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(2) The maximum external pressure differential that can be obtained:

(i) At maximum discharge rates with no vapor return to the cargo tanks;

(ii) By operation of the cargo refrigeration system; or

(iii) By drawing off vapor for use in accordance with § 154.703(c)

[CGD 74–289, 44 FR 26009, May 3, 1979; 44 FR 59234, Oct. 15, 1979]

§ 154.805 Vent masts.

Relief valves or common vent headers from relief valves must discharge to a vent mast that:

(a) Discharges vertically upward;

(b) Has a rain cap or other means of preventing the entrance of rain or snow;

(c) Has a screen with 25mm (1 inch) wire mesh or bars not more than 25mm (1 in.) apart on the discharge port;

(d) Extends at least to a height of B/3 or 6m (19.7 ft.), whichever is greater, above the weather deck and 6m (19.7 ft.) above the working level;

(e) For a cargo tank, does not exhaust cargo vapors within a radius of B or 25m (82 ft.), whichever is less, from any forced or natural ventilation intake or other opening to an accommodation, service, control station, or other gas-safe space, except that for vessels less than 90m (295 ft.) in length, shorter distances may be specially approved by the Commandant (G–MSO);

(f) For a containment system, except a cargo tank, does not exhaust vapor within a radius of 10m (32.8 ft.) or less from any forced or natural ventilation intake or other opening to an accommodation, service, control station, or other gas-safe space;

(g) Has drains to remove any liquid that may accumulate; and

(h) Prevents accumulations of liquid at the relief valves.

[CGD 74–289, 44 FR 26009, May 3, 1979, as amended by CGD 82–063b, 48 FR 4782, Feb. 3, 1983]

§ 154.806 Capacity of pressure relief valves.

Pressure relief valves for each cargo tank must have a combined relief capacity, including the effects of back pressure from vent piping, headers, and masts, to discharge the greater of the following with not more than a 20% rise in cargo tank pressure above the set pressure of the relief valves:

(a) The maximum capacity of an installed cargo tank inerting system if the maximum attainable working pressure of the cargo tank inerting system exceeds the set pressure of the relief valves.

(b) The quantity of vapors generated from fire exposure that is calculated under § 54.15–25 of this chapter.

Atmospheric Control in Cargo Containment Systems

§ 154.901 Atmospheric control within cargo tanks and cargo piping systems.

(a) Each vessel must have a piping system for purging each cargo tank and all cargo piping.

(b) The piping system must minimize the pocketing of gas or air remaining after purging.

(c) For cargo tanks certificated to carry flammable gases, the piping system must allow purging the tank of flammable vapors before air is introduced and purging the tank of air before the tank is filled with cargo.

(d) Each cargo tank must have:

(1) Gas sampling points at its top and bottom; and

(2) Gas sampling line connections that are valved and capped above the deck.

§ 154.902 Atmospheric control within hold and interbarrier spaces.

(a) Vessels certificated to carry flammable cargo in cargo containment systems with full secondary barriers must have an inert gas system or onboard storage of inert gas that provides enough inert gas to meet the requirements of § 154.1848 for 30 days consumption.

(b) Vessels certificated to carry flammable cargo in cargo containment systems with partial secondary barriers must:

(1) Have an inert gas system or onboard inert gas storage that can inert the largest hold and interbarrier space so that the oxygen concentration is 8 percent or less by volume; and

(2) Meet paragraph (a) or (c)(2) of this section.