

§ 28.865

breakers so that only the appropriate navigation lights can be switched on.

(g) A separate circuit with overcurrent protection at the main distribution panel or switchboard must be provided for each radio installation.

§ 28.865 Wiring methods and materials.

(a) All cable and wire must have insulated, stranded copper conductors of the appropriate size and voltage rating of the circuit.

(b) Each conductor must be No. 22 AWG or larger. Conductors in power and lighting circuits must be No. 14 AWG or larger. Conductors must be sized so that the voltage drop at the load terminals is not more than 10 percent.

(c) Cable and wiring not serving equipment in high risk fire areas such as a galley, laundry, or machinery space must be routed as far as practicable from these spaces. As far as practicable, cables serving duplicated essential equipment must be separated so that a casualty that affects one cable does not affect the other. Existing cables and wires may remain as routed; however, any replacement wiring, new cabling and/or alterations must be routed as specified above.

(d) No unused or dead ended cables may remain after the permanent removal or alteration of an electrical device.

(e) Cable and wire for power and lighting circuits must:

(1) For circuits of less than 50 volts, meet 33 CFR 183.425 and 183.430; and

(2) For circuits of 50 volts or greater:

(i) Meet section 310–13 and 310–15 of NFPA 70, except that asbestos insulated cable and dry location cable must not be used;

(ii) Be listed by Underwriters Laboratories Inc. as UL Marine Boat or UL Marine Shipboard cable; or

(iii) Meet §111.60 of this chapter.

(f) All metallic cable armor must be electrically continuous and grounded to the metal hull or the common ground point at each end of the cable run, except that final sub-circuits (those supplying loads) may be grounded at the supply end only.

(g) Wiring terminations and connections must be made in a fire retardant

enclosure such as a junction box, fixture enclosure, or panel enclosure.

(h) Existing cable and wire may remain in place and continue in use as long as it is deemed serviceable to the satisfaction of the Coast Guard Representative. Any new installation, replacement, modification or alteration must be done in accordance with the requirements of this section.

§ 28.870 Emergency source of electrical power.

(a) The following electrical loads must be connected to an independent emergency source of power capable of supplying all connected loads continuously for at least three hours:

(1) Navigation lights;

(2) Fire protection and detection systems;

(3) Communications equipment;

(4) General alarm system; and

(5) Emergency lighting;

(b) The emergency power source must be aft of the collision bulkhead, outside of the machinery space, and above the uppermost continuous deck.

(c) An emergency source of power supplied solely by storage battery must also meet the following requirements:

(1) Each battery must be a lead-acid or alkaline type and be able to withstand vessel pitch, vibration, roll, and exposure to a salt water atmosphere;

(2) A battery cell must not spill electrolyte when the battery is inclined at 30 degrees from the vertical;

(3) Each battery installation must be in a battery room, in a box on deck, or in a well ventilated compartment. The batteries must be protected from falling objects;

(4) Each battery tray must be secured to prevent shifting with the roll and pitch of the vessel and lined with a material that is corrosion resistant to the electrolyte of the battery;

(5) Each battery bank installation must be fitted with its own drip-proof charging system; and

(6) Each deck box used for battery storage must be weathertight, and have holes near the top to allow gas to escape.