Old Subchapter "T"
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"Old" Subchapter T

Parts included in This Subchapter

SUBCHAPTER T—SMALL PASSENGER VESSELS (UNDER 100 GROSS TONS)

PART 175—GENERAL PROVISIONS

Subpart 175.01—Authority

Sec.

Subpart 175.05—Application

Subpart 175.07—Load Lines

Subpart 175.10—Definitions of Terms Used In This Subchapter

Subpart 175.15—Equivalents

Subpart 175.20—Administrative Procedure

Subpart 175.25—Special Consideration

Subpart 175.27—Adoption of Standards and Specifications

Subpart 175.30—Appeals

Subpart 175.35—Special Provisions

AUTHORITY: 46 U.S.C. 3306, 3703, 5115, 8105; 49 U.S.C. App. 1804; 49 CFR 1.45, 1.46; §175.01-3 also issued under the authority of 44 U.S.C. 3507.

SOURCE: CGFR 60-54, 25 FR 9315, Sept. 29, 1960, unless otherwise noted.

Subpart 175.01—Authority

§ 175.01-1 General.

(a) The regulations in this subchapter are prescribed by the Commandant of the Coast Guard to carry out the intent and purpose of Title 46, U.S. Code, sections 3301, 3302, 3307, 7101 and 8101, which require the inspection and certification of certain vessels of less than 100 gross tons carrying freight for hire or more than six passengers.

(b) *S and L*: Where other laws are applicable to vessels inspected under this subchapter, appropriate references following certain regulations are made to show that such regulations interpret or apply such laws.

[CGFR 69-116, 35 FR 6862, Apr. 30, 1970, as amended by CGD 81-059, 52 FR 38657, Oct. 16, 1987]

§ 175.01–3 OMB control numbers assigned pursuant to the Paperwork Reduction Act.

(a) *Purpose.* This section collects and displays the control numbers assigned to information collection and recordkeeping requirements in this subchapter by the Office of Management and Budget (OMB) pursuant to the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*). The Coast Guard intends that this section comply with the requirements of 44 U.S.C. 3507(f) which requires that agencies display a current control number assigned by the Director of the OMB for each approved agency information collection requirement.

(b) *Display.*

46 CFR part or section where identified or described	Current OMB control No.
§ 177.05	2115–0095
§ 179.01–30	2115–0136
§ 179.10–3	2115–0095
§ 179.20–1	2115–0095
§ 185.20–5	2115–0589
§ 185.20–17	2115–0589
§ 186.10	2115–0514

[49 FR 38121, Sept. 27, 1984, as amended by CGD 89–037, 57 FR 41827, Sept. 11, 1992]

Subpart 175.05—Application

§ 175.05–1 Applicability to United States vessels.

(a) This subchapter shall be applicable to all United States flag vessels indicated in column 4 of Table 175.05–1(a) that are less than 100 gross tons, except as follows:

(1) Any vessel operating exclusively on inland waters which are not navigable waters of the United States.

(2) Any vessel while laid up and dismantled and out of commission.

(3) With the exception of vessels of the United States Maritime Administration, any vessel with title vested in the United States and which is used for public purposes and operated by a department or agency of the Federal Government.

(4) Any lifeboat forming part of a vessel's lifesaving equipment.

TABLE 175.05–1(a)

[See footnotes at end of table]

Method of propulsion	Size or other limitations[1]	Classes of vessels (including motorboats) examined or inspected under various Coast Guard regulations[1]					
Column 1	Column 2	Vessels inspected and certificated under Subchapter D—Tank Vessels[2]	Vessels inspected and certificated under either Subchapter H—Passenger Vessels[2,3,4,5] or Subchapter T—Small Passenger Vessels[2,3,4]	Vessels inspected and certificated under Subchapter I—Cargo and Miscellaneous Vessels[2,5]	Vessels subject to provisions of Subchapter C—Uninspected Vessels[2,3,6,7,8]	Vessels subject to provisions of Subchapter U—Oceanographic Vessels[2,3,6,7,9]	Vessels subject to provisions of Subchapter O—Certain Bulk Dangerous Cargoes[10]
		Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Steam	Vessels not over 65 feet in length.	All vessels carrying combustible or flammable liquid *cargo in bulk*.	All vessels carrying more than 6 passengers.[7]	All tugboats and towboats.	All vessels except those covered by columns 3, 4, 5, and 7.	None	All vessels carrying in bulk the cargoes listed in table of part 153 and table 4 of part 154.
	Vessels over 65 feet in length.	All vessels carrying combustible or flammable liquid cargo in bulk.[5]	1. All vessels carrying more than 12 passengers on an international voyage, except yachts. 2. All vessels of not over 15 gross tons which carry more than 6 passengers.[7] 3. All other vessels carrying passengers,[7] except: a. Yachts. b. Documented cargo or tank vessels issued a permit to carry not more than 16 persons in addition to the crew.	All vessels except those covered by columns 3 and 4.	None	All vessels engaged in oceanographic research.	Do.

			c. Towing and fishing vessels, in other than ocean and coastwise service, may carry persons on the legitimate business of the vessel, in addition to crew, but not to exceed one for each net ton of the vessel.				
Motor	Vessels not over 15 gross tons.	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying more than 6 passengers.[7]	Those vessels carrying dangerous cargoes when required by 46 CFR part 98 or 49 CFR parts 171–179.	All vessels except those covered by columns 3, 4, 5, and 7.	None	All vessels carrying in bulk the cargoes listed in table I of part 153 and table 4 of part 154.
	Vessels over 15 gross tons except seagoing motor vessels of 300 gross tons and over.	All vessels carrying combustible or flammable liquid cargo in bulk.[5]	1. All vessels carrying more than 12 passengers on an international voyage, except yachts. 2. All vessels not over 65 feet in length which carry more than 6 passengers.[7] 3. All other vessels of over 65 feet in length carrying passengers for hire except documented cargo or tank vessels issued a permit to carry not more than 16 persons in addition to the crew.	All vessels carrying freight for hire except those covered by columns 3 and 4.	All vessels except those covered by columns 3, 4, 5, and 7.	None	Do.

TABLE 175.05–1(a)—Continued

[See footnotes at end of table]

Method of propulsion	Size or other limitations[1]	Classes of vessels (including motorboats) examined or inspected under various Coast Guard regulations[1]					
Column 1	Column 2	Vessels inspected and certificated under Subchapter D—Tank Vessels[2]	Vessels inspected and certificated under either Subchapter H—Passenger Vessels[2,3,4,5] or Subchapter T—Small Passenger Vessels[2,3,4]	Vessels inspected and certificated under Subchapter I—Cargo and Miscellaneous Vessels[2,5]	Vessels subject to provisions of Subchapter C—Uninspected Vessels[2,3,6,7,8]	Vessels subject to provisions of Subchapter U—Oceanographic Vessels[2,3,6,7,9]	Vessels subject to provisions of Subchapter O—Certain Bulk Dangerous Cargoes[10]
		Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
	Seagoing motor vessels of 300 gross tons and over.	All vessels carrying combustible or flammable liquid cargo in bulk.[5]	1. All vessels carrying more than 12 passengers on an international voyage, except yachts. 2. All other vessels carrying passengers,[7] except: a. Yachts. b. Documented cargo or tank vessels issued a permit to carry not more than 16 persons in addition to the crew.	All vessels except those covered by columns 3 and 4, and those engaged in the fishing, oystering, clamming, crabbing, or any other branch of the fishery, kelp, or sponge industry.	All vessels except those covered by columns 3, 4, 5, and 7.	All vessels engaged in oceanographic research.	All vessels carrying in bulk the cargoes listed in table I of part 153 and table 4 of part 154.
Sail	Vessels not over 700 gross tons.	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying more than 6 passengers.[7]	Those vessels carrying dangerous cargoes when required by 46 CFR part 98 or 49 CFR parts 171–179.	None	None	Do.
	Vessels over 700 gross tons.	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying passengers for hire.	Those vessels carrying dangerous cargoes when required by 46 CFR part 98 or 49 CFR parts 171–179.	None	None	Do.

Non-self-propelled	Vessels less than 100 gross tons.	All vessels carrying combustible or liquid cargo in bulk.	All vessels carrying more than 6 passengers.[7]	Those vessels carrying dangerous cargoes when required by 46 CFR part 98 or 49 CFR parts 171–179.	All barges carrying passengers except those covered by column 4.	None	All tank barges carrying in bulk the cargoes listed in table 151.05 of this chapter.[11]
	Vessels 100 gross tons or over.	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying passengers for hire.	All seagoing barges except those covered by columns 3 and 4; and those inland barges carrying dangerous cargoes when required by 46 CFR part 98 or 49 CFR parts 171–179.	All barges carrying passengers except those covered by columns 4 and 7.	All seagoing barges engaged in oceanographic research.	Do.

[1] Where length is used in this table it means the length measured from end to end over the deck, excluding sheer. This expression means a straight line measurement of the overall length from the foremost part of the vessel to the aftermost part of the vessel, measured parallel to the centerline.

[2] Subchapters E (Load Lines), F (Marine Engineering), J (Electrical Engineering), and N (Dangerous Cargoes) of this chapter may also be applicable under certain conditions. The provisions of 49 CFR parts 171–179 apply whenever hazardous materials are on board vessels (including motorboats), except when specifically exempted by law.

[3] Public nautical schoolships, other than vessels of the Navy and Coast Guard, shall meet the requirements of part 167 of Subchapter R (Nautical Schools) of this chapter. Civilian nautical schoolships, as defined by 46 U.S.C. 1331, shall meet the requirements of Subchapter H (Passenger Vessels) and part 168 of Subchapter R (Nautical Schools) of this chapter.

[4] Subchapter H (Passenger Vessels) of this chapter covers only those vessels of 100 gross tons or more. Subchapter T (Small Passenger Vessels) of this chapter covers only those vessels of less than 100 gross tons.

[5] Vessels covered by Subchapter H (Passenger Vessels) or a (Cargo and Miscellaneous Vessels) of this chapter, where the principal purpose or use of the vessels is not for the carriage of liquid cargo, may be granted a permit to carry a limited amount of flammable or combustible liquid cargo in bulk. The portion of the vessel used for the carriage of the flammable or combustible liquid cargo shall meet the requirements of Subchapter D (Tank Vessels) in addition to the requirements of Subchapter H (Passenger Vessels) or I (Cargo and Miscellaneous Vessels) of this chapter.

[6] Any vessel on an international voyage is subject to the requirements of the International Convention for Safety of Life at Sea, 1974.

[7] The meaning of the term "passenger" is as defined in the Act of May 10, 1956 (Sec. 1, 70 Stat. 151; 46 U.S.C. 390). On oceanographic vessels scientific personnel on board shall not be deemed to be passengers nor seamen, but for calculations of lifesaving equipment, etc., shall be counted as persons.

[8] Boilers and machinery are subject to examinat on on vessels over 40 feet in length.

[9] Under 46 U.S.C. 441 an "oceanographic research vessel" is a vessel "* * * being employed exclusively in instruction in oceanography or limnology, or both, or exclusively in oceanographic research, * * *." Under 46 U.S.C. 443, "an oceanographic research vessel shall not be deemed to be engaged in trade or commerce." If or when an oceanographic vessel engages in trade or commerce, such vessel cannot operate under its certificate of inspection as an oceanographic vessel, but shall be inspected and certificated for the service in which engaged, and the scientific personnel aboard then become persons employed in the business of the vessel.

[10] Bulk dangerous cargoes are cargoes specified in table 151.01–10(b), in table I of part 153, and in table 4 of part 154 of this chapter.

[11] For manned tank barges see § 151.01–10(e) of this chapter.

(b) *S and L:* Any vessel carrying more than 150 passengers shall comply with the provisions of this subchapter and shall be subject to certain additional requirements as determined by the Officer in Charge, Marine Inspection. These additional requirements are contained in applicable regulations in Subchapter H (Passenger Vessels), Subchapter P (Manning), Subchapter F (Marine Engineering), and Subchapter J (Electrical Engineering) of this chapter.

(c) *S and L:* Nothing in the regulations in this subchapter shall be construed as exempting any mechanically propelled vessel, other than a yacht, which carries more than 12 passengers on an international voyage from the applicable requirements of the International Convention for Safety of Life at Sea, 1974.

(d) *S and L*: Any vessel which carries flammable or combustible liquid cargo, or explosives, or other dangerous articles or substances is subject to additional requirements provided in other laws and regulations. Any Officer in Charge, Marine Inspection, may be contacted for information concerning these additional requirements.

(e) *S and L*: Any mechanically propelled vessel inspected and certificated under the provisions of this subchapter, which is more than 15 gross tons and carries freight for hire, is subject to additional requirements provided in other laws and regulations. Any Officer in Charge, Marine Inspection, may be contacted for information concerning these additional requirements.

[CGFR 63-40, 28 FR 9734, Sept. 6, 1963, as amended by CGFR 70-10, 35 FR 3713, Feb. 25, 1970; CGFR 69-116, 35 FR 6862, Apr. 30, 1970; CGD 73-96, 42 FR 49027, Sept. 26, 1977; CGD 77-042, 42 FR 63643, Dec. 19, 1977; CGD 86-033, 53 FR 36026, Sept. 16, 1988; 53 FR 46871, Nov. 21, 1988; CGD 90-008, 55 FR 30663, July 26, 1990]

§ 175.05-2 Applicability to offshore supply vessels.

Offshore supply vessels of above 15 gross tons and less than 100 gross tons are subject to inspection under the provisions of this subchapter.

[CGD 80-133, 45 FR 69244, Oct. 20, 1980]

§ 175.05-3 Applicability to foreign vessels.

(a) Except as specifically noted in paragraph (b) of this section, this subchapter shall be applicable to the extent prescribed by law to all foreign vessels of the following classifications, indicated in column 4 of Table 175.05-1(a) that are less than 100 gross tons:

(1) Mechanically propelled foreign vessels of more than 15 gross tons and over 65 feet in length which carry more than 12 passengers from any port in the United States.

(2) Foreign vessels which carry more than six passengers from any port in the United States and which are:

(i) Mechanically propelled vessels of not more than 15 gross tons regardless of length; or,

(ii) Mechanically propelled vessels of more than 15 gross tons but less than 65 feet in length; or,

(iii) Sailing vessels or nonself-propelled vessels regardless of length.

(b) The provisions of this subchapter shall not be applicable to those foreign vessels covered by paragraph (a) of this section which are:

(1) Vessels of a foreign nation signatory to the International Convention for Safety of Life at Sea, 1974, and which have on board a current, valid Safety Certificate; or,

(2) Vessels of a foreign nation having inspection laws approximating those of the United States together with reciprocal inspection arrangements with the United States, and which have on board a current, valid Certificate of Inspection issued by its government under such arrangements.

[CGFR 69-116, 35 FR 6862, Apr. 30, 1970, as amended by CGD 90-008, 55 FR 30663, July 26, 1990]

§ 175.05-5 Specific application noted in text.

(a) *S*: Under the designator "S" shall be included all vessels indicated in column 4 of Table 175.05-1(a) that are not more than 65 feet in length and of less than 100 gross tons carrying more than six passengers.

(b) *L*: Under the designator "L" shall be included all vessels indicated in column 4 of Table 175.05-1(a) that are more than 65 feet in length and of less than 100 gross tons which are:

(1) Mechanically propelled vessels of more than 15 gross tons carrying one or more passengers for hire.

(2) Mechanically propelled vessels of not more than 15 gross tons carrying more than six passengers.

(3) Sailing vessels and barges carrying more than six passengers.

(c) Certain portions of this subchapter applicable to only "S" vessels are indicated by the designator "S". Portions applicable to only "L" vessels are indicated by the designator "L". Those portions of this subchapter applicable to both categories of vessels contain no designator or are designated "S and L".

(d) At the beginning of the various parts, subparts and sections, a more specific application is generally given for the particular portion of the text involved. This application sets forth the types, sizes, services or vessels to which the text pertains, and in many cases limits the application of the text to vessels contracted for before or after a specific date.

(e) As used in this subchapter the term "vessels contracted for" includes not only contracting for the construction of a vessel, but also contracting for a material alteration to a vessel, contracting for the conversion of a vessel to a passenger vessel, and changing of service or route of a vessel, if such change increases or modifies the general requirements for the vessel or increases the hazards to which it might be subjected.

[CGFR 69-116, 35 FR 6862, Apr. 30, 1970, as amended by CGD 79-165a, 45 FR 64189, Sept. 29, 1980]

§ 175.05-15 Gross tonnage as a criterion for requirements.

(a) The regulations in this subchapter, as well as referenced requirements in other subchapters in this chapter, take into account the passenger vessel's size, construction, and equipment, as well as its intended service on the routes or waters on which it is desired to be operated or navigated, which are indications of the hazards to which such vessel may be subjected. The Commandant's determinations in this respect for a particular passenger vessel are stipulated in a certificate of inspection, which states certain terms and conditions governing such vessels when in operation.

(b) In applying the laws and regulations to passenger vessels, one criterion for invocation of safety standards is the description of passenger vessels by relative size in gross tons. When it is determined by the Commandant that the gross register tonnage for a particular passenger vessel, which is attained by exemptions, reductions, or other devices in the basic gross tonnage formulation, will circumvent or be incompatible with the application of specific safety requirements in the passenger vessel regulations for a vessel of such physical size, the Commandant shall prescribe the regulations to be made applicable to such vessel.

(c) When the Commandant determines that the gross register tonnage is not a valid criterion for the invocation of safety requirements based on relative size, the parties involved will be informed of the determination and of the regulations applicable to such passenger vessel, and before being permitted to operate such vessel, compliance therewith shall be required. Endorsements or notations on the passenger vessel's certificate of inspection may be made as appropriate.

Subpart 175.07—Load Lines

§ 175.07-1 Load lines required.

Vessels of 79 feet in length and over having their keels laid or at a similar stage of construction on or after July 21, 1968, and engaged in international voyages, are subject to load line assignment, certification, and marking under Subchapter E (Load Lines) of this chapter.

[CGFR 69-72, 34 FR 17503, Oct. 29, 1969]

Subpart 175.10—Definitions of Terms Used in This Subchapter

§ 175.10-1 Approved.

This term means approved by the Commandant unless otherwise stated.

§ 175.10-2 Approved type.

(a) Where equipment in this subchapter is required to be of an "approved type," such equipment must be

of a type which has been specifically approved by the Commandant.

(b) Notifications regarding approvals are published in the FEDERAL REGISTER. In addition, approved types of equipment are listed in Coast Guard publication COMDTINST M16714.3 (Series), "Equipment Lists," which is available at the Marine Inspection Office of any Officer in Charge, Marine Inspection.

[CGFR 60-54, 25 FR 9315, Sept. 29, 1960, as amended by CGD 95-072, 60 FR 50468, Sept. 29, 1995]

§ 175.10-3 Coastwise.

(a) This term shall be used to describe a route which is not more than 20 nautical miles offshore on any of the following waters:

(1) Any ocean;

(2) The Gulf of Mexico;

(3) The Caribbean Sea;

(4) The Gulf of Alaska; and,

(5) Such other similar waters as may be designated by a Coast Guard District Commander.

§ 175.10-5 Commandant.

This term means the Commandant of the Coast Guard.

§ 175.10-7 Coast Guard District Commander.

This term means an officer of the Coast Guard designated as such by the Commandant to command all Coast Guard activities within his district which include the enforcement and administration of Title 52 of the Revised Statutes, acts amendatory thereof or supplemental thereto and rules and regulations thereunder.

§ 175.10-9 Ferry.

Under this designation shall be included those vessels, in other than ocean or coastwise service, having provisions only for deck passengers and/or vehicles, operating on a short run on a frequent schedule between two points over the most direct water route, and offering a public service of a type normally attributed to a bridge or tunnel.

§ 175.10-11 Great Lakes.

This term shall be used to describe a route on the waters of any of the Great Lakes.

§ 175.10-13 Headquarters.

This term means the office of the Commandant, United States Coast Guard, Washington, DC 20593-0001.

[CGD 81-059, 52 FR 38657, Oct. 16, 1987]

§ 175.10-15 Master.

This term means the officer having command of the vessel.

[CGD 81-059, 52 FR 38657, Oct. 16, 1987]

§ 175.10-17 Lakes, bays, and sounds.

(a) This term shall be used to describe a route on any of the following waters:

(1) Any lake other than the Great Lakes;

(2) Any bay;

(3) Any sound; and,

(4) Such other similar waters as may be designated by a Coast Guard District Commander.

§ 175.10-19 Length.

In determining length for the purpose of this chapter it shall be measured from end to end over the deck excluding sheer.

§ 175.10-21 Marine inspector or inspector.

This term means any person from the civilian or military branch of the Coast Guard assigned under the superintendence and direction of an Officer in Charge, Marine Inspection, designated for the performance of duties with respect to the enforcement and administration of Title 52 of the Revised Statutes, acts amendatory thereof or supplemental thereto, rules and regulations thereunder.

§ 175.10-23 Non-self-propelled vessel.

Under this designation shall be included all vessels which do not have installed either propulsive machinery or masts, spars and sails.

§ 175.10-25 Ocean.

(a) This term shall be used to describe a route which is more than 20 nautical miles offshore on any of the following waters:

(1) Any ocean;

(2) The Gulf of Mexico;

(3) The Caribbean Sea;

(4) The Gulf of Alaska; and,

(5) Such other similar waters as may be designated by a Coast Guard District Commander.

§ 175.10-26 Officer in Charge, Marine Inspection.

This term means any person from the civilian or military branch of the Coast Guard designated as such by the Commandant and who, under the superintendence and direction of the Coast Guard District Commander, is in charge of an inspection zone for the performance of duties with respect to the inspections, enforcement, and administration of Title 52, Revised Statutes, and acts amendatory thereof or supplemental thereto, and rules and regulations thereunder.

§ 175.10-27 Passenger.

A passenger is every person other than the master and the members of the crew or other persons employed or engaged in any capacity on board a vessel in the business of that vessel. The following special considerations should be noted:

(a) *S and L.* In the case of a vessel on an international voyage a child under one year of age is not counted as a passenger.

(b) *S.* For vessels subject to the provisions of the Act of May 10, 1956 (46 U.S.C. 390-390g), the term passenger means every person carried on board a vessel other than:

(1) The owner or his representative;

(2) The master and the bona fide members of the crew engaged in the business of the vessel who have contributed no consideration for their carriage and who are paid for their services;

(3) Any employee of the owner of the vessel engaged in the business of the owner, except when the vessel is operating under a bareboat charter;

(4) Any employee of the bareboat charterer of the vessel engaged in the business of the bareboat charterer;

(5) Any guest on board a vessel which is being used exclusively for pleasure purposes who has not contributed any consideration directly or indirectly, for his carriage; or

(6) Any person on board a vessel documented and used for tugboat or towboat service of fifty gross tons or more who has not contributed any consideration, directly or indirectly, for his carriage.

[CGFR 63-40, 28 FR 9736, Sept. 6, 1963]

§ 175.10-28 Passengers for hire, carriage of.

(a) The carriage of any person or persons by a vessel for a valuable consideration, whether directly or indirectly flowing to the owner, charterer, agent, or any other person interested in the vessel.

[CGFR 63-40, 28 FR 9736, Sept. 6, 1963]

§ 175.10-29 Pilothouse control.

This term means that the operator of the vessel may start and stop the engines and control the direction and speed of the propeller from the principal station from which the vessel is steered.

§ 175.10-31 Recognized classification society.

This term means any organization of nationwide scope, such as the American Bureau of Shipping or Lloyd's Register of Shipping, with standards of construction or equipage which have been accepted and/or approved by the Commandant.

§ 175.10-33 Rivers.

(a) This term shall be used to describe a route on any of the following waters:

(1) Any river;

(2) Any canal; and,

(3) Such other similar waters as may be designated by a Coast Guard District Commander.

§ 175.10-36 Sailing vessel.

This term means a vessel with no mechanical means of propulsion, all propulsive power being provided by sails.

§ 175.10-37 Vessel.

Where the word "vessel" is used in this subchapter, it shall be considered to include all vessels subject to the requirements of this subchapter as described in subpart 175.05 of this part.

§ 175.10–38 Auxiliary sailing vessel.

This term means a vessel capable of being propelled by mechanical means and/or by sails.

[CGFR 68–32, 33 FR 5725, Apr. 12, 1968]

§ 175.10–40 Offshore supply vessel.

(a) An offshore supply vessel is a vessel that is propelled by machinery other than steam, that is of above 15 gross tons and less than 500 gross tons, and that regularly carriers goods, supplies, or equipment in support of exploration, exploitation, or production of offshore mineral or energy resources.

(b) An existing offshore supply vessel is one that was operating as such on or before January 1, 1979, or that, if not in service of any kind on or before that date, was contracted for on or before that date and entered service as such before the effective date of this section.

(c) A new offshore supply vessel is one that is not an existing offshore supply vessel.

[CGD 80–133, 45 FR 69244, Oct. 20, 1980]

Subpart 175.15—Equivalents

§ 175.15–1 Conditions under which equivalents may be used.

(a) Where in this subchapter it is provided that a particular fitting, appliance, apparatus, or equipment, or type thereof, shall be fitted or carried in a vessel, or that any particular arrangement shall be adopted, the Commandant may accept in substitution therefor any other fitting, apparatus, or equipment, or type thereof, or any other arrangement: *Provided,* That he shall have been satisfied by suitable trials that the fitting, appliance, apparatus, or equipment, or type thereof, or the arrangement shall be at least as effective as that specified in this subchapter.

(b) In any case where it is shown to the satisfaction of the Commandant that the use of any particular equipment, apparatus, or arrangement not specifically required by law is unreasonable or impracticable, the Commandant may permit the use of alternate equipment, apparatus, or arrangement to such an extent and upon such conditions as will insure, to his satisfaction, a degree of safety consistent with the minimum standards set forth in this subchapter.

Subpart 175.20—Administrative Procedure

§ 175.20–1 Assignment of marine inspector.

(a) Upon receipt of a written application for inspection, the Officer in Charge, Marine Inspection, will assign a marine inspector to inspect the vessel. This inspection will be made at a mutually agreed to time and place.

(b) The owner or someone representing the owner shall be present during the inspection.

§ 175.20–5 Notice of deficiencies and requirements.

(a) If during the inspection of a vessel, the vessel or its equipment is found not to conform to the requirements of law or the regulations in this subchapter, the marine inspector will point out all deficiencies and will discuss all requirements with the owner or his representative. Normally, the marine inspector will list all such requirements which have not been completed and present the list to the owner or his representative.

(b) In any case where the owner of a vessel or his representative desires further clarification of, or reconsideration of any requirement placed against his vessel, he may discuss the matter with the Officer in Charge, Marine Inspection.

Subpart 175.25—Special Consideration

§ 175.25–1 By Officer in Charge, Marine Inspection.

(a) In applying the provisions of parts 177, 180, 181, 182, 183, and 184 of this subchapter, the Officer in Charge, Marine Inspection, may give special consideration to departures from the specific requirements when special circumstances or arrangements warrant such departures.

[CGFR 60–54, 25 FR 9315, Sept. 29, 1960, as amended by CGFR 68–32, 33 FR 5725, Apr. 12, 1968; CGD 95–072, 60 FR 50468, Sept. 29, 1995]

Subpart 175.27—Adoption of Standards and Specifications

SOURCE: CGFR 68–82, 33 FR 18909, Dec. 18, 1968, unless otherwise noted.

§ 175.27–1 General.

(a) In this subchapter portions or the entire text of certain industrial standards and specifications are referred to as the governing requirements for materials, equipment, tests, or procedures to be followed. These standards and specification requirements specifically referred to in this subchapter shall be the governing requirements for the subject matters covered unless specifically limited, modified, or replaced by other regulations in this subchapter.

(b) As used in this subchapter references to industry standards, such as those established by the American Bureau of Shipping, Lloyd's Register of Shipping or other recognized classification society, and others, mean that the Coast Guard uses such standards as a guide with respect to the subjects covered, and under normal conditions will accept machinery, etc., meeting the requirements of such standards. Such standards are not adopted as the governing requirements and made a part of the regulations in this subchapter by reference.

(c) In this subpart are listed the organizations publishing standards and specifications which are adopted by reference. The standards and specifications may be obtained direct from the organization issuing the standard or specification.

§ 175.27–5 American Boat and Yacht Council, Inc. (ABYC).

(a) The materials as referenced in this subchapter from standards published by the American Boat and Yacht Council, Inc., in effect on the date equipment is manufactured, are adopted and shall form a part of the regulations in this subchapter. Copies of the referenced materials may be obtained from the American Boat and Yacht Council, Inc., 3069 Solomons Island Road, Edgewater, MD 21037.

[CGFR 68–82, 33 FR 18909, Dec. 18, 1968, as amended by CGD 95–072, 60 FR 50468, Sept. 29, 1995]

§ 175.27–20 Yacht Safety Bureau (YSB).

(a) The materials as referenced in this subchapter from standards published by the Yacht Safety Bureau, in effect on the date equipment is manufactured, are adopted and shall form a part of the regulations in this subchapter. Copies of the referenced materials may be obtained from the Yacht Safety Bureau, 336 Old Hook Road, Westwood, NJ 07676.

Subpart 175.30—Appeals

§ 175.30–1 Right of appeal.

Any person directly affected by a decision or action taken under this subchapter, by or on behalf of the Coast Guard, may appeal therefrom in accordance with subchapter 1.03 of this chapter.

[CGD 88–033, 54 FR 50382, Dec. 6, 1989]

Subpart 175.35—Special Provisions

§ 175.35–1 Existing offshore supply vessels.

(a) Existing offshore supply vessels of above 15 and less than 100 gross tons that do not possess a valid certificate of inspection must be registered with an officer in charge, marine inspection on or before January 6, 1981. The initial inspection for certification for each registered offshore supply vessel shall be made within two years of the date the vessel is registered.

(b) The registration must be on board the vessel and available for inspection.

[CGD 80–133, 45 FR 69244, Oct. 20, 1980]

PART 176—INSPECTION AND CERTIFICATION

Subpart 176.01—Certificate of Inspection

Sec.

AUTHORITY: 33 U.S.C. 1321(j); 46 U.S.C. 3306, 8105; 49 U.S.C. App. 1804; E.O. 11735, 38 FR 21243, 3 CFR, 1971-1975 Comp., p. 793; E.O. 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; 49 CFR 1.46.

SOURCE: CGFR 60-54, 25 FR 9319, Sept. 29, 1960, unless otherwise noted.

Subpart 176.01—Certificate of Inspection

§ 176.01-1 When required—S.

(a) Except as noted in this subpart, every vessel subject to inspection and certification shall, when carrying more than six passengers, have on board a valid certificate of inspection, Form CG-3753, and shall be operated in compliance therewith.

(b) Every mechanically propelled vessel of above 15 gross tons inspected and certificated under the provisions of this subchapter shall, during the tenure of the certificate, be in full compliance with the terms of the certificate when carrying freight for hire. Any other vessel certificated under the provisions of this subchapter when carrying not more than 6 passengers, and when operating as a yacht, commercial fishing vessel, cargo carrier, etc., will be subject only to the laws, rules and regulations governing the type of operation in which it engages.

(c) If necessary to prevent delay of the vessel, a temporary certificate of inspection, Form CG-854, shall be issued pending the issuance and delivery of the regular certificate of inspection. Such temporary certificate shall be carried in the same manner as the regular certificate and shall in all ways be considered the same as the regular certificate of inspection which it represents.

[CGFR 63-40, 28 FR 9736, Sept. 6, 1963]

§ 176.01-3 When required—L.

(a) Except as noted in this subpart or §176.01-27, no vessel subject to inspection and certification may be operated without a valid certificate of inspection, Form CG-3753.

(b) If necessary to prevent delay of the vessel, a temporary certificate of inspection, Form CG-854, shall be issued pending the issuance and delivery of the regular certificate of inspection. Such temporary certificate shall be carried in the same manner as the regular certificate and shall in all ways be considered the same as the regular cer-

tificate of inspection which it represents.

(c) Nothing in this subpart shall prevent a vessel upon a regularly established line from a port in the United States to a port of a foreign country not contiguous to the United States whose certificate of inspection expires at sea or while said vessel is in a foreign port or a port of Hawaii from lawfully completing her voyage without the valid certificate of inspection or temporary certificate required by this section: *Provided*, That the voyage shall be completed within 30 days after the expiration of the certificate of inspection. No such vessel shall depart if its certificate of inspection will expire within 15 days of the date of sailing unless the voyage will be completed before such expiration.

[CGFR 63-40, 28 FR 9736, Sept. 6, 1963, as amended by CG 72-53R, 37 FR 12492, June 24, 1972]

§ 176.01-5 Description.

(a) The certificate of inspection issued to a vessel will describe the vessel, the route which she may travel, the minimum manning requirements, the major lifesaving equipment carried, the minimum fire extinguishing equipment and life preservers required to be carried, the maximum number of passengers and the maximum number of persons which may be carried, the name of the owner and operator, and such conditions of operations as may be determined by the Officer in Charge, Marine Inspection.

[CGFR 69-116, 35 FR 6863, Apr. 30, 1970]

§ 176.01-10 How to obtain or renew.

(a) *S and L.* The certificate of inspection shall be obtained or renewed by making application for inspection on Form CG-3752, Application for Inspection of U.S. Vessel, to the Coast Guard Marine Inspection Office located in, or nearest the port at which the inspection is to be made. The application forms are available at any local Coast Guard Marine Inspection Office.

(b) *S and L.* The application for initial inspection of a vessel being newly constructed or converted shall be submitted prior to the start of such construction or conversion. Information and requirements or plans are in subpart 177.05 of this subchapter.

(c) *S and L.* The construction, arrangement and equipment of all vessels shall be acceptable to the cognizant Officer in Charge, Marine Inspection, as a prerequisite of the issuance of the initial certificate of inspection. Such acceptance will be based on the information, specifications, drawings and calculations available to the Officer in Charge, Marine Inspection, and on the successful completion of an initial inspection for certification.

(d) *S.* Certificates of inspection will be renewed by the issuance of new certificates of inspection. Such renewal will normally be made triennially upon expiration of the old certificate of inspection but may be made at any time within the three years upon proper application.

(e) *L.* Certificates of inspection will be renewed by the issuance of new certificates of inspection. Such renewal will normally be made annually upon expiration of the old certificate of inspection but may be made at any time within the year upon proper application.

(f) *S and L.* The condition of the vessel and its equipment shall be acceptable to the cognizant Officer in Charge, Marine Inspection, as a prerequisite of the certificate of inspection renewal. Such acceptance will be based on the condition as found at the periodic inspection for certification.

[CGFR 63-40, 28 FR 9737, Sept. 6, 1963, as amended by CGFR 64-19, 29 FR 7362, June 5, 1964]

§ 176.01-15 Period of validity.

(a) *S.* A certificate of inspection will be issued for a period of three years, and will remain valid for such period unless renewed, revoked, suspended, or surrendered.

(b) *L.* A certificate of inspection will be issued for a period of one year and will remain valid for such period unless renewed, revoked, suspended, or surrendered.

(c) *S and L.* A certificate of inspection may be revoked, or suspended and withdrawn by the Officer in Charge, Marine Inspection, at any time for noncompliance with the provisions of this

subchapter or requirements established thereunder.

[CGFR 63-40, 28 FR 9737, Sept. 6, 1963]

§ 176.01-20 Routes permitted.

(a) The area of operation permitted each vessel shall be as designated by the Officer in Charge, Marine Inspection. Such area of operation shall be described on the certificate of inspection under the major headings "ocean," "coastwise," "Great Lakes," "lakes, bays, and sounds," or "rivers," as applicable. Further limitations imposed or extensions granted shall be described by reference to bodies of waters, geographical points, distance from geographical points, distances from land, depths of channel, seasonal limitations, etc.

(b) Operation of vessels on routes of lesser severity than those specifically described or designated on the certificate of inspection will be permitted. The general order of severity is considered to be ocean; coastwise; Great Lakes; lakes, bays, and sounds; and rivers. Differences in local conditions of operation, as referred to in paragraph (a) of this section, may need to be taken into account.

(c) Non-self-propelled vessels shall, in general, be limited to routes other than "ocean" or "coastwise."

§ 176.01-25 Passengers permitted.

(a) The maximum number of passengers permitted to be carried on a vessel shall be as determined by the Officer in Charge, Marine Inspection, having jurisdiction and shall be stated on the vessel's certificate of inspection.

(b) The maximum number of passengers permitted on any vessel of reasonable design and proportions may be determined by length of rail criteria, deck area criteria, or fixed seating criteria, whichever permits the greatest number. Where seats are provided in one passenger space and are not provided in other passenger spaces, the number of passengers permitted may be the sum of the number permitted by the seating criteria for the space having seats and the number permitted by the area criteria for the space having no seats. For vessels operating on short runs on protected waters such as ferry vessels, the Officer in Charge, Marine Inspection may give special consideration to increases in passenger allowances.

(1) *Length of rail criteria.* One passenger may be permitted for each 30 inches of rail space available to the passengers at the vessel's sides and across the transom.

(2) *Deck area criteria.* One passenger may be permitted for each 10 square feet of deck area available for the passengers' use. In computing such deck area, the areas occupied by the following shall be excluded:

(i) Concession stands.

(ii) Toilets and washrooms.

(iii) Companionways, stairways, etc.

(iv) Spaces occupied by and necessary for handling lifesaving equipment.

(v) Spaces below deck which are unsuitable for passengers and which would not normally be used by passengers.

(vi) Interior passageways less than 30 inches wide and passageways on the open deck less than 18 inches wide.

(3) *Fixed seating criteria.* One passenger may be permitted for each 18 inches of width of fixed seating provided. Regulations covering the installation of fixed seating are contained in § 177.30-1 (c) of this subchapter.

(c) Notwithstanding the number of passengers permitted by any of the criteria described in paragraph (b) of this section, the maximum number may be further limited by stability or subdivision considerations.

[CGFR 60-54, 25 FR 9319, Sept. 29, 1960, as amended by CGFR 68-32, 33 FR 5725, Apr. 12, 1968]

§ 176.01-27 Permit to proceed to another port for repair—L.

(a) The Officer in Charge, Marine Inspection, may issue a permit to proceed to another port for repair, Form CG-948, to a vessel if in his judgment it can be done with safety even if the certificate of inspection of the vessel has expired or is about to expire.

(b) Such permit will only be issued upon the written application of the master, owner, or agent of the vessel.

(c) The permit will state upon its face the conditions under which it is issued and whether or not the vessel is

permitted to carry freight or passengers. Passengers may not be carried if the certificate of inspection has expired, except as provided under § 176.01-3(c).

(d) The permit shall be carried in a manner similar to that described in § 176.01-40 for a certificate of inspection.

[CGFR 63-40, 28 FR 9737, Sept. 6, 1963]

§ 176.01-30 Permit to carry excursion party.

(a) A vessel may be permitted to engage in a temporary excursion operation with a greater number of passengers and/or on a more extended route than permitted by its certificate of inspection when in the opinion of the Officer in Charge, Marine Inspection, the operation can be undertaken with safety. A "Permit To Carry Excursion Party," Form CG-949, shall be a prerequisite of such an operation.

(b) Any Officer in Charge, Marine Inspection, having jurisdiction may issue a permit to carry excursion party upon the written application of the operator, owner or agent of the vessel.

(c) An inspection either general or partial, depending upon the circumstances, may be made prior to the issuance of a permit to carry excursion party.

(d) The permit will state upon its face the conditions under which it is issued, the number of passengers the vessel may carry, the crew required, any additional lifesaving or safety equipment which will be required, the route for which the permit is granted, and the dates on which the permit will be valid.

(e) The permit when used shall be carried with the certificate of inspection. Any vessel to which a permit to carry excursion party has been issued shall, during the tenure of the permit, be in full compliance with the terms of its certificate of inspection as supplemented by such permit.

[CGFR 60-54, 25 FR 9319, Sept. 29, 1960, as amended by CGFR 68-32, 33 FR 5725, Apr. 12, 1968]

§ 176.01-35 Certificate of inspection amendment.

(a) A certificate amending a valid certificate of inspection may be issued at any time by any Officer in Charge, Marine Inspection, having jurisdiction over the vessel. The "Certificate of Inspection Amendment," Form CG-858, may be issued to authorize and record a change in the character of a vessel or in her route, equipment, etc., as specified in her certificate of inspection previously issued and currently valid.

(b) Notification and a request for a certificate of inspection amendment shall be made to the Officer in Charge, Marine Inspection, having jurisdiction, by the operator, owner, or agent of the vessel at any time there is a change in the character of a vessel or in her route, equipment, ownership, etc., as specified in her certificate of inspection previously issued and currently valid.

(c) An inspection, either general or partial depending on the circumstances, may be made prior to the issuance of a certificate of inspection amendment.

(d) A certificate of inspection amendment, when issued, shall become a part of the certificate which it amends, and shall be carried with the certificate of inspection.

[CGFR 60-54, 25 FR 9319, Sept. 29, 1960, as amended by CGFR 64-19, 29 FR 7362, June 5, 1964]

§ 176.01-40 Posting.

(a) The certification of inspection shall, in general, be framed under glass or other transparent material and posted in a conspicuous place. When the framing of the certificate would be impracticable, the certificate of inspection shall be kept on board to be shown on demand.

§ 176.01-45 Certification expiration date stickers.

(a) The owner, master, or person in charge of a vessel that is issued a Certificate of Inspection under the provisions of this subchapter must not operate the vessel without a Certification Expiration Date Sticker affixed to the vessel on a place that is:

(1) On a glass or smooth metal surface from which the sticker may be removed without damage to the vessel;

(2) Readily visible to each boarding passenger and to patrolling Coast Guard law enforcement personnel; and

(3) Acceptable to the Coast Guard marine inspector.

(b) The Coast Guard marine inspector may require the placement of more than one sticker in order to insure compliance with paragraph (a)(2) of this section.

(c) A Certification Expiration Date Sticker indicates the date upon which the vessel's Certificate of Inspection expires and is provided by the Officer in Charge, Marine Inspection, in the number required, upon issuance or renewal of the Certificate of Inspection.

[CGD 76–162, 43 FR 30771, July 17, 1978]

Subpart 176.05—Inspection for Certification

§ 176.05–1 General.

(a) An inspection for certification is a prerequisite of the issuance of a certificate of inspection. Such inspection will be made only upon the written application of the operator, owner or agent on Form CG–3752 to the Officer in Charge, Marine Inspection, having jurisdiction.

§ 176.05–5 Initial inspection for certification.

(a) The initial inspection shall include an inspection of the structure, machinery, and equipment, including the outside of the vessel's bottom and unfired pressure vessels.

(b) In the case of a vessel being newly constructed or converted, the initial inspection may consist of a series of inspections during the construction or conversion.

(c) The inspection shall be such as to insure that the arrangement, materials and scantlings of the structure, piping, main and auxiliary machinery, electrical installations, lifesaving appliances, fire extinguishing equipment, pollution prevention equipment, and all other equipment comply with the regulations in this subchapter to the extent they are applicable to the vessel being inspected, and are in accordance with such approved plans as may be required by subpart 177.05 of this subchapter. The inspection shall also be such as to insure that the materials, workmanship and condition of all parts of the vessel and its machinery and equipment are in all respects satisfactory for the service intended, and that the vessel is in possession of a valid certificate issued by the Federal Communications Commission, if required.

[CGFR 68–32, 33 FR 5726, Apr. 12, 1968, as amended by CGD 71–161R, 37 FR 28263, Dec. 21, 1972]

§ 176.05–10 Subsequent inspections for certification.

(a) An inspection for renewal of a certificate of inspection shall include an inspection of the structure, machinery and equipment. The inspection shall be such as to insure that the vessel, as regards the structure, piping, main and auxiliary machinery, electrical installations, lifesaving appliances, fire extinguishing equipment, pollution prevention equipment and other equipment, is in satisfactory condition and fit for the service for which it is intended and that it complies with the regulations in this subchapter to the extent that such regulations are applicable to the vessel being inspected.

(b) At each inspection for certification, the inspector shall examine the vessel to determine that it meets the vessel design and equipment requirements for pollution prevention in 33 CFR part 155, subpart B.

[CGFR 60–54, 25 FR 9319, Sept. 29, 1960, as amended by CGD 71–161R, 37 FR 28263, Dec. 21, 1972]

Subpart 176.10—Reinspection

§ 176.10–1 When made.

(a) *S.* At least two reinspections shall be made on each vessel within each triennial inspection period. When possible these reinspections will be made at approximately equal intervals between triennial inspections for certification, but may be made at such other times as may be required by the Officer in Charge, Marine Inspection.

(b) *L.* Vessels in this category are not required to be reinspected between annual inspections, except where specifically deemed necessary by the Officer in Charge, Marine Inspection.

[CGFR 63–40, 28 FR 9737, Sept. 6, 1963]

§ 176.10–5 Scope.

(a) In general, the scope of the reinspection shall be the same as for the triennial inspection for certification, but will be in less detail unless it is determined that a major change has occurred since the last inspection for certification.

(b) The marine inspector shall examine all accessible parts of the vessel's hull, machinery, and equipment to be assured that they are in a satisfactory condition.

Subpart 176.15—Drydocking or Hauling Out

§ 176.15–1 When required.

(a) Except for extensions as authorized by the Commandant, all vessels shall be drydocked or hauled out and made available for examination, and shall be examined by a marine inspector within the periods set forth in this paragraph, depending upon the service.

(1) Each vessel shall be drydocked or hauled out at intervals not to exceed 18 months if it operated in salt water a total of more than 9 months in the 18–month period since it was last drydocked or hauled out.

(2) Each vessel shall be drydocked or hauled out at intervals not to exceed 36 months if it operated in salt water a total of 6 months or less in each 12–month period since it was last drydocked or hauled out. When a vessel exceeds this total amount of service in salt water in any 12–month period since it was last drydocked or hauled out, it shall be drydocked or hauled out within 6 months after the end of that period or within the 36–month interval, whichever is earlier.

(3) Each vessel shall be drydocked or hauled out at intervals not to exceed 60 months if it operates exclusively in fresh water.

(b) Whenever a vessel is drydocked or hauled out in excess of the requirements of this section, an examination may be made by a marine inspector.

[CGFR 60–54, 25 FR 9319, Sept. 29, 1960, as amended by CGFR 62–17, 27 FR 9048, Sept. 11, 1962]

§ 176.15–5 Scope of drydock examination.

(a) A periodic examination made in accordance with the requirements of this subpart shall include the underwater hull and appendages, propellers, shafting, stern bearings, rudders, throughhull fittings, sea valves and strainers, and shall be of sufficient scope to determine that these items are in a satisfactory condition for the service intended.

(1) Any part or all of the propeller shafting may be required to be drawn for examination of the shafting and stern bearing.

(2) Sea chests, sea valves, and sea strainers may be required to be opened for internal examination.

(b) Drydock examinations in excess of the periodic examinations required by this subpart may be of the same scope as a periodic examination or may be a partial examination depending on the circumstances.

§ 176.15–10 Notice.

(a) Whenever any vessel is to be drydocked or hauled out in compliance with § 176.15–1, or to carry out major repairs or alterations affecting the safety or seaworthiness of the vessel, it shall be the duty of the person in charge of the vessel, the owner, or the agent to report the same, together with the nature of any repairs or alterations contemplated, as far in advance as practicable to the Officer in Charge, Marine Inspection, in order that an examination may be made by a marine inspector. Such notification may be made verbally at the Marine Inspection Office of the Officer in Charge, Marine Inspection, having jurisdiction, or it may be made by telephone, telegraph, letter or similar means of communication.

(b) Whenever a vessel is drydocked or hauled out, in excess of the requirements of this subpart, for the purpose of minor repairs, such as changing a propeller, painting or cleaning the hull, no report need be made to the Officer in Charge, Marine Inspection.

Subpart 176.20—Repairs and Alterations

§ 176.20-1 Permission required.

(a) No major repairs or alterations affecting the safety of the vessel with regard to the hull, machinery, or equipment, shall be made without the knowledge and approval of the Officer in Charge, Marine Inspection.

(b) Proposed alterations shall be approved by the Officer in Charge, Marine Inspection, before work is started. Drawings, sketches or written specifications describing the alterations in detail may be required by the Officer in Charge, Marine Inspection.

(c) Drawings will not be required for repairs or replacements in kind.

§ 176.20-5 Inspection required.

(a) An inspection, either general or partial, depending upon the circumstances, may be made whenever any major repairs or alterations are undertaken.

Subpart 176.25—Material Inspections

§ 176.25-1 Inspection standards.

(a) Vessels shall be inspected for compliance with the standards required by this subchapter. For items not covered by standards in this subchapter, inspection shall be in accordance with standards acceptable to the Officer in Charge, Marine Inspection, as good marine practice.

(b) In the application of inspection standards due consideration will be given to the hazards involved in the operation permitted by a vessel's certificate of inspection. Thus the standards may vary in accordance with the vessel's area of operation or any other operational restrictions or limitations.

(c) The published standards of recognized classification societies (such as the American Bureau of Shipping and Lloyd's Register of Shipping) and other recognized safety associations (such as the National Fire Protection Association) may be used as a guide in the inspection of vessels insofar as such standards do not conflict with the requirements of this subchapter.

[CGFR 60-54, 25 FR 9319, Sept. 29, 1960, as amended by CGFR 68-32, 33 FR 5726, Apr. 12, 1968]

§ 176.25-5 Hull.

(a) At each initial and subsequent inspection for certification, the marine inspector shall view the vessel afloat and shall conduct the following tests and inspections of the hull structure and its appurtenances:

(1) Examine all accessible parts of the exterior and interior of the hull, the watertight bulkheads, and weather deck. Where the internals of the vessel are completely concealed, sections of the lining or ceiling may be removed or the parts otherwise probed or exposed so that the marine inspector may satisfy himself as to the condition of the hull structure.

(2) Examine and test by operation all watertight closures in the hull, decks and bulkheads.

(3) Check the condition of the superstructure, flying bridge, masts, stacks, fishing platforms and similar arrangements constructed on the hull. In sailing vessels inspect all spars, standing rigging, running rigging, blocks, fittings, and sails.

(4) Inspect all railings and bulwarks and their attachment to the hull structure. Special attention is to be paid to insure that guards or rails are provided in all dangerous places.

(5) Examine all weathertight closures above weather deck and inspect the provisions for drainage of sea water from the exposed decks.

§ 176.25-10 Machinery.

(a) At each initial and subsequent inspection for certification the marine inspector shall examine and test the following items to the extent necessary to determine that they are in proper operating condition and fit for the service for which they are intended:

(1) *Main propulsion machinery.* The marine inspector may require that the main propulsion machinery be operated both ahead and astern. The attached auxiliary machinery and cooling water system shall be checked.

(2) *Engine starting system.* Alternate methods of starting shall be checked.

(3) *Engine control mechanisms.* Such mechanisms shall be tested by operation and examined, visually, throughout their length.

(4) *Auxiliary machinery.* All machinery essential to the routine operation of the vessel shall be checked.

(5) *Fuel systems.* Tanks, tank vents and other appurtenances, piping and pipe fittings shall be checked. The fuel systems for the main propulsion engines, all auxiliaries and all other fuel systems installed shall be checked. All valves in the fuel lines shall be tested by operation locally and at remote operating positions.

(6) *Sea valves and bulkhead closure valves.* All overboard discharge and intake valves shall be checked.

(7) *Bilge and drainage systems.* The means provided for pumping bilges shall be tested by operation. All suction strainers shall be examined.

(b) At all inspections special attention shall be paid to insure that no fire hazards exist and that guards or protective devices are provided in all hazardous places.

§ 176.25-15 Electrical.

(a) At each initial and subsequent inspection for certification the marine inspector shall examine and test the following items to the extent necessary to determine that they are in proper operating condition, safe electrical condition, and fit for the service for which they are intended:

(1) *Electrical cable.* The cable shall be examined as far as practicable without undue disturbance of the cable or electrical apparatus.

(2) *Overload or circuit protective devices.* Circuit breakers shall be tested by manual operation and fuses shall be examined visually. The ratings of fuses shall be checked to determine suitability for the service intended.

(3) *Rotating machinery.* Rotating electrical machinery essential to the routine operation of the vessel shall be checked.

(4) *Generators, etc.* All generators, motors, lighting fixtures and circuit interrupting devices located in spaces or areas which may contain flammable vapors shall be checked.

(5) *Storage batteries.* Batteries shall be checked for condition and security of stowage.

(6) *Fire protective devices.* Electrical apparatus which operates as part of, or in conjunction with, a fire protective device installed on board the vessel shall be tested by operation. The test shall be applied in the same manner as, or in a manner intended to simulate, the actual operation in case of fire.

§ 176.25-20 Lifesaving equipment—S.

(a) At each initial and subsequent inspection for certification and reinspection the marine inspector shall inspect all lifesaving equipment to determine its serviceability.

(b) Life preservers, if found to be of approved type and in good condition, shall be stamped "Passed", together with the date, the port and the marine inspector's initials.

(c) A hydraulic release used in the installation of any liferaft, inflatable liferaft, lifefloat, or buoyant apparatus shall undergo the periodic servicing and testing required by subpart 160.062 of Subchapter Q (Specifications) of this chapter every 12 months which may be extended to 15 months as determined by the date shown on its inspection tag. The springs of a spring-tensioned gripe used in such an installation shall be renewed when the accompanying hydraulic release is serviced and tested.

(d) An inflatable liferaft must meet the following:

(1) The liferaft must be approved under subpart 160.051 of this chapter.

(2) Except as required in paragraph (d)(3) of this section, the liferaft must be marked in accordance with § 160.051-8 of this chapter.

(3) After January 1, 1976 on vessels certificated for Great Lakes service and after January 1, 1980 on other certificated vessels, the liferaft must show on or near the liferaft's nameplate, and the liferaft's container must show on or near the plate, marking approved by a Coast Guard inspector that is—

(i) An approval number consisting of "160.051/" followed by a number that is greater than 49 followed by a revision number (e.g. 160.051/50/1); or

(ii) An approval number consisting of "160.051/" followed by a number that is smaller than 50 that is followed by a

revision number (e.g. 160.051/48/1), the words "MOD. TEMP.", a Coast Guard inspector's initials, and the date that an inspector found that the liferaft met § 160.051-5(c)(4) of this chapter.

[CGFR 60-54, 25 FR 9319, Sept. 29, 1960, as amended by CGFR 63-40, 28 FR 9737, Sept. 6, 1963; CGFR 68-32, 33 FR 5726, Apr. 12, 1968; CGD 75-040, 40 FR 58454, Dec. 17, 1975]

§ 176.25-22 Lifesaving equipment—L.

(a) At each initial and subsequent inspection for certification, the marine inspector shall inspect all lifesaving equipment to determine its serviceability.

(b) Life preservers, if found to be of approved type and in good condition shall be stamped "Passed," together with the date, the port and the marine inspector's initials.

(c) At each reinspection conducted in accordance with §176.10-1(b), such examination of lifesaving equipment shall be made as deemed necessary by the Officer in Charge, Marine Inspection.

(d) A hydraulic release used in the installation of any liferaft, inflatable liferaft, lifefloat, or buoyant apparatus shall undergo the periodic servicing and testing required by subpart 160.062 of Subchapter Q (Specifications) of this chapter every 12 months which may be extended to 15 months as determined by the date shown on its inspection tag. The springs on a spring-tensioned gripe used in such an installation shall be renewed when the accompanying hydraulic release is serviced and tested.

(e) An inflatable liferaft must meet the following:

(1) The liferaft must be approved under subpart 160.051 of this chapter.

(2) Except as required in paragraph (e)(3) of this section, the liferaft must be marked in accordance with § 160.051-8 of this chapter.

(3) After January 1, 1976 on vessels certificated for Great Lakes service and after January 1, 1980 on other certificated vessels, the liferaft must show on or near the liferaft's nameplate, and the liferaft's container must show on or near the plate, marking approved by a Coast Guard inspector that is—

(i) An approval number consisting of "160.051/" followed by a number that is greater than 49 followed by a revision number (e.g. 160.051/50/1); or

(ii) An approval number consisting of "160.051/" followed by a number that is smaller than 50 that is followed by a revision number (e.g. 160.051/48/1), the words "MOD. TEMP.", a Coast Guard inspector's initials, and the date that an inspector found that the liferaft met § 160.051-5(c)(4) of this chapter.

[CGFR 63-40, 28 FR 9737, Sept. 6, 1963, as amended by CGFR 68-32, 33 FR 5726, Apr. 12, 1968; CGD 75-040, 40 FR 58455, Dec. 17, 1975]

§ 176.25-25 Fire extinguishing equipment.

(a) At each initial and subsequent inspection for certification and reinspection the firefighting equipment of all vessels shall be inspected and all deficiencies found shall be corrected. The marine inspector shall conduct the following examinations and tests:

(1) The fire pump shall be tested and the fire hose shall be subjected to the available fire pump pressure.

(2) All hand portable fire extinguishers and semi-portable fire extinguishing systems shall be checked as noted in Table 176.25-25(a)(2), and in addition shall be examined for excessive corrosion and general condition.

