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the tank, to not more than the maximum design working pressure for the tank; and

(4) If the vessel is in ocean or coastwise service, has provisions to prevent opening due to cargo sloshing.

(d) A rupture disk arrangement which meets paragraphs (c)(2), (c)(3) and (c)(4) of this section and is approved by the Commandant (G-MSO).

[CGD 88-102, 55 FR 25446, June 21, 1990, as amended by CGD 95-072, 60 FR 50462, Sept. 29, 1995; CGD 96-041, 61 FR 50727, Sept. 27, 1996; USCG-2000-7790, 65 FR 58459, Sept. 29, 2000]

**§ 39.20-11 Vapor overpressure and vacuum protection—TB/ALL.**

(a) The cargo tank venting system required by § 32.55 of this chapter must:

(1) Be capable of discharging cargo vapor at 1.25 times the maximum transfer rate such that the pressure in the vapor space of each tank connected to the vapor collection system does not exceed:

(i) The maximum design working pressure for the tank, or

(ii) If a spill valve or rupture disk is fitted, the pressure at which the device operates;

(2) Not relieve at a pressure corresponding to a pressure in the cargo tank vapor space of less than 1.0 psig;

(3) Prevent a vacuum in the cargo tank vapor space, whether generated by withdrawal of cargo or vapor at maximum rates, that exceeds the maximum design vacuum for any tank connected to the vapor collection system; and

(4) Not relieve at a vacuum corresponding to a vacuum in the cargo tank vapor space of less than 0.5 psi below atmospheric pressure.

(b) Each pressure-vacuum relief valve must:

(1) Be tested for venting capacity in accordance with paragraph 1.5.1.3 of API 2000; and

(2) Have a means to check that the device operates freely and does not remain in the open position, if installed after July 23, 1991.

(c) The relieving capacity test required by paragraph (b)(1) of this section must be carried out with a flame screen fitted at the vacuum relief opening and at the discharge opening if the pressure-vacuum relief valve is not de-

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signed to ensure a minimum vapor discharge velocity of 30 meters (98.4 ft.) per second.

**§ 39.20-13 High and low vapor pressure protection for tankships—T/ALL.**

Each tankship vapor collection system must be fitted with a pressure sensing device that senses the pressure in the main vapor collection line, which:

(a) Has a pressure indicator located on the vessel where the cargo transfer is controlled; and

(b) Has a high pressure and a low pressure alarm that:

(1) Is audible and visible on the vessel where cargo transfer is controlled;

(2) Alarms at a high pressure of not more than 90 percent of the lowest pressure relief valve setting in the cargo tank venting system; and

(3) Alarms at a low pressure of not less than four inches water gauge (0.144 psig) for an inerted tankship, or the lowest vacuum relief valve setting in the cargo tank venting system for a non-inerted tankship.

**Subpart 39.30—Operations**

**§ 39.30-1 Operational requirements—TB/ALL.**

(a) Vapor from a tank vessel may not be transferred to:

(1) A facility in the United States which does not have its letter of adequacy endorsed as meeting the requirements of 33 CFR part 154, subpart E; or

(2) In the case of a lightering or topping off operation, a vessel which does not have its certificate of inspection or certificate of compliance endorsed as meeting the requirements of this part.

(b) The pressure drop through the vapor collection system from the most remote cargo tank to the vessel vapor connection must be:

(1) Determined for each cargo handled by the vapor collection system at the maximum transfer rate and at lesser transfer rates;

(2) Based on a 50 percent cargo vapor and air mixture, and a vapor growth rate appropriate for the cargo being loaded; and

(3) Included in the vessel's oil transfer procedures as a table or graph