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(b) Each group of receptacles for refrigerated containers must have:

(1) A switch near the receptacles that disconnects all power to those receptacles; and

(2) A sign stating that the switch should be opened before cables are disconnected from the receptacles or refrigerated containers.

(c) Each receptacle for refrigerated containers must be designed for circuit breaking service.

Subpart 111.81—Outlet Boxes and Junction Boxes

§ 111.81–1 Outlet boxes and junction boxes; general.

(a) The requirements of this subpart apply to each outlet box used with a lighting fixture, wiring device, or similar item, including each separately installed connection and junction box.

(b) An outlet box must be at each outlet, switch, receptacle, or junction point.

(c) Each outlet or junction box must have a cover unless a fixture canopy, switch cover, receptacle cover, or other cover is used.

(d) As appropriate, each outlet-box or junction-box installation must meet the following standards, all of which are incorporated by reference (see 46 CFR 110.10–1): Article 314 of NFPA NEC 2002; UL 50; UL 514A, UL 514B, and UL 514C; IEC 60092–101; IEC 92–201; IEC 92–306; IEC 60092–352; IEC 92–401; and IEC 60092–502.

(e) Each outlet or junction box must be securely attached to its mounting and be affixed so as to maintain its designated degree of protection.

(f) Each outlet and junction box must be suitable for the environment in which it is installed and be constructed to the appropriate NEMA or IEC standard.

[CGD 74–125A, 47 FR 15236, Apr. 8, 1982, as amended by CGD 94–108, 61 FR 28283, June 4, 1996; USCG–2003–16630, 73 FR 65199, Oct. 31, 2008]

§ 111.81–3 Cables entering boxes.

Each cable entering a box or fitting must be protected from abrasion and must meet the following:

(a) Each opening through which a conductor enters must be closed.

(b) Cable armor must be secured to the box or fitting.

(c) Each cable entrance in a damp or wet location must be made watertight by a terminal or stuffing tube.

Subpart 111.83—Shore Connection Boxes

§ 111.83–1 General.

Each shore connection box must be of a size that accommodates the connections of the flexible and fixed cables.

§ 111.83–5 Bottom entrance and protected enclosures.

Each shore connection box must have a bottom entrance for the shore connection cable. The box must provide protection to the shore connection when the connection is in use.

Subpart 111.85—Electric Oil Immersion Heaters

§ 111.85–1 Electric oil immersion heaters.

Each oil immersion heater must have the following:

(a) An operating thermostat.

(b) Heating elements that have no electrical contact with the oil.

(c) A high temperature limiting device that:

(1) Opens all conductors to the heater;

(2) Is manually reset; and

(3) Actuates at a temperature below the flashpoint of the oil.

(d) Either—

(1) A low-fluid-level device that opens all conductors to the heater if the operating level drops below the manufacturer's recommended minimum safe level; or

(2) A flow device that opens all conductors to the heater if there is inadequate flow.

[CGD 74–125A, 47 FR 15236, Apr. 8, 1982, as amended by CGD 94–108, 61 FR 28283, June 4, 1996]

Subpart 111.87—Electric Air Heating Equipment

§ 111.87–1 Applicability.

This subpart applies to electrically energized units or panels for heating a

room or compartment. This subpart does not apply to electrically energized units for heating the air in an enclosed apparatus, such as a motor or controller.

§ 111.87–3 General requirements.

(a) Each electric heater must meet applicable UL 484 or UL 1042 construction standards (both incorporated by reference; see 46 CFR 110.10–1) or equivalent standards under §110.20–1 of this chapter

(b) Each heater element must be an enclosed type. The heater element case or jacket must be of a corrosion-resistant material.

(c) Each heater must have a thermal cutout of the manually-reset type that prevents overheating and must have a thermal regulating switch.

(d) Each heater for bulkhead mounting must have its top slanted or otherwise designed to prevent hanging anything on the heater. If a heater is portable, it must have a clip or bracket to hold the heater in a fixed position.

(e) The external temperature of a heater enclosing case must not be over 125 degrees C, except that the external temperature of the enclosing case of a flush-mounted heater must not be over 100 degrees C. If a heater is mounted on or next to a deck or bulkhead, the heater must not cause the temperature of the nearest deck or bulkhead to be over 55 degrees C. For test purposes, an ambient temperature of 25 degrees C must be used.

[CGD 74–125A, 47 FR 15236, Apr. 8, 1982, as amended by CGD 94–108, 61 FR 28283, June 4, 1996; 61 FR 33045, June 26, 1996; 61 FR 36608, July 11, 1996; USCG–2003–16630, 73 FR 65199, Oct. 31, 2008]

Subpart 111.91—Elevators and Dumbwaiters

§ 111.91–1 Power, control, and interlock circuits.

Each electric power, control, and interlock circuit of an elevator or dumbwaiter must meet ASME A17.1 (incorporated by reference; see 46 CFR 110.10–1).

[USCG–2003–16630, 73 FR 65199, Oct. 31, 2008]

Subpart 111.95—Electric Power-Operated Boat Winches

§ 111.95–1 Applicability.

(a) The electric installation of each electric power-operated boat winch must meet the requirements in this subpart, except that limit switches must be adapted to the installation if there are no gravity davits.

(b) The provisions of this subpart supplement the requirements for boat winches in other parts of this chapter under which vessels are certificated and in subchapter Q, Equipment approvals.

[CGD 74–125A, 47 FR 15236, Apr. 8, 1982, as amended by CGD 94–108, 61 FR 28283, June 4, 1996]

§ 111.95–3 General requirements.

(a) Each electrical component (e.g., enclosure, motor controller, or motor) must be constructed to the appropriate NEMA or IEC degree of protection requirement for the service and environment in which it is installed.

(b) Each main line emergency disconnect switch, if accessible to an unauthorized person, must have a means to lock the switch in the open-circuit position with a padlock or its equivalent. The switch must not lock in the closed-circuit position.

[CGD 94–108, 61 FR 28283, June 4, 1996]

§ 111.95–7 Wiring of boat winch components.

(a) If the motor controller of a boat winch power unit is next to the winch, the main line emergency switch must disconnect all parts of the boat winch power unit, including the motor controller and limit switches, from all sources of potential. Other power circuit switches must be connected in series with the main line emergency switch and must be ahead of the motor controller. The main line emergency switch must be the motor and controller disconnect required by Subpart 111.70 and must have a horsepower rating of at least that of the winch motor.

(b) If the motor controller of a boat winch power unit is remote from the winch, there must be a switch at the controller that can disconnect the entire winch electric installation from all