TABLE 176.25-25(a)(2)

Type unit	Test
Soda acid	Discharge. Clean hose and inside of extinguisher thoroughly. Recharge.
Foam	Discharge. Clean hose and inside of extinguisher thoroughly. Recharge.
Pump tank (water or antifreeze).	Discharge. Clean hose and inside of extinguisher thoroughly. Recharge with clean water or antifreeze.
Cartridge operated (water, antifreeze or loaded stream).	Examine pressure cartridge and replace if end is punctured or if cartridge is otherwise determined to have leaked or to be in unsuitable condition. Remove liquid, clean hose and inside of extinguisher thoroughly. Recharge with clean water, solution, or antifreeze. Insert charged cartridge.
Carbon dioxide	Weigh cylinders. Recharge if weight loss exceeds 10 percent of weight of charge. Inspect hose and nozzle to be sure they are clear.

TABLE 176.25–25(a)(2)—Continued

Type unit	Test
Dry chemical (cartridge-operated type).	Examine pressure cartridge and replace if end is punctured or if cartridge is otherwise determined to have leaked or to be in unsuitable condition. Inspect hose and nozzle to see if they are clear. Insert charged cartridge. Be sure dry chemical is free-flowing (not caked) and chamber contains full charge
Dry chemical (stored pressure type).	See that pressure gage is in operating range. If not, or if seal is broken, weigh or otherwise determine that full charge of dry chemical is in extinguisher. Recharge if pressure is low or if dry chemical is needed.

(3) All cylinders of fixed carbon dioxide systems shall be weighed and if the weight loss exceeds 10 percent of the weight of the charge, they shall be recharged. All cylinders shall be examined externally and if excessive corrosion is found they shall be replaced.

(b) During the inspection for certification and reinspection, all or any part of the fire apparatus may be service tested.

(c) In addition to the other requirements of this section, §§147.60 and 147.65 of this chapter require that—

(1) Carbon dioxide cylinders of all portable and semiportable extinguishers and fixed systems be tested and marked;

(2) Flexible connections of semiportable and fixed carbon dioxide systems be renewed or tested; and

(3) Discharge hoses of semiportable carbon dioxide systems be tested.

NOTE: Section 147.65 of this chapter includes a requirement that the cylinder must be retested and re-marked under the following conditions: (1) Whenever a cylinder is recharged or for any cause removed from a vessel subsequent to 5 years from the latest test date stamped on the shoulder of the cylinder; or, (2) Whenever a cylinder remains in place on a vessel for 12 years from the latest test date stamped on the shoulder of the cylinder. Cylinders retested under any of the above conditions shall have new or renewed valve and safety relief devices of the proper design installed in the cylinder.

[CGFR 60–54, 25 FR 9319, Sept. 29, 1960, as amended by CGFR 63–40, 28 FR 9737, Sept. 6, 1963; CGFR 66–33, 31 FR 15298, Dec. 6, 1966; CGFR 68–32, 33 FR 5726, Apr. 12, 1968; CGD 78–154, 44 FR 13492, Mar. 12, 1979; CGD 84–044, 53 FR 7752, Mar. 10, 1988]

§ 176.25–27 Fire extinguishing equipment—L.

(a) At each initial and subsequent inspection for certification, the provisions of § 176.25–25 shall apply.

(b) At each reinspection conducted in accordance with § 176.10–1(b), such examination of fire extinguishing equipment shall be made as deemed necessary by the Officer in Charge, Marine Inspection.

[CGFR 63–40, 28 FR 9738, Sept. 6, 1963, as amended by CGFR 68–32, 33 FR 5726, Apr. 12, 1968]

§ 176.25–30 Pressure vessels—S.

(a) At each initial and subsequent inspection for certification the marine inspector shall examine and test all boilers and unfired pressure vessels to the extent necessary to determine that their condition is satisfactory and that they are fit for the service for which intended.

(b) At each inspection for certification after the initial inspection, the following examinations and tests shall be held:

(1) All boilers and unfired pressure vessels shall be examined under operating conditions.

(2) The setting of safety valves or relief valves on boilers and unfired pressure vessels shall be checked.

(3) Pressure vessels which required initial Coast Guard shop inspection and stamping, and which are fitted with inspection openings shall be examined internally. Tubular heat exchangers, hydraulic accumulators and those pressure vessels used in refrigeration service need not be examined internally.

(4) All pressure vessels that require initial Coast Guard shop inspection and stamping other than those exempt by the provisions of this paragraph, shall be subjected to hydrostatic test of 1¼ times the maximum allowable working pressure.

(5) The following unfired pressure vessels will not normally be subjected to a hydrostatic test:

(i) Tubular heat exchangers.

(ii) Pressure vessels used in refrigeration service.

(iii) Hydraulic accumulators.

(iv) Unfired pressure vessels which have been satisfactorily examined in-

ternally by a marine inspector and in which no defects have been found which impair the safety of the pressure vessel.

(v) Pressure vessels which were exempt from initial Coast Guard shop inspection and stamping.

(vi) Pressure vessels which received an initial pneumatic test in lieu of a hydrostatic test as permitted by § 54.10–15 of Subchapter F (Marine Engineering) of this chapter and which cannot be hydrostatically tested.

(c) Main propulsion boilers, auxiliary boilers, and unfired pressure vessels containing liquefied compressed gases or hazardous liquids, shall be given special consideration and shall be subjected to such tests and inspections as deemed necessary and specified by the Officer in Charge, Marine Inspection, to insure that they are in a safe condition. Periodic tests and examinations shall be as described in part 61 of Subchapter F (Marine Engineering) of this chapter, except heating boilers as defined in part 53 of Subchapter F of this chapter shall be tested or examined every three years.

[CGFR 60–54, 25 FR 9319, Sept. 29, 1960, as amended by CGFR 63–40, 28 FR 9737, Sept. 6, 1963; CGFR 68–82, 33 FR 18909, Dec. 18, 1968]

§ 176.25–32 Pressure vessels—L.

(a) At each initial and subsequent inspection for certification, the provisions of § 176.25–30 shall apply except that those examinations and tests required by § 176.25–30 (b)(3) and (b)(4) shall be performed triennially at the time of regular annual inspection.

[CGFR 63–40, 28 FR 9738, Sept. 6, 1963]

§ 176.25–35 Steering apparatus.

(a) At each initial and subsequent inspection for certification and reinspection the marine inspector shall examine and test the main and auxiliary steering apparatus to the extent necessary to determine that its condition is satisfactory and that it is fit for the service intended. The main and auxiliary steering apparatus shall be tested by operation and the inspector shall examine the mechanism thereof throughout its length.

§ 176.25–40 Miscellaneous systems and equipment.

(a) At each initial and subsequent inspection for certification and reinspection the inspector shall examine and test all items in the ship's outfit, such as ground tackle, navigation lights, compass, etc., which are required to be carried by the regulations in this subchapter. Such examination and test shall be to the extent necessary to determine that the condition of the item is satisfactory and that it is fit for the service intended.

(b) Approved work vests, where carried, shall be inspected as provided in § 184.40–15 of this subchapter.

[CGFR 60–54, 25 FR 9319, Sept. 29, 1960, as amended by CGFR 68–32, 33 FR 5726, Apr. 12, 1968]

§ 176.25–45 Sanitary inspection.

(a) At each initial and subsequent inspection for certification and reinspection the marine inspector shall examine the passenger and crew quarters, toilet and washing spaces, galleys, serving pantries, lockers, etc., to determine that they are serviceable and in a sanitary condition.

§ 176.25–50 Unsafe practices.

(a) At each initial and subsequent inspection for certification, reinspection and at every other vessel inspection the marine inspector shall require that all observed unsafe practices and hazardous situations be corrected.

(b) At each inspection for certification and reinspection the marine inspector shall examine the bilges and other spaces to see that there is no accumulation of oil or other matter which might create a fire hazard.

Subpart 176.30—Limitations of Inspections

§ 176.30–1 Marine inspector not limited.

(a) Nothing in this part shall be construed as limiting the marine inspector from making such tests or inspections as are reasonable and practicable to be assured of the seaworthiness of the vessel.

Subpart 176.35—International Convention for Safety of Life at Sea, 1974

SOURCE: CGFR 65–9, 30 FR 11494, Sept. 8, 1965, unless otherwise noted.

§ 176.35–1 Vessels subject to requirements.

(a) Except as otherwise provided in this subpart, all mechanically propelled vessels registered in the United States or the Commonwealth of Puerto Rico, which carry more than 12 passengers on an international voyage as defined in § 176.35–5 or 176.35–10 shall be in compliance with the applicable requirements of the International Convention for Safety of Life at Sea, 1974.

(b) The International Convention for Safety of Life at Sea, 1974, does not apply to vessels "solely navigating the Great Lakes of North America and the River St. Lawrence as far east as a straight line drawn from Cap de Rosiers to West Point, Anticosti Island and, on the north side of Anticosti Island, the 63d Meridian."

(c) In accordance with Regulation 4, Chapter I (General Provisions) of the International Convention for Safety of Life at Sea, 1974, a vessel which is not normally engaged on an international voyage but which, in exceptional circumstances, is required to undertake a single international voyage may be exempted by the Commandant from any of the requirements of the Regulations of the Convention: Provided, That it complies with safety requirements which are adequate in his opinion for the voyage which is to be undertaken.

(d) In accordance with Regulation 1–4 of part A, Chapter II–1 (Construction—Subdivision and stability, machinery and electrical installations) or Regulation 1–4.1 of part A, Chapter II–2 (Construction—Fire protection, fire detection and fire extinction) of the International Convention for Safety of Life at Sea, 1974, the Commandant may, if he considers that the sheltered nature and conditions of the voyage are such as to render the application of any specific requirements of Chapters II–1 or II–2 of this Convention unreasonable or unnecessary, exempt from those requirements individual vessels or classes of vessels which, in the course of their voyage, do not proceed more than 20 miles from the nearest land.

(e) In accordance with Regulation 2–1 of Chapter III (Lifesaving Appliances, etc.) of the International Convention for Safety of Life at Sea, 1974, the Commandant, if he considers that the sheltered nature and conditions of the voyage are such as to render the application of the full requirements of Chapter III of this Convention unreasonable or unnecessary, may to that extent exempt from the requirements of Chapter III individual vessels or classes of vessels which, in the course of their voyage, do not go more than 20 miles from the nearest land.

[CGD 90–008, 55 FR 30664, July 26, 1990]

§ 176.35–5 International voyage.

(a) This section describes those voyages which are considered to be "international voyages" for the purposes of this subchapter.

(b) Except as provided in paragraph (c) of this section, the term "international voyage" as used in this subchapter shall have the same meaning as that contained in Regulation 2(d), Chapter I of the International Convention for Safety of Life at Sea, 1974, i.e., "*International voyage* means a voyage from a country to which the present convention applies to a port outside such country, or conversely."

(c) The International Convention for Safety of Life at Sea, 1974, does not apply to vessels "solely navigating the Great Lakes of North America and the River St. Lawrence as far east as a straight line drawn from Cap de Rosiers to West Point, Anticosti Island and, on the north side of Anticosti Island, the 63d Meridian." Accordingly, such vessels shall not be considered as being on an "international voyage" for the purpose of this subchapter.

(d) In addition, although voyages between the continental United States and Hawaii or Alaska, and voyages between Hawaii and Alaska are not "international voyages" under the provisions of the International Convention for Safety of Life at Sea, 1974, such voyages are similar in nature and shall be considered as "international voy-

ages" for the purposes of this subchapter.

[CGD 90–008, 55 FR 30664, July 26, 1990]

§ 176.35–10 Voyage between continental United States and Hawaii or Alaska or between Hawaii and Alaska.

(a) Although voyages between the continental United States and Hawaii or Alaska, and voyages between Hawaii and Alaska are not "international voyages" under the provisions of the International Convention for Safety of Life at Sea, 1974, such voyages are similar in nature and shall be considered as "international voyages" for the purposes of this subchapter.

[CGFR 65–9, 30 FR 11494, Sept. 8, 1965, as amended by CGD 90–008, 55 FR 30664, July 26, 1990]

§ 176.35–15 Passenger Ship Safety Certificate.

(a) All vessels, which carry more than 12 passengers on an international voyage, are required to have a "Passenger Ship Safety Certificate."

(b) Any such vessel which is less than 100 gross tons shall meet the applicable requirements of this chapter for vessels on an international voyage.

§ 176.35–20 Exemption Certificate.

(a) A vessel may be exempted by the Commandant from complying with certain requirements of the Convention under his administration upon request made in writing to him and transmitted via the Officer in Charge, Marine Inspection.

(b) When an exemption is granted to a vessel by the Commandant under and in accordance with the Convention, an Exemption Certificate describing such exemption shall be issued through the appropriate Officer in Charge, Marine Inspection, in addition to the Passenger Ship Safety Certificate.

§ 176.35–25 Posting of Convention certificates.

(a) The certificates described in this subpart, or certified copies thereof, when issued to a vessel shall be posted in a prominent and accessible place on the vessel.

(b) The certificate shall be carried in a manner similar to that described in § 176.01–40 for a certificate of inspection.

§ 176.35–30 Duration of certificates.

(a) The certificates shall be issued for a period of not more than 12 months.

(b) An Exemption Certificate shall not be valid for longer than the period of the Passenger Ship Safety Certificate to which it refers.

(c) The Passenger Ship Safety Certificate may be withdrawn, revoked, or suspended at any time when it is determined the vessel is no longer in compliance with applicable requirements. (See § 2.01–70 of this chapter for procedures governing appeals.)

PART 177—CONSTRUCTION AND ARRANGEMENT

Subpart 177.01—Application and Intent

Subpart 177.05—Plans

Subpart 177.10—Hull Structure

Subpart 177.13—Subdivision and Stability

Subpart 177.15—Means of Escape

Subpart 177.20—Ventilation (Other Than Machinery Spaces)

Subpart 177.25—Crew Accommodations

Subpart 177.30—Passenger Accommodations

AUTHORITY: 46 U.S.C. 3306, 5115; 49 CFR 1.46.

SOURCE: CGFR 60–54, 25 FR 9323, Sept. 29, 1960, unless otherwise noted.

Subpart 177.01—Application and Intent

§ 177.01–1 Application.

(a) The provisions of this part shall apply to all vessels contracted for on or after June 1, 1958. Vessels contracted for prior to that date shall meet the requirements of this part insofar as is deemed reasonable and practicable by the Officer in Charge, Marine Inspection.

§ 177.01–5 Intent.

(a) The intent of this part is to insure that the scantlings, material, fastenings, workmanship and arrangement of each vessel are such as to provide for safe operation in accordance with the terms of its certificate of inspection. Primary consideration shall be given to the provision of a seaworthy hull, protection against fire, means of escape in case of sudden unexpected casualty, guards and rails in hazardous places, ventilation of closed spaces, and necessary facilities for passengers and crew.

