line (such as a vent riser common to two or more tanks).

§ 153.358 Venting system flow capacity.

(a) The cross-sectional flow area of any vent system segment, including any PV or SR valve, must at no point be less than that of a pipe whose inside diameter is 6.4 cm (approx. 2.5 in.).

(b) When Table 1 requires a closed or restricted gauging system, calculations must show that, under conditions in which a saturated cargo vapor is discharged through the venting system at the maximum anticipated loading rate, the pressure differential between the cargo tank vapor space and the atmosphere does not exceed 28 kPa gauge (approx. 4 psig), or, for independent tanks, the maximum working pressure of the tank.

§ 153.360 Venting system restriction.

A venting system must have no assembly that could reduce its cross-sectional flow area or flow capacity to less than that required in § 153.358.

§ 153.361 Arrangements for removal of valves from venting systems having multiple relief valves.

A venting system having multiple relief valves may be arranged to allow the removal of a valve (for repair, as an example) provided the venting system:

(a) Has valves that are interlocked, so that the removal of a valve does not reduce the venting system relieving capacity below the minimum relieving capacity required by § 153.358; and

(b) Is arranged so that cargo vapor will not escape through the opening left after a valve has been removed.

[CGD 78–128, 47 FR 21208, May 17, 1982; 47 FR 27293, June 24, 1982]

§ 153.362 Venting system drain.

Unless a cargo vent system at every point is level or slopes back to the cargo tank under all conditions of heel and trim allowed under § 153.806, the cargo vent system must have a drain valve at each low point (trap) in the vent line.

§ 153.364 Venting system supports.

Supports for a vent system must meet § 38.10–10(c) of this chapter.

§ 153.365 Liquid overpressurization protection.

(a) Except as noted in paragraph (b) of this section, a containment system requiring closed or restricted gauging must:

(1) Be designed to withstand the maximum pressure that develops during an overfill of the densest cargo endorsed for the containment system; or

(2) Have an overflow control system that meets § 153.408; or

(3) Meet the requirements specified by the Commandant (CG–ENG).

(b) A containment system requiring restricted gauging, except for those cargoes that reference §§ 153.525 or 153.527, may be equipped with a spill valve that:

(1) Meets ASTM F 1271 (incorporated by reference, see § 153.4); and

(2) Limits the maximum pressure during liquid overfill at a specified cargo loading rate to that which the containment system is able to withstand (see §§ 153.294(b) and 152.977(b)).

[CGD 78–128, 47 FR 21208, May 17, 1982, as amended by CGD 82–063b, 48 FR 4782, Feb. 3, 1983; CGD 88–032, 56 FR 35827, July 29, 1991; USCG–2000–7790, 65 FR 58463, Sept. 29, 2000]

§ 153.368 Pressure-vacuum valves.

(a) The pressure side of a required pressure-vacuum relief valve must begin to open only at a pressure exceeding 3.5 kPa gauge (approx. 0.5 psig).

(b) A pressure-vacuum relief valve must meet the requirements of Subpart 162.017 of this chapter.

§ 153.370 Minimum relief valve setting for ambient temperature cargo tanks.

The relief valve setting for a containment system that carries a cargo at ambient temperature must at least equal the cargo's vapor pressure at 46 °C (approx. 115 °F).

[CGD 81–078, 50 FR 21173, May 22, 1985]

§ 153.371 Minimum relief valve setting for refrigerated cargo tanks.

The relief valve setting for a containment system that carries a refrigerated cargo must at least equal the lesser of:

(a) That in § 153.370; or