

§ 58.16-20 Ventilation of compartments containing gas-consuming appliances.

(a) Compartments containing gas-consuming appliances which are located above the weather deck shall be fitted with at least two natural ventilator ducts led from the atmosphere with one extending to the floor level and the other extending to the overhead of the compartment. Powered ventilation may be used provided the motor is outside the compartment.

(b) Compartments in which gas-consuming appliances are located entirely below the weather deck shall be provided with powered ventilation of sufficient capacity to effect a change of air at least once every 6 minutes. The motor for the powered ventilation shall be located outside the compartment.

§ 58.16-25 Odorization.

(a) All liquefied petroleum gases shall be effectively odorized by an agent of such character as to indicate positively by a distinctive odor, the presence of gas down to concentration in air of not over one-fifth the lower limit of combustibility.

§ 58.16-30 Operating instructions.

(a) Before opening a cylinder valve, the outlet of the cylinder shall be connected tightly to system; and in the case where only a single cylinder is used in the system, all appliance valves and pilots shall be shut off before the cylinder valve is opened.

(b) Before opening cylinder valve after connecting it to system, the cylinder shall be securely fastened in place.

(c) When cylinders are not in use their outlet valves shall be kept closed.

(d) Cylinders when exhausted shall have their outlet valves closed.

(e) Nothing shall be stored in the metal enclosure except liquefied petroleum gas cylinders and permanently fastened parts of the system.

(f) Valve protecting caps, if provided, shall be firmly fixed in place on all cylinders not attached to the system. Caps for cylinders in use may remain in the cylinder enclosure if rigidly fastened thereto.

(g) The opening to the cylinder enclosure shall be closed at all times except

when access is required to change cylinders or maintain equipment.

(h) Close master valve whenever gas-consuming appliance is not in use.

(i) No smoking is permitted in the vicinity of the cylinder enclosure when access to enclosure is open.

(j) Test system for leakage in accordance with the following procedure: With appliance valve closed, the master shutoff valve on the appliance open, and with one cylinder valve open, note pressure in the gage. Close cylinder valve. The pressure should remain constant for at least 10 minutes. If the pressure drops, locate leakage by application of liquid detergent or soapy water solution at all connections. Never use flame to check for leaks. Repeat test for each cylinder in a multi-cylinder system.

(k) Report any presence of gas odor to

§ 58.16-35 Markings.

(a) The outside of the cylinder enclosure housing liquefied petroleum gas cylinders, valves and regulators shall be marked as follows:

Liquefied Petroleum Gas
Keep Open Fires Away.
Operating Instructions
Inside and In

(b) A durable and permanently legible instruction sign covering safe operation and maintenance of the gas-consuming appliance shall be installed adjacent to the appliance.

(c) "Operating Instructions" as listed in § 58.16-30 shall be framed under glass, or other equivalent, clear, transparent material, in plainly visible locations on the outside of the metal enclosure and near the most frequently used gas-consuming appliance, so they may be easily read.

Subpart 58.20—Refrigeration Machinery**§ 58.20-1 Scope.**

(a) The regulations in this subpart apply to fixed refrigeration systems for air conditioning, refrigerated spaces, cargo spaces, and reliquefaction of low temperature cargo installed on vessels.

§ 58.20-5

(b) The regulations in this subpart shall not apply to small self-contained units.

§ 58.20-5 Design.

(a) Refrigeration machinery may be accepted for installation provided the design, material, and fabrication comply with the applicable requirements of the American Bureau of Shipping or other recognized classification society. The minimum pressures for design of all components shall be those listed for piping in Table 501.2.4 of ANSI-B31.5 (Refrigeration Piping). In no case shall pressure components be designed for a pressure less than that for which the safety devices of the system are set. Pressure vessels will be designed in accordance with part 54 of this subchapter.

(b) For refrigeration systems other than those for reliquefaction of cargo, only those refrigerants under § 147.90 of this chapter are allowed.

[CGFR 68-82, 33 FR 18878, Dec. 18, 1968, as amended by CGFR 69-127, 35 FR 9980, June 17, 1970; CGD 84-044, 53 FR 7748, Mar. 10, 1988]

§ 58.20-10 Pressure relieving devices.

(a) Each pressure vessel containing refrigerants, which may be isolated, shall be protected by a relief valve set to relieve at a pressure not exceeding the maximum allowable working pressure of the vessel. When a pressure vessel forms an integral part of a system having a relief valve, such vessel need not have an individual relief valve.

(b) Relief valves fitted on the high pressure side may discharge to the low pressure side before relieving to atmosphere. When relieving to atmosphere, a relief valve shall be fitted in the atmospheric discharge connection from the receivers and condensers. The relief valve from the receivers may relieve to the condenser which in turn may relieve either to the low side or to atmosphere. It shall be set to relieve at a pressure not greater than the maximum allowable working pressure. A rupture disk may be fitted in series with the relief valve, provided the bursting pressure of the rupture disk is not in excess of the relief valve set pressure. Where a rupture disk is fitted on the downstream side of the relief

46 CFR Ch. I (10-1-04 Edition)

valve, the relief valve shall be of the type not affected by back pressure.

§ 58.20-15 Installation of refrigerating machinery.

(a) Where refrigerating machines are installed in which anhydrous ammonia is used as a refrigerant, such machines shall be located in a well-ventilated, isolated compartment, preferably on the deck, but in no case shall it be permissible to install such machines in the engineroom space unless the arrangement is such as to eliminate any hazard from gas escaping to the engineroom. Absorption machines using a solution of aqua ammonia and machines using carbon dioxide are exempt from this requirement, provided the maximum charges that might be released in the event of breakage do not exceed 300 pounds.

(b) Machinery compartments containing equipment for ammonia shall be fitted with a sprinkler system providing an effective water spray and having a remote control device located outside the compartment.

(c) All refrigeration compressor spaces shall be effectively ventilated and drained and shall be separated from the insulated spaces by a watertight bulkhead, unless otherwise approved.

[CGFR 68-82, 33 FR 18878, Dec. 18, 1968, as amended by USCG-2004-18884, 69 FR 58346, Sept. 30, 2004]

§ 58.20-20 Refrigeration piping.

(a) All piping materials shall be suitable for handling the primary refrigerant, brine, or fluid used, and shall be of such chemical and physical properties as to remain ductile at the lowest operating temperature.

(b) Piping systems shall be designed in accordance with ANSI-B31.5. Piping used for cargo reliquefaction systems shall also comply with the applicable requirements found in low temperature piping, § 56.50-105 of this subchapter.

(c) A relief valve shall be fitted on or near the compressor on the gas discharge side between the compressor and the first stop valve with the discharge therefrom led to the suction side. A check valve shall be fitted in the atmospheric discharge line if it is led through the side of the vessel below