Subpart 177.05—Plans

§ 177.05–1 Plans required for vessels carrying not more than 150 passengers—S.

(a) Except as otherwise provided in paragraphs (c) and (d) of this section and §177.05–5, the owner or builder shall, prior to the start of construction if practicable, or in any case prior to the initial inspection of the vessel, submit for approval by the Officer in Charge, Marine Inspection, of the inspection zone where the vessel is to be inspected, at least one copy of each of the following plans:

(1) Midship section.
(2) Outboard profile.
(3) Inboard profile.
(4) Arrangement of decks.
(5) Machinery installation.
(6) Electrical installation.
(7) Fuel tanks.
(8) Piping systems.
(9) Hull penetrations and shell connections.

(b) Additional prints of the required plans may, at the owner's option, be submitted for approval. Such additional copies will be stamped and returned for the owner's records.

(c) The Officer in Charge, Marine Inspection, may accept specifications, sketches, photographs, line drawings or written descriptions in lieu of any or all of the required drawings provided the required information is adequately detailed thereon.

(d) The Officer in Charge, Marine Inspection, need not require some or all of the plans called for by paragraph (a) of this section if, to his own knowledge, the design and construction of the vessel are of a type which has a proven record of safe operation in similar service upon similar waters.

[CGFR 60–54, 25 FR 9323, Sept. 29, 1960, as amended by CGFR 63–40, 28 FR 9738, Sept. 6, 1963]

§ 177.05–3 Plans required for "S" vessels carrying more than 150 passengers, all "L" vessels, and certain other vessels.

(a) *S and L.* The owner or builder must, prior to the start of construction if practicable, or in any case prior to the initial inspection of the vessel, submit for approval to the Officer in Charge, Marine Inspection, of the inspection zone where the vessel is to be inspected, at least two copies of each of the plans listed in §177.05–1(a).

(b) *S and L.* Additional plans, calculations, and data must be submitted as required by Subchapter S of this chapter.

[CGD 79–023, 48 FR 51052, Nov. 4, 1983]

§ 177.05–5 Plans for sister vessels.

(a) Plans will not be required for any vessel which is a sister ship to a vessel, the approved plans for which are already on file at any Marine Inspection Office: *Provided,* That the owner of the plans authorizes their use for the new construction.

Subpart 177.10—Hull Structure

§ 177.10-1 Structural standards.

(a) In general, compliance with the standards established by a recognized classification society[1] will be considered satisfactory evidence of the structural adequacy of a vessel. When scantlings differ from such standards and it can be demonstrated that craft approximating the same size, power and displacement have been built to such scantlings and have been in satisfactory service insofar as structural adequacy is concerned for a period of at least 5 years, such scantlings may be approved. A detailed structural analysis may be required for specialized types or integral parts thereof.

(b) Special consideration will be given to:

(1) The structural requirements of vessels not contemplated by the standards of a recognized classification society; or,

(2) The use of materials not specifically included in these standards.

§ 177.10-5 Fire protection.

(a) The general construction of the vessel shall be such as to minimize fire hazards insofar as reasonable and practicable. Vessels contracted for on or after July 1, 1961, which carry more than 150 passengers shall meet the requirements of subpart 72.05 of Subchapter H (Passenger Vessels) of this chapter. The application of these requirements to specific vessels shall be as determined by the Officer in Charge, Marine Inspection.

(a-1) Except for a vessel complying with the requirements contained in paragraph (a-2) of this section, each hull, structural bulkhead, deck, or deckhouse made of fibrous glass reinforced plastic on each vessel that carries 150 passengers or less must be constructed with fire retardant resins, laminates of which have been demonstrated to meet military specification MIL-R-21607 after 1-year exposure to weather. Military specification MIL-R-21607 may be obtained from the Commanding Officer, Naval Supply Depot, 5801 Tabor Avenue, Philadelphia, PA 19120.

(a-2) Each hull, structural bulkhead, deck, or deckhouse, made of fibrous reinforced plastic on a vessel that carries 150 passengers or less, that was certificated on July 11, 1973, and remains certificated may continue in service. Any repairs must be as follows:

(1) Minor repairs and alterations must be made to the same standard as the original construction or a higher standard; and

(2) Major alterations and conversions must comply with the requirements of this subpart.

(b) Internal combustion engine exhausts, boiler and galley uptakes, and similar sources of ignition shall be kept clear of and suitably insulated from any woodwork or other combustible matter.

(c) Lamp, paint, and oil lockers and similar compartments shall be constructed of metal or lined with metal.

[CGFR 60-54, 25 FR 9323, Sept. 29, 1960, as amended by CGFR 63-40, 28 FR 9738, Sept. 6, 1963; CGD 72-68R, 37 FR 26111, Dec. 8, 1972]

Subpart 177.13—Subdivision and Stability

§ 177.13-1 Requirements.

Each vessel must meet the applicable requirements in Subchapter S of this chapter.

[CGD 79-023, 48 FR 51052, Nov. 4, 1983]

Subpart 177.15—Means of Escape

§ 177.15-1 Requirements.

(a) Except as otherwise provided in this section, all vessels shall be provided with not less than two avenues of escape from all general areas accessible to the passengers or where the crew may be quartered or normally employed, so located that if one is not available the other may be. At least one of the avenues of escape shall be independent of watertight doors. Windows and windshields of sufficient size and proper accessibility may be used as one avenue of escape.

(b) Where the length of the compartment is less than 12 feet, one vertical

[1] Lloyds' "Rules for the Construction and Classification of Composite and Steel Yachts" and Lloyds' "Rules for the Construction and Classification of Wood Yachts" are acceptable for this purpose.

means of escape will be acceptable under the following conditions:

(1) There is no source of fire in the space, such as galley stove, heater, etc., and the vertical escape is remote from the engine or fuel tank space; or,

(2) The arrangement is such that the installation of two means of escape does not materially improve the safety of the vessel or those on board.

Subpart 177.20—Ventilation (Other Than Machinery Spaces)

§ 177.20–1 Ventilation for closed spaces.

(a) All enclosed spaces within the vessel shall be properly vented or ventilated. Where such openings would endanger the vessel under adverse weather conditions, means shall be provided to close them.

§ 177.20–5 Ventilation for crew quarters and passenger spaces.

(a) All crew and passenger spaces shall be adequately ventilated in a manner suitable to the purpose of the space.

Subpart 177.25—Crew Accommodations

§ 177.25–1 Where required.

(a) All vessels with crew members living on board shall be provided with crew accommodations of sufficient size, adequate construction, and with suitable equipment to provide for the protection and accommodation of the crew in a manner practicable for the size, facilities, and service of the vessel.

Subpart 177.30—Passenger Accommodations

§ 177.30–1 Seating.

(a) Seating accommodations for passengers are required to be provided only when the maximum number of passengers permitted has been determined by using the fixed seating criteria in §176.01–25(b) of this subchapter.

(b) Where fixed seats are installed, the seat spacing shall be such as to provide for ready escape in case of fire or other casualty.

(c) Fixed seats shall be installed as follows, except that special consideration may be given in cases where it can be shown that escape over the side can be made readily through windows or other openings in the way of seats:

(1) Aisles not over 15 feet long shall be not less than 24 inches wide.

(2) Aisles over 15 feet long shall be not less than 30 inches wide.

(3) Where the seats are in rows the distance from seat front to seat front shall be not less than 30 inches.

(d) In general, portable or temporary seats shall be arranged as specified for fixed seating.

§ 177.30–5 Toilet facilities.

(a) Vessels shall be provided with toilets and wash basins in accordance with Table 177.30–5(a) except that vessels operating on short runs of approximately 30 minutes or less need not be fitted with toilets or wash basins.

TABLE 177.30–5(a)

Number of passengers	Toilets	Wash basins
49 and less	1	0
Over 49 (Men and women)	1 for men 1 for women	1 for men 1 for women
Over 49 (Men only)	2	1

(b) All toilets and wash basins provided shall be fitted with adequate plumbing. Facilities for men and women shall be in separate compartments.

§ 177.30–7 Lounge arrangements.

(a) The specific requirements in this section apply to passenger lounge areas located below the main deck. Variation from these requirements may be authorized by the Officer in Charge, Marine Inspection, for unusual arrangements or design: *Provided*, That there is no significant reduction of space, accessibility or sanitation.

(b) Bunks, where installed, shall have a minimum length of 74 inches and a minimum width of 24 inches. They may be constructed of wood or metal. Mattress is to be covered with material which has been treated to give it fire resistant properties and which will provide the mattress with a reasonably smooth surface free of sharp depres-

sions. (Example: Treated duck stretched smoothly, fully sewn, covering the basic mattress.) Arrangement shall be not more than three high, with a minimum distance of 24 inches vertically between bunks; ladders or steps shall be provided for each top bunk. Construction and arrangement shall allow free and unobstructed access to the bunks. Each bunk shall be immediately adjacent to an aisle leading to a means of escape from the lounge area.

(c) Means of escape from lounge areas shall be provided in accordance with Subpart 177.15. Aisles alongside bunks shall be not less than 24 inches in width and after the joining of two or more aisles, the width of the aisles leading to an escape shall be not less than 42 inches. Head room in lounge areas shall be not less than 74 inches which may be reduced at the sides of the space to allow for camber, wiring, ventilation ducts or piping. However, main aisles leading to exits shall have not less than 74 inches clear head room. All aisles shall be kept clear of obstructions.

(d) Covered metal trash containers shall be provided in lounge areas and the spaces shall be maintained to minimize fire and safety hazards and to preserve sanitary conditions. Portable fire extinguishers shall be provided as indicated in subpart 181.30 of this subchapter.

[CGFR 63-40, 28 FR 9738, Sept. 6, 1963]

Subpart 177.35—Rails and Guards

§ 177.35–1 Deck rails.

(a) Except as otherwise provided in this section, rails or equivalent protection shall be installed near the periphery of all weather decks accessible to passengers and crews. Where space limitations make deck rails impractical such as at narrow catwalks in way of deckhouse sides, hand grabs may be substituted.

(b) Rails shall consist of evenly spaced courses and the spacing between courses shall be not greater than 12 inches except as provided by paragraph (f) of this section. The lower rail courses may not be required where all or part of the space below the upper rail course is fitted with a bulwark, chain link fencing, wire mesh or the equivalent.

(c) On passenger decks of vessels engaged in a ferry or excursion type operation, rails shall be at least 42 inches high. The space below the rail shall be fitted with bulwarks, chain link fencing, wire mesh, or the equivalent.

(d) On sport fishing vessels where it can be shown that higher rails would interfere with the normal operation of the vessel, rails of at least 30 inches height may be permitted.

(e) Where the principal business of the vessel requires the discharge of personnel in a seaway, the peripheral rails may be wholly or partially omitted or reduced in height to not less than 30 inches. When such rails are omitted, center rails or other suitable hand holds shall be substituted therefor.

(f) For vessels subject to the 1966 International Convention on Load Lines the height of rails and bulwarks installed at the peripheries of the freeboard and superstructure decks shall be at least 39½ inches. However where this height would interfere with the normal operation of the ship, a lesser height may be approved if the cognizant Officer in Charge, Marine Inspection is satisfied that adequate protection is provided. The opening below the lowest course shall not be more than 9 inches and the courses shall not be more than 15 inches apart.

(g) All rails other than those noted in the preceding paragraphs, shall be at least 36 inches high.

(h) Sailing vessels, small vessels of the open launch type, and other vessels not specifically covered elsewhere in this section shall have such rails or equivalent protection as considered necessary by the Officer in Charge, Marine Inspection.

[CGFR 60-64, 25 FR 9319, Sept. 29, 1960, as amended by CGFR 69-72, 34 FR 17503, Oct. 29, 1969]

§ 177.35–5 Storm rails.

(a) Suitable storm rails or hand grabs shall be installed where necessary in all passageways, at deckhouse sides, and at ladders and hatches where passengers or crew might have normal access.

§ 177.35–10 Vessels carrying vehicles.

(a) On vessels carrying vehicles, suitable chains, cable, or other barriers shall be installed at the ends of the vehicle runways. In addition, suitable gates, rails, or other devices shall be installed as a continuation of the regularly required rails.

§ 177.35–15 Guards in hazardous places.

(a) Suitable covers, guards, or rails shall be installed in way of all exposed and hazardous places such as gears, machinery, etc.

PARTS 178—179 (RESERVED)

PART 180—LIFESAVING EQUIPMENT

Subpart 180.01—Application and Intent

Sec.

Subpart 180.05—General Provisions Pertaining to Lifesaving Equipment

Subpart 180.10—Primary Lifesaving Equipment Required

Subpart 180.15—Equipment for Life Floats and Buoyant Apparatus

Subpart 180.20—Stowage and Marking of Lifesaving Appliances

Subpart 180.25—Life Preservers

Subpart 180.30 Ring Life Buoys and Water Lights

Subpart 180.35—Pyrotechnic Distress Signals

Subpart 180.40—Emergency Position Indicating Radiobeacon (EPIRB)

AUTHORITY: 46 U.S.C. 3306; E.O. 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; 49 CFR 1.46.

SOURCE: CGFR 60–54, 25 FR 9329, Sept. 29, 1960, unless otherwise noted.

Subpart 180.01—Application and Intent

§ 180.01–1 Application.

(a) The provisions of this part shall apply to all vessels except as specifically noted in this part.

§ 180.01–5 Intent.

(a) The intent of this part is to insure that each vessel carry sufficient lifesaving equipment to provide for timely rescue and survival of the personnel on board in the event of a casualty to the vessel. Due consideration will be given to the number of persons carried and the hazards of the route permitted.

Subpart 180.05—General Provisions Pertaining to Lifesaving Equipment

§ 180.05–1 Equipment of an approved type.

(a) Where equipment in this part is required to be of an approved type, such equipment requires the specific approval of the Commandant. Notifica-

157-180 O—95——8

tions regarding approvals are published in the FEDERAL REGISTER, and in addition are contained in Coast Guard publication COMDTINST M16714.3 (Series), "Equipment Lists."

(b) Specifications for lifesaving equipment items required to be of an approved type have been promulgated and are contained in Subchapter Q (Specifications) of this chapter. In general, such specifications are of interest only to the manufacturer of specific items of equipment. The subparts in Subchapter Q containing specifications for the lifesaving equipment required by this part are as follows:

(1) Life floats	160.027.
(2) Buoyant apparatus	160.010.
(3) Lifeboats	160.035.
(4) Life rafts	160.018.
(5) Inflatable life rafts	160.051.
(6) Life preservers	160.002, 160.005, 160.055.
(7) Ring Life Buoys	160.050
(8) Water lights	161.010.
(9) Distress signals:	
Red flare	160.021.
Orange smoke	160.037.
Combination flare and smoke.	160.023.
(10) Type A EPIRB's	161.011.

