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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

(4) When gas free cargo tanks are to be filled with a flammable cargo, air is purged from the tank by inert gas until the oxygen concentration in the tank is 8 percent or less by volume before cargo liquid or vapor is introduced.

(b) Inert gas must be supplied from the shore or from the vessel's inert gas system.

§ 154.1850 Entering cargo handling spaces.

(a) The master shall ensure that the ventilation system under § 154.1200 is in operation for 30 minutes before a person enters one of the following:

(1) Spaces containing cargo pumps, compressors, and compressor motors.

(2) Gas-dangerous cargo control spaces.

(3) Other spaces containing cargo handling equipment.

(b) The master shall ensure that a warning sign listing the requirement for use of the ventilation system, is posted outside of each space under paragraph (a) of this section.

(c) The master shall ensure that no sources of ignition are put in a cargo handling space on a vessel carrying flammable cargo unless the space is gas free.

§ 154.1852 Air breathing equipment.

(a) The master shall ensure that a licensed officer inspects the compressed air breathing equipment at least once each month.

(b) The master shall enter in the vessel's log a record of the inspection required under paragraph (a) of this section that includes:

(1) The date of the inspection; and

(2) The condition of the equipment at the time of the inspection.

§ 154.1854 Methane (LNG) as fuel.

(a) If methane (LNG) vapors are used as fuel in the main propulsion system

of a vessel, the master shall ensure that the fuel oil fired pilot under § 154.705(c) is used when the vessel is on the navigable waters of the United States.

(b) When the methane (LNG) fuel supply is shut down due to loss of ventilation or detection of gas, the master shall ensure that the methane (LNG) fuel supply is not used until the leak or other cause of the shutdown is found and corrected.

(c) The master shall ensure that the required procedure under paragraph (b) of this section is posted in the main machinery space.

(d) The master shall ensure that the oxygen concentration in the annular space of the fuel line under § 154.706(a)(1) is 8% or less by volume before methane (LNG) vapors are admitted to the fuel line.

§ 154.1858 Cargo hose.

The person in charge of cargo transfer shall ensure that cargo hose used for cargo transfer service meets §§ 154.552 through 154.562.

§ 154.1860 Integral tanks: Cargo colder than −10° C (14°F).

The master shall ensure that an integral tank does not carry a cargo colder than −10°C (14°F) unless that carriage is specially approved by the Commandant (G–MSO).

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

§ 154.1862 Posting of speed reduction.

If a speed reduction is specially approved by the Commandant under § 154.409, the master shall ensure that the speed reduction is posted in the wheelhouse.

§ 154.1864 Vessel speed within speed reduction.

The master shall ensure that the speed of the vessel is not greater than the posted speed reduction.

§ 154.1866 Cargo hose connection: Transferring cargo.

No person may transfer cargo through a cargo hose connection unless the connection has the remotely controlled quick closing shut off valve required under § 154.538.

§ 154.1868 Portable blowers in personnel access openings.

The master shall ensure that a portable blower in a personnel access opening does not reduce the area of the opening so that it does not meet § 154.340.

§ 154.1870 Bow and stern loading.

(a) When the bow or stern loading piping is not in use, the master shall lock closed the shut-off valves under § 154.355(a)(4) or remove the spool piece under § 154.355(a)(4).

(b) The person in charge of cargo transfer shall ensure that after the bow or stern loading piping is used it is purged of cargo vapors with inert gas.

(c) The person in charge of cargo transfer shall ensure that entrances, forced or natural ventilation intakes, exhausts, and other openings to any deck house alongside the bow or stern loading piping are closed when this piping is in use.

(d) The person in charge of cargo transfer shall ensure that bow or stern loading piping installed in the area of the accommodation, service, or control space is not used for transfer of the following:

(1) Acetaldehyde.
(2) Ammonia, anhydrous.
(3) Dimethylamine.
(4) Ethylamine.
(5) Ethyl Chloride.
(6) Methyl Chloride.
(7) Vinyl Chloride.

§ 154.1872 Cargo emergency jettisoning.

(a) The master shall ensure that emergency jettisoning piping under § 154.356, except bow and stern loading and discharging piping, is only used when an emergency exists.

(b) Emergency jettisoning piping when being used may be outside of the transverse tank location under § 154.310.

(c) The master shall ensure that cargo is not jettisoned in a U.S. port.