirements for concealment around LP-Gas tanks (containers)?

Answer(s): Question #1: Yes.

Question #2: Wood fencing may be permitted under the following guidelines:

a) Fencing is constructed to a maximum height of 12 inches above the top of the tank (container) and height shall not exceed 72 inches above grade.
b) Fencing is constructed with a minimum clearance of 6 inches above grade. **NOTE:** 50% of the enclosure shall maintain this opening for airflow.
c) Fencing shall be a minimum distance of 36 inches, measured horizontally, from all sides of the tank (container).
d) Gates, if supplied, shall not be locked.
e) Storage shall not be allowed within the enclosure.
f) Weed and grass shall be maintained so they do not create a fire hazard within the fenced enclosure.

NOTE: Check with local building official for permit requirements.

NOTE: Fences constructed of any other material shall be approved by the authority having jurisdiction prior to construction.

Other References: NFPA 58 (2001) and LP-Gas Handbook (Sixth Edition), Sections 3.2.2.6(b), 3.2.2.8, A.3.2.2.8 and 3.2.4.5.

RESCINDED, REFER TO INTERPRETATION #08-01

In recent years there has been a desire to aesthetically conceal residential propane tanks (containers) and the regulatory codes are not very clear. The issue of wood fencing around propane tanks (containers) has surfaced time and time again from both industry and the general public. The current codes and standards appear to allow fencing but do not give clear and concise requirements. The goal of this interpretation is to provide guidelines on what would be acceptable wood fencing. This interpretation applies to installations of 2000 gallons (aggregate) or less.

REFRENCE MATERIAL

Oregon Fire Code (2004 Edition)

3807.3 Weeds, grass, brush, trash and other combustible materials shall be kept a minimum of 10 feet (3048 mm) from LP-gas tanks or containers.

NFPA 58 (2001) and LP-Gas Code Handbook (Sixth Edition)

3.2.2.6(b) Loose or piled combustible material and weeds and long dry grass shall be separated from containers by a minimum of 10 ft. (3.0 m).

The 10-ft (3-m) separation helps prevent a possible grass or brush fire from affecting the LP-Gas container. Note that the separation requirement does not apply to live vegetation and to wood fences, which are not piled material.

3.2.2.8 Structures such as fire walls, fences, earth or concrete barriers, and other similar structures shall be avoided around or over installed nonrefrigerated containers.

Exception No. 1: Such structures partially enclosing containers shall be permitted if designed in accordance with a sound fire protection analysis.

Exception No. 2: Structures used to prevent flammable and combustible liquid accumulation or flow shall be permitted in accordance with 3.2.2.6(c).

Exception No. 3: Structures between LP-Gas containers and gaseous hydrogen containers shall be permitted in accordance with 3.2.2.6(f).

Exception No. 4: Fences shall be permitted in accordance with 3.3.6.

A.3.2.2.8 The presence of such structures can create significant hazards, such as the following:

(1) Pocketing of escaping gas.
(2) Interference with application of cooling water by fire departments.
(3) Redirection of flames against containers.
(4) Impeding the egress of personnel in an emergency.

Paragraph 3.2.2.8 was inspired by a serious BLEVE of an aboveground propane container that had been enclosed in a roof-over enclosure for aesthetic reasons. The enclosure not only contributed to ignition but also made it difficult for the fire department to apply cooling water to the container. The technical committee also was aware of an increasing use of fences to hide LP-Gas containers or to limit the travel of container pieces in the event of a BLEVE. Exception No. 1 to 3.2.2.8 recognizes that the problems associated with such structures can be prevented by design that eliminate the problems cited in A.3.2.2.8.

If a structure is desired to hide a LP-Gas container, it is important to use materials that allow air to circulate freely. Examples of such materials are chin-link fence or materials that have significant openings on all sides. Wood can be used, but it's flammability must be considered. Wood cannot be stacked around a LP-gas container per 3.2.2.6(b), but its in a structure is not prohibited. A light fence constructed of wood, if ignited, would probably be consumed before generating enough heat to affect a LP-gas container.

3.2.4.5 ASME containers shall be installed so that all container operating appurtenances are accessible.

Requirement 3.2.4.5 states what to most people is obvious. The requirement prevents containers from being installed with valves, gauges or controls that are inaccessible. Occasionally a storage container must be evacuated before it is moved or for other reasons. Fittings for container evacuation eliminate the need to roll a container on its side to pump it out. Many other installation situations in which the container appurtenances may not be accessible will occur unless attention is given to the container position before installation.