[CGFR 60–54, 25 FR 9329, Sept. 29, 1960, as amended by CGFR 65–9, 30 FR 11495, Sept. 8, 1965; CGD 73–24R, 39 FR 10140, Mar. 18, 1974; CGD 79–165a, 45 FR 64188, Sept. 29, 1980; CGD 80–155a, 47 FR 10559, Mar. 11, 1982; CGD 95–072, 60 FR 50468, Sept. 29, 1995]

§ 180.05–5 Equipment installed but not required.

(a) *S and L.* Except as further modified in this section, where items of lifesaving equipment are not required, but are installed, such equipment and its installation shall meet the requirements of this part. However, the Commandant may, after suitable investigations and tests, accept lifesaving devices in excess of those required, which are of a type not contemplated by the regulations in this part, if the safety of those on board is improved thereby.

(b) *S.* Special purpose water safety buoyant devices (such as water ski vests, hunter's buoyant jackets, etc.), in order to be of an approved type, shall be constructed, listed and labeled in accordance with Subpart 160.064 of Subchapter Q (Specifications) of this chapter. Small passenger vessels may carry special purpose water safety buoyant devices of approved type as excess equipment.

[CGFR 64–30, 29 FR 7390, June 6, 1964]

Subpart 180.10—Primary Lifesaving Equipment Required

§ 180.10–1 General.

(a) All life floats and buoyant apparatus shall be of approved types.

(b) The term "primary lifesaving equipment" means a lifeboat or an acceptable substitute. The acceptable substitute may include liferafts, lifefloats, rescue boats, and buoyant apparatus under certain conditions. Life preservers and ring buoys are not included in the definitions of "primary lifesaving equipment."

[CGFR 60–54, 25 FR 9329, Sept. 29, 1960, as amended by CGFR 68–32, 33 FR 5726, Apr. 12, 1968]

§ 180.10–5 Requirements for vessels in ocean or coastwise service.

(a) Except as otherwise provided in this section, vessels in ocean service shall carry sufficient life floats for all persons on board, and vessels in coastwise service shall carry sufficient life floats or buoyant apparatus for all persons on board.

(1) Vessels whose routes are restricted to 20 miles from a harbor of safe refuge shall carry life floats or buoyant apparatus for not less than 50 percent of all persons on board.

(2) For vessels operating not more than one mile from land, the Officer in Charge, Marine Inspection, may permit operation with reduced amounts of life floats or buoyant apparatus when in his opinion it is safe to do so. In permitting such reduction the Officer in Charge, Marine Inspection, shall consider the vessel, its scope of operation and the hazards of the route.

(b) All lifefloats and buoyant apparatus shall be international orange in color.

[CGFR 60–54, 25 FR 9329, Sept. 29, 1960, as amended by CGFR 68–32, 33 FR 5726, Apr. 12, 1968; CGD 95–072, 60 FR 50468, Sept. 29, 1995]

§ 180.10-15 Requirements for vessels in Great Lakes service.

(a) Except as otherwise provided in this section, vessels in Great Lakes service shall carry sufficient life floats or buoyant apparatus for not less than 50 percent of all persons on board.

(1) Vessels navigating not more than one mile from land are not required to carry life floats or buoyant apparatus.

(b) All lifefloats and buoyant apparatus shall be international orange in color.

[CGFR 60-54, 25 FR 9329, Sept. 29, 1960, as amended by CGFR 68-32, 33 FR 5726, Apr. 12, 1968; CGD 95-072, 60 FR 50468, Sept. 29, 1995]

§ 180.10-20 Requirements for vessels in lakes, bays, and sounds service.

(a) Except as otherwise provided in this section, vessels in lakes, bays, and sounds service shall carry sufficient life floats or buoyant apparatus for not less than 30 percent of all persons on board.

(1) Vessels navigating not more than 1 mile from land are not required to carry life floats or buoyant apparatus.

(b) All lifefloats and buoyant apparatus shall be either international orange or white in color.

[CGFR 60-54, 25 FR 9329, Sept. 29, 1960, as amended by CGFR 68-32, 33 FR 5726, Apr. 12, 1968; CGD 95-072, 60 FR 50468, Sept. 29, 1995]

§ 180.10-25 Requirements for vessels in river service.

(a) Except as otherwise provided in this section, vessels in river service shall carry sufficient life floats or buoyant apparatus for not less than 10 percent of all persons on board.

(1) Vessels navigating not more than 1 mile from land are not required to carry life floats or buoyant apparatus.

§ 180.10-30 Substitutions.

(a) Lifeboats and rigid type life rafts of an approved type may be substituted for any portion of the primary lifesaving equipment required. Such boats and rafts shall be equipped and stowed as required by the Officer in Charge, Marine Inspection.

(b) Suitable dinghies, dories, skiffs, etc., may be substituted for any portion of the primary lifesaving equipment required, under such conditions as may be determined by the Officer in Charge, Marine Inspection.

(c) Inflatable life rafts of an approved type may be substituted for any portion of the primary lifesaving equipment required.

(d) Ring life buoys of an approved type may be substituted for a portion of the primary lifesaving equipment required. One ring life buoy shall be required for each person accommodated and no more than 2 ring life buoys may be used in the substitution. These ring life buoys when provided, shall be in addition to the ring life buoy required by this part.

§ 180.10-35 Rescue boat—L.

(a) A suitable rescue boat shall be required except when, in the opinion of the Officer in Charge, Marine Inspection, the vessel is of such design and operating characteristics that the vessel itself provides a fully satisfactory rescue platform. For protected waters, a rescue boat constructed in accordance with Subpart 160.056 of Subchapter Q (Specifications) of this chapter is acceptable in meeting the intent of this paragraph. For exposed waters, a more seaworthy rescue boat may be required but in no case shall more than one approved lifeboat suitable for rescue work be required.

[CGFR 68-65, 33 FR 19992, Dec. 28, 1968]

Subpart 180.15—Equipment for Life Floats and Buoyant Apparatus

§ 180.15-1 Equipment required.

(a) Each life float shall be fitted with a life line and shall be equipped with two paddles, a water light and a painter.

(b) Each buoyant apparatus shall be fitted with a life line and shall be equipped with a water light and painter.

§ 180.15-5 Description of equipment for life floats and buoyant apparatus.

(a) *Life line.* The life line shall be properly secured around the sides and ends of the life float or buoyant apparatus, festooned in bights not longer than 3 feet, with a seine float in each bight, which float may be omitted if

the line is of an inherently buoyant material and absorbs little or no water. The life line shall be of a size and strength not less than ⅜-inch diameter manila.

(b) *Paddles.* Paddles shall be not less than 4 feet long.

(c) *Painter.* The painter must—

(1) Be at least 30 m (100 ft.) long,

(2) Have a breaking strength of at least 6.7 kN (1500 lb.), except that if the capacity of the life float or buoyant apparatus is 50 persons or more, the breaking strength must be at least 13.4 kN (3000 lb.),

(3) Be of a dark color if synthetic, or of a type certified to be resistant to deterioration from ultraviolet light, and

(4) Be stowed in such a way that it runs out freely when the life float or buoyant apparatus floats away from the sinking vessel.

(d) *Water light.* (1) The water light must be—

(i) Of an approved automatic electric type, constructed in accordance with Subpart 161.010 of this chapter, except as allowed under paragraph (d)(2) of this section; and

(ii) Attached to the life float or buoyant apparatus by a 12-thread manila or equivalent synthetic lanyard, at least 5.5 meters (18 feet) in length.

(2) A water light constructed in accordance with former Subpart 160.012 or 161.001 of this chapter that was installed before January 1, 1972 may be retained in an existing installation as long as it is maintained in good condition.

[CGFR 60-54, 25 FR 9329, Sept. 29, 1960, as amended by CGD 79-165a, 45 FR 64188, Sept. 29, 1980; CGD 79-167, 47 FR 41379, Sept. 20, 1982]

§ 180.15–10 Stowage of equipment.

(a) Paddles shall be lashed on the sides of the life floats to which they belong.

[CGFR 60-54, 25 FR 9329, Sept. 29, 1960, as amended by CGD 79-165a, 45 FR 64188, Sept. 29, 1980]

Subpart 180.20—Stowage and Marking of Lifesaving Appliances

§ 180.20–1 Stowage of lifesaving appliances.

(a) Each life float and buoyant apparatus must be secured to the vessel by a painter and a float-free link.

(1) The float-free link must be—

(i) Certified to meet Subpart 160.073 of this chapter,

(ii) Of proper strength for the size of the life float or buoyant apparatus as indicated on its identification tag, and

(iii) Secured to the painter at one end and secured to the vessel on the other end.

(2) The means by which the float-free link is attached to the vessel must—

(i) Have a breaking strength of at least the breaking strength of the painter,

(ii) If synthetic, be of a dark color or of a type certified to be resistant to deterioration from ultraviolet light, and

(iii) If metal, be corrosion resistant.

(3) If the life float or buoyant apparatus does not have a painter attachment fitting, a means for attaching the painter must be provided by a wire or line that—

(i) Encircles the body of the device,

(ii) Will not slip off,

(iii) Has a breaking strength that is at least the breaking strength of the painter, and

(iv) If synthetic, is of a dark color or is of a type certified to be resistant to deterioration from ultraviolet light.

(4) The float-free link described in paragraphs (a)(1) and (a)(2) of this section is not required if the vessel operates solely in waters which have a depth less than the length of the painter.

(5) If the vessel carries more than one life float or buoyant apparatus, the life floats and buoyant apparatus may be grouped and each group secured by a single painter, provided that—

(i) The combined weight of each group of life floats and buoyant apparatus does not exceed 185 kg (400 lb.),

(ii) Each life float and buoyant apparatus is individually attached to the

painter by a line that meets §180.15–5(c)(2) and (c)(3) and which is long enough so that each can float without contacting any other life float or buoyant apparatus in the group, and

(iii) The strength of the float-free link under paragraph (a)(1)(ii) of this section and the strength of the painter under §180.15–5(c)(2) is determined by the combined capacity of the group of life floats and buoyant apparatus.

(6) Stowing of life floats and buoyant apparatus must allow easy launching. Life floats and buoyant apparatus over 185 kg (400 lb.) must not require lifting before launching.

(7) Life floats and buoyant apparatus must not be secured to the vessel except by the painter and by lashings which can be easily released or hydraulic releases. They must not be stowed in tiers more than 1.2 m (4 ft.) high. Tiers of life floats or buoyant apparatus must not interfere with navigation of the vessel. When stowed in tiers, the separate units must be kept apart by spacers.

(8) There must be means to prevent shifting.

(e) Each hydraulic release used in the installation of any liferaft, inflatable liferaft, lifefloat, or buoyant apparatus must meet Subpart 160.062 of this chapter.

[CGD 79-167, 47 FR 41379, Sept. 20, 1982]

§180.20–5 Marking.

(a) All life floats and buoyant apparatus shall be conspicuously marked with the vessel's name. In addition the number of persons allowed on each life float or buoyant apparatus shall be conspicuously marked or painted thereon in letters and numbers at least 1½ inches high. (This requirement is also in §185.30–5 of this subchapter.)

(b) Any lifeboat, life raft, or other suitable boat accepted as primary lifesaving equipment shall be marked with its allowed capacity in persons, and with the name of the vessel in letters and figures at least 2 inches high, except that inflatable life rafts shall be marked by the manufacturer or service facility as required by Subpart 160.051 of Subchapter Q (Specifications) of this chapter and no additional markings are required. (This requirement is also in §185.30–5 of this subchapter.)

Subpart 180.25—Life Preservers

§180.25–1 Type required.

(a) All life preservers shall be of an approved type.

(b) All kapok and fibrous glass life preservers which do not have plastic-covered pad inserts, as required by subparts 160.002 and 160.005 of Subchapter Q (Specifications) of this chapter, shall be removed from service.

(c) Cork and balsa wood life preservers, constructed in accordance with the applicable provisions of subpart 160.003 or 160.004 and manufactured as approved life preservers prior to July 1, 1965, may be accepted as new or replacement equipment required by this subchapter if such life preservers are servicable and in good condition to the satisfaction of the Officer in Charge, Marine Inspection: *Provided, however,* That such life preservers bearing basic Approval No. 160.003 or 160.004 shall not be considered as approved equipment meeting the requirements for those passenger ships on an international voyage, constructed or contracted for on or after May 26, 1965.

[CGFR 65-9, 30 FR 11495, Sept. 8, 1965]

§180.25–5 Number required.

(a) All vessels shall be provided with an approved adult type life preserver for each person carried. In addition, unless the service is such that children are never carried, there shall be provided a number of approved life preservers suitable for children equal to at least 10 percent of the total number of persons carried.

(b) In addition to the life preservers required by paragraph (a) of this section, all vessels on an international voyage and carrying more than 12 passengers shall be provided with approved type life preservers for 5 percent of the persons carried.

[CGFR 60-54, 25 FR 9329, Sept. 29, 1960, as amended by CGFR 68-32, 33 FR 5727, Apr. 12, 1968]

§180.25–10 Distribution and stowage.

(a) Life preservers shall be distributed through the upper part of the vessel in protected places convenient to the persons on board.

(b) If practicable, life preserver containers shall be so designed as to allow the life preservers to float free.

(c) Life preservers for children, when provided, shall be stowed separately.

§ 180.25–15 Marking.

(a) All life preservers shall be marked with the vessel's name. (This requirement is also in § 185.30–5(c) of this subchapter.)

(b) Where life preservers are stowed so that they are not readily visible to passengers, the containers in which they are stowed shall be marked "life preservers" and with the number contained therein, in at least 1-inch letters and figures. This legend shall indicate the separate stowage of children's life preservers. (This requirement is also in § 185.30–10(a) of this subchapter.)

§ 180.25–20 Personal flotation device lights.

(a) Each life preserver carried on a vessel engaged in ocean, coastwise, or Great Lakes service must have a personal flotation device light that is approved under subpart 161.012 of this chapter.

(b) Each light required by this section must be securely attached to the front shoulder area of a life preserver.

(c) Vessels with Certificates of Inspection endorsed only for routes that do not extend more than 20 miles from a harbor of safe refuge are not required to comply with this section.

[CGD 76–028, 44 FR 38788, July 2, 1979, as amended by CGD 95–072, 60 FR 50468, Sept. 29, 1995]

§ 180.25–25 Retroreflective material.

