

WAC 296-307-42007 What additional requirements apply to safety devices for non-DOT containers? (1) All safety devices must comply with the following:

(a) All container safety-relief devices must be located on the containers.

(b) In industrial and gas manufacturing plants, discharge pipe from safety-relief valves on pipe lines within a building must discharge upward and be piped to a point outside a building.

(c) Safety-relief device discharge terminals must be located to provide protection against physical damage and must be fitted with loose raincaps. Return bends and restrictive pipefittings are prohibited.

(d) If desired, discharge lines from two or more safety-relief devices located on the same unit, or similar lines from two or more different units, may be run into a common discharge header, if the cross-sectional area of the header is at least equal to the sum of the cross-sectional area of the individual discharge lines, and the setting of safety-relief valves are the same.

(e) Each storage container of over 2,000 gallons water capacity must have a suitable pressure gauge.

(f) A final stage regulator of an LP-gas system (excluding any appliance regulator) must have, on the low-pressure side, a relief valve that is set to start to discharge within the limits specified in Table U-7.

(g) When a regulator or pressure relief valve is installed indoors, the relief valve and the space above the regulator and relief valve diaphragms must be vented to the outside air with the discharge outlet located not less than 3 feet horizontally away from any opening into the building that is below such discharge.

Exception: This requirement does not apply to individual appliance regulators already protected. In buildings devoted exclusively to gas distribution, the space above the diaphragm need not be vented to the outside.

(2) Safety devices for aboveground containers must be provided as follows:

(a) Containers of 1,200 gallons water capacity or less that may contain liquid fuel when installed aboveground must have the rate of discharge required by WAC 296-307-41025(2) provided by a spring-loaded relief valve or valves. In addition to the required spring-loaded relief valve, a suitable fuse plug may be used if the total discharge area of the fuse plug for each container does not exceed 0.25 square inch.

(b) The fusible metal of the fuse plugs must have a yield temperature of 208°F minimum and 220°F maximum. Relief valves and fuse plugs must have direct communication with the vapor space of the container.

(c) On a container having a water capacity between 125 and 2,000 gallons, the discharge from the safety-relief valves must be vented away from the container upwards and unobstructed to the open air so that it prevents any impingement of escaping gas upon the container; loose-fitting rain caps shall be used. Suitable provision must be made for draining condensate that may accumulate in the relief valve or its discharge pipe.

(d) On containers of 125 gallons water capacity or less, the discharge from safety-relief devices must be located at least 5 feet horizontally away from any opening into the building below the level of such discharge.

(e) On a container having a water capacity greater than 2,000 gallons, the discharge from the safety-relief valves must be vented away from the container upwards to a point at least 7 feet above the

container, and unobstructed to the open air so that it prevents any impingement of escaping gas upon the container; loose-fitting rain caps shall be used. Suitable provision must be made so that any liquid or condensate that may accumulate inside of the safety-relief valve or its discharge pipe will not render the valve inoperative. If a drain is used, the container, adjacent containers, piping, or equipment must be protected against impingement of flame resulting from ignition of product escaping from the drain.

(3) On all containers that are installed underground and that contain no liquid fuel until buried and covered, the rate of discharge of the spring-loaded relief valve installed thereon may be reduced to a minimum of 30% of the rate of discharge specified in WAC 296-307-41025(2). Containers so protected must remain covered after installation until the liquid fuel has been removed. Containers that may contain liquid fuel before being installed underground and before being completely covered with earth are aboveground containers when determining the rate of discharge requirement of the relief valves.

(4) On underground containers of over 2,000 gallons water capacity, the discharge from safety-relief devices must be piped directly upward to a point at least 7 feet above the ground.

(5) Where the manhole or housing may become flooded, the discharge from regulator vent lines must be above the highest probable water level. All manholes or housings must have ventilated louvers or equivalent, and the area of openings must be equal to or exceed the combined discharge areas of the safety-relief valves and other vent lines that discharge their content into the manhole housing.

(6) Safety devices for vaporizers must be provided as follows:

(a) Vaporizers of less than 1 quart total capacity, heated by the ground or the surrounding air, need not have safety-relief valves if adequate tests demonstrate that the assembly is safe without safety-relief valves.

(b) Fusible plugs are prohibited on vaporizers.

(c) In industrial and gas manufacturing plants, safety-relief valves on vaporizers within a building must be piped to a point outside the building and be discharged upward.

[Statutory Authority: RCW 49.17.040. WSR 98-24-096, § 296-307-42007, filed 12/1/98, effective 3/1/99. WSR 97-09-013, recodified as § 296-307-42007, filed 4/7/97, effective 4/7/97. Statutory Authority: RCW 49.17.040, [49.17.]050 and [49.17.]060. WSR 96-22-048, § 296-306A-42007, filed 10/31/96, effective 12/1/96.]