

bus, except the neutral of an emergency power generation system must be grounded with:

(1) No direct ground connection at the emergency switchboard;

(2) The neutral bus permanently connected to the neutral bus on the main switchboard; and

(3) No switch, circuit breaker, or fuse in the neutral conductor of the bus-tie feeder connecting the emergency switchboard to the main switchboard.

(d) On a metallic vessel, a grounded alternating current system must be grounded to the hull. On a nonmetallic vessel, the neutral must be connected to the common ground, except that aluminum grounding conductors must not be used.

#### § 183.378 Ungrounded systems.

Each ungrounded system must be provided with a suitably sensitive ground detection system located at the respective switchboard that provides continuous indication of circuit status to ground with a provision to momentarily remove the indicating device from the reference ground.

[CGD 85-080, 62 FR 51358, Sept. 30, 1997]

#### § 183.380 Overcurrent protection.

(a) Overcurrent protection must be provided for each ungrounded conductor for the purpose of opening the electric circuit if the current reaches a value that causes an excessive or dangerous temperature in the conductor or conductor insulation.

(b) The grounded conductor of a circuit must not be disconnected by a switch or circuit breaker, unless the ungrounded conductors are simultaneously disconnected.

(c) A conductor of a control, interlock, or indicator circuit, such as a conductor for an instrument, pilot light, ground detector light, or potential transformer, must be protected by an overcurrent device.

(d) Conductors must be protected in accordance with their current carrying capacities. If the allowable current carrying capacity does not correspond to a standard device size, the next larger overcurrent device may be used provided it does not exceed 150 percent of the conductor current carrying capacity.

(e) Steering gear control system circuits must be protected against short circuit.

(f) Each steering gear feeder circuit must be protected by a circuit breaker that meets the requirements of § 58.25-55 in subchapter F of this chapter.

(g) Each lighting branch circuit must be protected against overcurrent either by fuses or circuit breakers rated at not more than 30 amperes.

(h) Overcurrent devices capable of carrying the starting current of the motor must be installed to protect motors, motor conductors, and control apparatus against:

(1) Overcurrent due to short circuits or ground faults; and

(2) Overload due to motor running overcurrent, in accordance with § 111.70-1 in subchapter J of this chapter. A protective device integral with the motor, which is responsive to both motor current and temperature, may be used.

(i) An emergency switch must be provided in the normally ungrounded main supply conductor from a battery. The switch must be accessible and located as close to the battery as practicable.

(j) Disconnect means must be provided on the supply side of and adjacent to all fuses for the purpose of de-energizing the fuses for inspection and maintenance purposes.

(k) If the disconnect means is not within sight of the equipment that the circuit supplies, means must be provided for locking the disconnect device in the open position.

(1) Fuses must be of the cartridge type only and be listed by Underwriters Laboratories or another independent laboratory recognized by the Commandant.

(m) Each circuit breaker must meet UL 489 (incorporated by reference; see 46 CFR 175.600) or other standard specified by the Commandant, and be of the manually reset type designed for:

(1) Inverse time delay;

(2) Instantaneous short circuit protection; and

(3) Switching duty if the breaker is used as a switch.

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(n) Each circuit breaker must indicate whether it is in the open or closed position.

[CGD 85-080, 61 FR 997, Jan. 10, 1996, as amended by CGD 97-057, 62 FR 51050, Sept. 30, 1997; USCG-2002-13058, 67 FR 61279, Sept. 30, 2002; USCG-2003-16630, 73 FR 65210, Oct. 31, 2008]

### § 183.390 Shore power.

A vessel with an electrical system operating at more than 50 volts, which is provided with a means to connect to shore power, must meet the following:

(a) A shore power connection box or receptacle must be permanently installed at a convenient location;

(b) A cable connecting the shore power connection box or receptacle to the switchboard or main distribution panel must be permanently installed;

(c) A circuit breaker must be provided at the switchboard or main distribution panel for the shore power connection; and

(d) The circuit breaker, required by paragraph (c) of this section, must be interlocked with the vessel's power sources so that shore power and the vessel's power sources may not be operated simultaneously.

### § 183.392 Radiotelephone installations.

A separate circuit, with overcurrent protection at the main distribution panel, must be provided for each radiotelephone installation.

## Subpart D—Lighting Systems

### § 183.410 Lighting fixtures.

(a) Each lighting fixture globe, lens, or diffuser must have a guard or be made of high strength material, except in an accommodation space, radio room, galley, or similar space where it is not subject to damage.

(b) A lighting fixture may not be used as a connection box for a circuit other than the branch circuit supplying the fixture.

(c) A lighting fixture must be installed as follows:

(1) Each fixture must comply with § 183.200.

(2) Each lighting fixture and lampholder must be fixed. A fixture must not be supported by the screw shell of a lampholder.

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(3) Each pendant type lighting fixture must be suspended by and supplied through a threaded, rigid conduit stem.

(4) Each table lamp, desk lamp, floor lamp, or similar equipment must be secured in place so that it cannot be displaced by the roll or pitch of the vessel.

(d) An exterior lighting fixture in an electrical system operating at more than 50 volts must comply with the requirements of UL 595 (incorporated by reference; see 46 CFR 175.600) or other standard specified by the Commandant. A lighting fixture in an accommodation space, radio room, galley or similar interior space may comply with UL 1570, UL 1571, UL 1572, UL 1573, or UL 1574 (all five standards incorporated by reference; see 46 CFR 175.600) as long as the general marine requirements of UL 595 are satisfied.

[CGD 85-080, 61 FR 997, Jan. 10, 1996, as amended by USCG-2003-16630, 73 FR 65210, Oct. 31, 2008]

### § 183.420 Navigation lights.

All vessels must have navigation lights that are in compliance with the applicable sections of the International and Inland Navigation Rules, except that a vessel of more than 19.8 meters (65 feet) in length must also have navigation lights that meet UL 1104, "Standards for Marine Navigation Lights," or other standard specified by the Commandant.

### § 183.430 Portable lights

Each vessel must be equipped with at least two operable portable battery lights. One of these lights must be located at the operating station and the other at the access to the propulsion machinery space.

### § 183.432 Emergency lighting.

(a) Each vessel must have adequate emergency lighting fitted along the line of escape to the main deck from all passenger and crew accommodation spaces located below the main deck.

(b) The emergency lighting required by paragraph (a) of this section must automatically actuate upon failure of the main lighting system. If a vessel is not equipped with a single source of power for emergency lighting, it must have individual battery powered lights that: