

ELECTRICAL INSTALLATIONS ON VESSELS
OF 100 GROSS TONS AND OVER**§ 169.687 General.**

Except as provided in this subpart, electrical installations on vessels of 100 gross tons and over must meet the requirements of parts 110-113 of this chapter.

§ 169.688 Power supply.

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

(b) If a generator is used to provide electric power for any vital system listed in § 169.642 of this subchapter, at least two generating sets must be provided. At least one required generating set must be independent of the auxiliary propulsion machinery. A generator that is not independent of the auxiliary propulsion plant must meet the requirements of § 111.10-4(c) of this chapter. With any one generating set stopped, the remaining set(s) must provide the power necessary for each of the following:

(1) Normal at sea load plus starting of the largest vital system load that can be started automatically or started from a space remote from the main distribution panel (switchboard).

(2) All vital systems simultaneously with nonvital loads secured.

(c) The adequacy of ship service generators must be demonstrated to the satisfaction of the OCMI during the initial inspection required by § 169.221 of this subchapter.

§ 169.689 Demand loads.

Demand loads must meet § 111.60-7 of this chapter except that smaller demand loads for motor feeders are acceptable if the cable is protected at or below its current-carrying capacity.

§ 169.690 Lighting branch circuits.

Each lighting branch circuit must meet the requirements of § 111.75-5 of this chapter, except that—

(a) Appliance loads, electric heater loads, and isolated small motor loads may be connected to a lighting distribution panelboard; and

(b) Branch circuits in excess of 30 amperes may be supplied from a lighting distribution panelboard.

§ 169.691 Navigation lights.

Navigation light systems must meet the requirements of § 111.75-17 of this chapter except the requirements of § 111.75-17 (a) and (c).

§ 169.692 Remote stop stations.

In lieu of the remote stopping systems required by subpart 111.103 of this chapter, remote stop stations must be provided as follows:

(a) A propulsion shutdown in the pilothouse for each propulsion unit,

(b) A bilge slop or dirty oil discharge shutdown at the deck discharge,

(c) A ventilation shutdown located outside the space ventilated, and

(d) A shutdown from outside the engineroom for the fuel transfer pump, fuel oil service pump, or any other fuel oil pump.

§ 169.693 Engine order telegraph systems.

An engine order telegraph system is not required.

Subpart 169.700—Vessel Control, Miscellaneous Systems, and Equipment**§ 169.703 Cooking and heating.**

(a) Cooking and heating equipment must be suitable for marine use. Cooking installations must meet the requirements of ABYC Standard A-3, "Recommended Practices and Standards Covering Galley Stoves."

(b) The use of gasoline for cooking, heating or lighting is prohibited on all vessels.

(c) The use of liquefied petroleum gas (LPG) or compressed natural gas (CNG) is authorized for cooking purposes only.

(1) The design, installation and testing of each LPG system must meet either ABYC A-1 or Chapter 6 of NFPA 302.

(2) The design, installation, and testing of each CNG system must meet either Chapter 6 of NFPA 302 or ABYC A-22.

(3) The stowage of each cylinder must comply with the requirements for the stowage of cylinders of liquefied or non-liquefied gases used for heating,

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cooking, or lighting in part 147 of this chapter.

(4) If the fuel supply line enters an enclosed space on the vessel, a remote shutoff valve must be installed which can be operated from a position adjacent to the appliance. The valve must be a type that will fail closed, and it must be located between the regulator and the point where the fuel supply enters the enclosed portion of the vessel.

(5) If Chapter 6 of NFPA 302 is used as the standard, then the following additional requirements must also be met:

(i) LPG or CNG must be odorized in accordance with ABYC A-1.5.d or A-22.5.b, respectively.

(ii) Ovens must be equipped with a flame failure switch in accordance with ABYC A-1.10.b for LPG or A-22.10.b for CNG.

(iii) The marking and mounting of LPG cylinders must be in accordance with ABYC-1.6.b.

(iv) LPG cylinders must be of the vapor withdrawal type as specified in ABYC A-1.5.b.

(6) If ABYC A-1 or A-22 is used as the standard for an LPG or CNG installation, then pilot lights or glow plugs are prohibited.

(7) If ABYC A-22 is used as the standard for a CNG installation, then the following additional requirements must also be met:

(i) The CNG cylinders, regulating equipment, and safety equipment must meet the installation, stowage, and testing requirements of paragraphs 6-5.11.1, 2, 3; 6-5.11.5; and 6-5.11.8 of NFPA 302.

(ii) The use or stowage of stoves with attached cylinders is prohibited as specified in paragraph 6-5.1 of NFPA 302.

§ 169.705 Mooring equipment.

Each vessel must be fitted with ground tackle and hawsers deemed necessary by the Officer in Charge, Marine Inspection, depending upon the size of the vessel and the waters on which it operates.

§ 169.709 Compass.

(a) Each vessel must be fitted with a magnetic steering compass.

(b) Each vessel certificated for exposed water service must have an

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emergency compass in addition to the one required in paragraph (a).

§ 169.711 Emergency lighting.

(a) Each vessel must be equipped with a suitable number of portable battery lights.

(b) Each vessel of 100 gross tons and over must satisfy the emergency lighting requirements for a miscellaneous self-propelled vessel as contained in part 112 of this chapter.

(c) Each vessel of less than 100 gross tons that has accommodation spaces located below the main deck must have permanently installed lighting which is connected to a single emergency power source or permanently installed, relay-controlled, battery-operated lanterns. The lighting or lanterns must be fitted along the avenues of escape, in the wheelhouse, and in the engine compartment.

(1) A single emergency power source, if provided, must be independent of the normal power source and must be either a generator or a storage battery.

(d) The emergency power source and batteries for individual, battery-operated, lanterns must have the capacity to supply all connected loads simultaneously for at least 6 hours of continuous operations. If the emergency lighting is provided by battery power, then an automatic battery charger that maintains the battery(s) in a fully charged condition must be provided.

(e) The emergency lighting system must be capable of being fully activated from a single location.

§ 169.713 Engineroom communication system.

An efficient communication system must be provided between the principal steering station and the engineroom on vessels which are not equipped with pilothouse controls if, in the opinion of the Officer in Charge, Marine Inspection, this is necessary for proper operation of the vessel.

§ 169.715 Radio.

(a) Radiotelegraph and radiotelephone installations are required on certain vessels. Details of these requirements and the details of the installations are contained in regulations