

Subpart E—Miscellaneous Electrical Systems

- 129.510 Lifeboat winches.
- 129.520 Hazardous areas.
- 129.530 General alarm.
- 129.540 Remote stopping-systems on OSVs of 100 or more gross tons.
- 129.550 Power for cooking and heating.
- 129.560 Engine-order telegraphs.

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Subpart A—General Provisions

§ 129.100 General.

This part contains requirements for the design, construction, and installation of electrical equipment and systems including power sources, lighting, motors, miscellaneous equipment, and safety systems.

§ 129.110 Applicability.

Except as specifically provided in this part, electrical installations on OSVs must comply with subchapter J of this chapter.

§ 129.120 Alternative standards.

(a) An OSV of 19.8 meters (65 feet) in length or less may meet the following requirements of the American Yacht and Boat Council Projects, where applicable, instead of § 129.340 of this part:

- (1) E-1, Bonding of Direct Current Systems.
- (2) E-8, AC Electrical Systems on Boats.
- (3) E-9, DC Electrical Systems on Boats.

(b) An OSV with an electrical installation operating at a potential of less than 50 volts may comply with 33 CFR 183.430 instead of § 129.340 of this part.

Subpart B—General Requirements

§ 129.200 Design, installation, and maintenance.

Electrical equipment on a vessel must be designed, installed, and maintained to—

- (a) Provide services necessary for safety under normal and emergency conditions;
- (b) Protect crew members, offshore workers, and the vessel from electrical

hazards, including fire, caused by or originating in electrical equipment and electrical shock;

(c) Minimize accidental personal contact with energized parts; and

(d) Prevent electrical ignition of flammable vapors.

§ 129.210 Protection from wet and corrosive environments.

(a) Electrical equipment used in the following spaces must be drip-proof:

- (1) A machinery space.
- (2) A space normally exposed to splashing, water wash-down, or other wet conditions within a galley, a laundry, or a public washroom or toilet room that has a bath or shower.
- (3) Every other space with similar wet conditions.

(b) Electrical equipment exposed to the weather must be watertight.

(c) Electrical equipment exposed to corrosive environments must be of suitable construction and must be resistant to corrosion.

§ 129.220 Basic safety.

(a) Electrical equipment and installations must be suitable for the roll, pitch, and vibration of the vessel under way.

(b) All equipment, including switches, fuses, and lampholders, must be suitable for the voltage and current used.

(c) Receptacle outlets of the type providing a grounded pole or a specific direct-current polarity must be of a configuration that does not permit improper connection.

(d) Electrical equipment and circuits must be clearly marked and identified.

(e) Any cabinet, panel, box, or other enclosure containing more than one source of power must be fitted with a sign warning persons of this condition and identifying the circuits to be disconnected.

Subpart C—Power Sources and Distribution Systems

§ 129.310 Power sources.

(a)(1) Each vessel that relies on electricity to power the following loads must be arranged so that the loads can be energized from at least two sources of electricity:

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(i) Any system identified as a vital system in §128.130(a) of this subchapter.

(ii) Interior lights.

(iii) Communication systems.

(iv) Navigational equipment and lights.

(v) Fire-protection equipment.

(2) A vessel with batteries of enough capacity for 3 hours of continuous operation to supply the loads specified in paragraph (a)(1) of this section, and with a generator or alternator driven by a propulsion engine, complies with paragraph (a)(1) of this section.

(b) Where a generator driven by a propulsion engine is used as a source of electrical power, no speed change, throttle movement, or change in direction of the propeller shaft of the vessel may interrupt power to any of the loads specified in paragraph (a)(1) of this section.

§ 129.315 Power sources for OSVs of 100 or more gross tons.

(a) The requirements of this section apply instead of those in subpart 111.10 of this chapter.

(b) If a generator provides electrical power for any system identified as a vital system by §128.130(a) of this subchapter, at least two power-generating sets must be provided. At least one set must be independent of the main propulsion plant. A generator not independent of the main propulsion plant must comply with §111.10-4(d) of this chapter. With any one generating set stopped, the remaining set or sets must provide the power necessary for the loads required by this section.

§ 129.320 Generators and motors.

(a) Each generator and motor, except a submersible-pump motor, must be—

(1) In an accessible space, adequately ventilated and as dry as practicable; and

(2) Mounted above the bilges to avoid damage by splash and to avoid contact with low-lying vapors.

(b) Each generator and motor must be designed for an ambient temperature of 50 °C (122 °F), except that—

(1) If the ambient temperature, in the space where a generator or motor is, does not exceed 40 °C (104 °F) under normal operating conditions, the gener-

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ator or motor may be designed for an ambient temperature of 40 °C (104 °F); and

(2) A generator or motor designed for an ambient temperature of 40 °C (104 °F) may be used in a location where the ambient temperature is 50 °C (122 °F), if the generator or motor is derated to 80 percent of the full-load rating and if the rating or setting of the overcurrent devices of the generator or motor is reduced accordingly.

(c) For each generator rated at 50 volts or more, a voltmeter and an ammeter used for measuring voltage and current while the generator is in operation must be provided. For each alternating-current generator, a means for measuring frequency must also be provided. To ensure satisfactory operation of each generator, additional control equipment and measuring instruments, if needed, must also be provided.

(d) Each generator must have a nameplate attached to it indicating—

(1) Name of manufacturer, type of generator, and designation of frame;

(2) Output in kilowatts, or horsepower rating;

(3) Kind of rating (continuous, overload, or other);

(4) Amperes at rated load, voltage, and frequency;

(5) Number of phases, if applicable;

(6) Type of windings, if DC;

(7) When intended for connection in a normally grounded configuration, the grounding polarity; and

(8) For a generator derated to comply with paragraph (b)(2) of this section, the derated capacity.

(e) Each motor must have attached to it a nameplate containing the information required by Article 430 of NFPA 70.

§ 129.323 Multiple generators.

If an OSV uses two or more generators to supply electricity for the ship's service loads, to comply with §129.310(a) of this subpart, the following requirements must be met:

(a) Each generator must have an independent prime mover.

(b) The circuit breaker of a generator to be operated in parallel with another generator must comply with §§111.12-11(f), 111.30-19(a), and 111.30-25(d) of this chapter.