

§ 154.1834 Cargo transfer piping.

The person in charge of cargo transfer shall ensure that cargo is transferred to or from a cargo tank only through the cargo piping system.

§ 154.1836 Vapor venting as a means of cargo tank pressure and temperature control.

When the vessel is on the navigable waters of the United States, the master shall ensure that the cargo pressure and temperature control system under §§ 154.701 through 154.709 is operating and that venting of cargo is unnecessary to maintain cargo temperature and pressure control, except under emergency conditions.

§ 154.1838 Discharge by gas pressurization.

The person in charge of cargo transfer may not authorize cargo discharge by gas pressurization unless:

- (a) The tank to be offloaded is an independent tank type B or C;
- (b) The pressurizing medium is the cargo vapor or a nonflammable, nontoxic gas that is inert with the cargo; and
- (c) The pressurizing line has:
 - (1) A pressure reducing valve that has a setting that is 90 percent or less of the tank's relief valve setting; and
 - (2) A manual control valve between the pressure reducing valve and the tank.

§ 154.1840 Protective clothing.

The person in charge of cargo transfer shall ensure that each person involved in a cargo transfer operation, except those assigned to gas-safe cargo control rooms, wears protective clothing.

§ 154.1842 Cargo system: Controls and alarms.

The master shall ensure that the cargo emergency shut-down system and the alarms under § 154.1325 are tested and working before cargo is transferred.

§ 154.1844 Cargo tanks: Filling limits.

(a) Unless a higher limit is specified on the certificate the master shall ensure that a cargo tank is not loaded:

- (1) More than 98 percent liquid full; or
- (2) In excess of the volume determined under the following formula:

$$V_L = (0.98 V) \left(\frac{d_r}{d_L} \right)$$

where:

V_L =maximum volume to which the tank may be loaded;
 V =volume of the tank;
 d_r =density at the reference temperature specified in paragraph (b) of this section; and
 d_L =density of the cargo at the loading temperature and pressure.

(b) The reference temperature to be used in paragraph (a)(2) of this section is the temperature corresponding to the vapor pressure of the cargo at the set pressure of the pressure relief valves.

§ 154.1846 Relief valves: Changing set pressure.

The master shall:

- (a) Supervise the changing of the set pressure of relief valves under § 154.802(b);
- (b) Enter the change of set pressure in the vessel's log; and
- (c) Ensure that a sign showing the set pressure is posted:
 - (1) In the cargo control room or station; and
 - (2) At each relief valve.

§ 154.1848 Inerting.

(a) The master shall ensure that:

- (1) Hold and interbarrier spaces on a vessel with full secondary barriers are inerted so that the oxygen concentration is 8 percent or less by volume when flammable cargoes are carried;
- (2) Hold and interbarrier spaces contain only dry air or inert gas on:
 - (i) A vessel with partial secondary barriers;
 - (ii) A vessel with full secondary barriers when non-flammable cargoes are carried; and
 - (iii) A vessel with refrigerated independent tanks type C;
- (3) When cargo tanks containing flammable vapor are to be gas freed, the flammable vapors are purged from the tank by inert gas before air is admitted; and