(a) Each life preserver carried on a vessel must have at least 200 sq. cm (31 sq. in.) of retroreflective material attached on its front side, at least 200 sq. cm on its back side, and at least 200 sq. cm of material on each of its reversible sides.

(b) Retroreflective material required by this section must be Type I material that is approved under subpart 164.018 of this chapter.

(c) The retroreflective material attached on each side of a life preserver must be divided equally between the upper quadrants of the side, and the material in each quadrant must be attached as closely as possible to the shoulder area of the life preserver.

[CGD 76–028, 44 FR 38788, July 2, 1979, as amended by CGD 95–072, 60 FR 50468, Sept. 29, 1995]

Subpart 180.30—Ring Life Buoys and Water Lights

§ 180.30–1 General.

(a) Each ring life buoy must be of an approved type, constructed in accordance with subpart 160.050 of this chapter; except a ring life buoy that was approved under former subpart 160.009 of this chapter may be used if it is in good and serviceable condition.

(b) Each water light must be of an approved automatic electric type, constructed in accordance with subpart 161.010 of this chapter, except as allowed under paragraph (c) of this section.

(c) Except as prohibited in paragraph (d) of this section, a water light constructed in accordance with former subpart 160.012 or 161.001 of this chapter that was installed before January 1, 1972, may be retained in an existing installation as long as it is maintained in good condition.

(d) No vessel attending offshore petroleum operations may carry a water light that produces an open flame.

[CGD 79–165a, 45 FR 64188, Sept. 29, 1980, as amended by CGD 80–155a, 47 FR 10559, Mar. 11, 1982]

§ 180.30–5 Number and size required.

(a) *S.* All vessels shall be fitted with one ring life buoy of not less than 24 inches in diameter, except that vessels less than 26 feet in length may use one ring life buoy of not less than 20 inches in diameter.

(b) *L.* All vessels shall be fitted with three ring life buoys of not less than 24 inches in diameter.

(c) *S and L.* Vessels not limited to daytime operation shall be provided with an approved water light.

(d) *S and L.* Ring life buoys used on a vessel on an international voyage shall be orange in color.

[CGFR 63–40, 28 FR 9739, Sept. 6, 1963, as amended by CGFR 65–9, 30 FR 11495, Sept. 8, 1965]

§ 180.30-10 Location, distribution, and securing.

(a) *S.* The ring life buoy shall be so placed as to be readily accessible. It shall be capable of being cast loose, shall not be permanently secured in any way, and shall have attached to it a line at least 60 feet in length.

(b) *L.* The ring life buoys shall be so placed as to be readily accessible. They shall be capable of being cast loose, shall not be permanently secured in any way, and one of the ring life buoys shall have attached to it a line at least 60 feet in length.

(c) *S and L.* The water light, which is to be attached for nighttime operation, shall be stowed close to or attached to that ring life buoy which is located nearest the pilothouse.

[CGFR 63-40, 28 FR 9739, Sept. 6, 1963]

Subpart 180.35—Pyrotechnic Distress Signals

§ 180.35-1 General.

(a) All pyrotechnic distress signals shall be of an approved type.

(b) Service use of distress signals shall be limited to a period of 3 years from date of manufacture, and replacement shall be made no later than the first inspection for certification or reinspection after the date of expiration.

§ 180.35-5 Number required.

(a) Except as otherwise provided in this section, all vessels shall carry pyrotechnic distress signals as follows:

(1) 6 hand red flare distress signals, and 6 hand orange smoke distress signals; or,

(2) 12 hand combination flare and smoke distress signals.

(b) Pyrotechnic distress signals are not required on vessels operating on short runs. A vessel is considered to be on a short run when its operating time away from a dock is limited to approximately 30 minutes.

§ 180.35-10 Stowage.

(a) All pyrotechnic distress signals shall be carried within the pilothouse or in other location considered suitable by the Officer in Charge, Marine Inspection.

(b) All pyrotechnic distress signals shall be stowed in a portable watertight container.

Subpart 180.40—Emergency Position Indicating Radiobeacon (EPIRB)

§ 180.40-1 Emergency position indicating radiobeacon EPIRB.

(a) Each vessel in ocean and coastwise service must have an approved Class A emergency position indicating radiobeacon (EPIRB) that is—

(1) Operative;

(2) Stowed where it is readily accessible for testing and use; and

(3) Stowed in a manner so that it will float free if the vessel sinks.

(b) Compliance with paragraph (a) of this section is not required for a coastwise vessel—

(1) That carries a VHF radiotelephone that complies with the FCC requirements; and

(2) Whose Certificate of Inspection is endorsed for a route which does not extend more than 20 miles from a harbor of safe refuge.

(c) Each vessel certificated for Great Lakes service, and each other vessel operating on the Great Lakes that is not required to have a Class A EPIRB meeting paragraph (a) of this section must have one Class C EPIRB installed in a readily accessible location, at or near the principal steering station.

[CGD 73-24R, 39 FR 10140, Mar. 18, 1974, as amended by CGD 80-024, 49 FR 40409, Oct. 16, 1984]

PART 181—FIRE PROTECTION EQUIPMENT

Subpart 181.01—Application and Intent

Sec.

Subpart 181.05—Approved Fire Protection Equipment

Subpart 181.10—Fire Pumps

AUTHORITY: 46 U.S.C. 3306; 49 CFR 1.46.

SOURCE: CGFR 60-54, 25 FR 9330, Sept. 29, 1960, unless otherwise noted.

Subpart 181.01—Application and Intent

§ 181.01-1 Application.

(a) The provisions of this part shall apply to all vessels except as specifically noted in this part.

(b) Installations of power fire pumps, fire main systems and fixed fire extinguishing systems on vessels contracted for before June 1, 1958, shall meet the requirements of this part insofar as deemed reasonable and practicable by the Officer in Charge, Marine Inspection.

§ 181.01-5 Intent.

(a) The intent of this part is to insure that each vessel is provided with safe, readily available and sufficient firefighting equipment of the type necessary to extinguish any fires which are likely to be encountered in normal operation. Due consideration will be given to hazards caused by the vessel's type of fuel, construction material, equipment, cargo, etc.

[CGFR 66-33, 31 FR 15298, Dec. 6, 1966]

Subpart 181.05—Approved Fire Protection Equipment

§ 181.05-1 General.

(a) Where equipment in this part is required to be of an approved type, such equipment requires the specific approval of the Commandant.

(b) Notifications regarding approvals are published in the FEDERAL REGISTER, and in addition are contained in Coast Guard publication COMDTINST M16714.3 (Series), "Equipment Lists".

[CGFR 60-54, 25 FR 9330, Sept. 29, 1960, as amended by CGD 95-072, 60 FR 50468, Sept. 29, 1995]

§ 181.05-5 Equipment installed but not required.

(a) Except as further modified in this section, where fire extinguishing systems or equipment are not required, but are installed, the system or equipment and its installation shall meet the requirements of this part. However, the Commandant may, after suitable investigations and tests, accept fire fighting equipment, which is of a type not contemplated by the regulations in this part, if the safety of the vessel is materially improved thereby.

Subpart 181.10—Fire Pumps

§ 181.10-1 Power fire pump.

(a) *S and L.* A power-driven fire pump shall be installed on each mechanically propelled "S" vessel which is a ferry vessel or which is permitted to carry more than 49 passengers, and on each mechanically propelled "L" vessel.

(b) *S.* The power fire pump shall be selfpriming and of such size as to discharge an effective stream from a hose connected to the highest outlet.

(c) *L.* The minimum capacity of the power fire pump shall be 50 gallons per minute at a pressure of not less than 60 pounds per square inch at the pump outlet. The pump outlet shall be fitted with a pressure gage.

(d) *S.* The power fire pump may be driven off a propulsion engine or other source of power and shall be connected

to the fire main. This pump may also be connected to the bilge system so that it can serve as either a fire pump or a bilge pump as described in subpart 182.25.

(e) *L.* The power fire pump may be driven off one of the propulsion engines in a twin engine installation. In a single engine propulsion installation, the pump shall be driven by a source of power independent of the propulsion engine. The pump may also be connected to the bilge system so that it can serve as either a fire pump or a bilge pump as described in subpart 182.25 of this subchapter.

[CGFR 63-40, 28 FR 9740, Sept. 6, 1963]

§ 181.10–5 Hand fire pumps.

(a) All vessels shall be provided with a hand operated portable fire pump having a capacity of at least 5 gallons per minute. This fire pump shall be equipped with suction and discharge hose suitable for use in fire fighting.

(b) The hand portable fire pump may also serve as a bilge pump.

Subpart 181.15—Fire Main System

§ 181.15–1 Where required.

(a) All vessels required to be provided with a power-driven fire pump shall also be provided with a fire main system including fire main, hydrants, hose and nozzles.

§ 181.15–5 Fire main and hydrants.

(a) *S and L.* Fire hydrants, when required, shall be of sufficient number and so located that any part of the vessel may be reached with an effective stream of water from a single length of hose.

(b) *L.* There shall be a minimum of two (2) fire hydrants on all mechanically propelled "L" vessels.

(c) *S and L.* All piping, valves, and fittings shall be in accordance with good marine practice and suitable for the purpose intended.

[CGFR 63-40, 28 FR 9740, Sept. 6, 1963]

§ 181.15–10 Fire hose.

(a) *S and L.* One length of fire hose shall be provided for each fire hydrant required.

(b) *S.* Fire hose may be commercial fire hose or equivalent of not over 1½-inch diameter or garden hose of not less than ⅝-inch nominal inside diameter. Hose shall be in one piece not less than 25 feet and not more than 50 feet in length.

(c) *L.* Fire hose shall be 1½ inches in diameter and 50 feet in length.

(d) *S and L.* If 1½ inch diameter fire hose is used, each length of hose must:

(1) Be lined commercial fire hose that conforms to Underwriters' Laboratories, Inc., Standard 19 or Federal Specification ZZ–H–451E. A hose that bears the Label of Underwriters' Laboratories, Inc., as lined fire hose is accepted as conforming to the requirement; and

(2) Have a nozzle that has a ½ inch solid stream orifice or a combination nozzle approved by the Commandant in accordance with § 162.027–6 of this Chapter. The nozzle must be bronze or another material that has strength and corrosion resistance properties equal to those of bronze.

(e) *S.* If garden hose is used, it shall be of a good commercial grade constructed of an inner rubber tube, plies of braided cotton reinforcement and an outer rubber cover or of equivalent material, and shall be fitted with a commercial garden hose nozzle of good grade bronze or equivalent metal.

(f) *S and L.* All fittings on fire hose shall be of brass, copper, or other suitable corrosion-resistant metal.

(g) *S and L.* A length of fire hose shall be attached to each fire hydrant at all times.

[CGFR 63-40, 28 FR 9740, Sept. 6, 1963, as amended by CGD 74-60, 41 FR 43152, Sept. 30, 1976; CGD 95 072, 60 FR 50468, Sept. 29, 1995]

Subpart 181.20—Fixed Fire Extinguishing System

§ 181.20–1 Where required.

(a) Fixed carbon dioxide fire extinguishing systems shall be installed to protect the following spaces:

(1) The machinery and fuel tank spaces of all vessels using gasoline or other fuel having a flash point of 110° F. or lower, except that where machinery and fuel tank spaces are so open to the atmosphere as to make the use of a

fixed system ineffective, no such system will be required.

(2) The paint and oil rooms and similar hazardous spaces on all vessels having such spaces.

(3) Cargo spaces which are inaccessible during a voyage and used for combustible cargo on all vessels having such spaces.

§ 181.20-5 Type system required.

(a) Except as otherwise provided in this section, all fixed fire extinguishing systems shall be of an approved carbon dioxide type and installed to the satisfaction of the Officer in Charge, Marine Inspection.

(b) On vessels where the amount of carbon dioxide gas required in a fixed system can be supplied by one portable extinguisher or by a semi-portable extinguisher, such extinguishers may be used subject to the following:

(1) Cylinders shall be installed in a fixed position outside the space protected.

(2) The applicator shall be installed in a fixed position so as to discharge into the space protected.

(3) Controls shall be installed in an accessible location outside the space protected.

§ 181.20-10 Amount of CO_2 gas required.

(a) The number of pounds of carbon dioxide required for each space protected shall be determined as follows:

(1) For cargo spaces, the number of pounds required shall be equal to the gross volume of the space in cubic feet divided by a factor of 30.

(2) For machinery and fuel tank spaces, paint lockers, oil rooms and similar hazardous spaces, the number of pounds required for each space shall be equal to the gross volume of the space divided by the appropriate factor noted in Table 181.20-10(a)(2).

TABLE 181.20-10(a)(2)

Gross volume of compartment, cubic feet		Factor
Over—	Not over—	
	500	15
500	1,600	16
1,600	4,500	18
4,500	.....	20

(b) A separate supply of carbon dioxide need not be provided for each space protected. The total available supply shall be at least sufficient for the space requiring the greatest amount.

§ 181.20-15 Controls.

(a) All controls and values for the operation of the system shall be outside the spaces protected and shall not be located in such space as might be cut off or made inaccessible in the event of fire in any of the spaces protected.

(b) Each branch line shall be fitted with an approved shutoff valve. Such shutoff valve shall be kept closed at all times except to operate the particular system.

(c) The arrangements shall be such that the entire charge to any space can be introduced into the space by the operation of one valve selecting the space, and one control for releasing at least the required amount of carbon dioxide. The controls shall be of an approved type and shall be located adjacent to the shutoff valve controls.

(d) Complete but simple instructions for the operation of the systems must be located in a conspicuous place at or near all pull boxes, stop valve controls and in the CO_2 cylinder storage room. On systems in which the CO_2 cylinders are not within the protected space, these instructions must also include a schematic diagram of the system and instructions detailing alternate methods of discharging the system should the manual release or stop valve controls fail to operate. Each control valve to branch lines must be marked to indicate the related space served.

[CGFR 60-54, 25 FR 9330, Sept. 29, 1960, as amended by CGD 74-100R, 40 FR 6209, Feb. 10, 1975]

§ 181.20-20 Piping.

(a) Branch lines to the various cargo spaces shall be not less than ½ inch standard pipe size.

(b) The size of branch lines to machinery and fuel tank spaces, paint lockers, oil rooms and similar hazardous spaces shall be as noted in Table 181.20-20(b).

TABLE 181.20-20(b)

Maximum quantity of carbon dioxide required, pounds	Minimum pipe size inches
100	¼ (Schedule 40).
225	¾ (Schedule 40).
300	1 (Schedule 80).
600	1¼ (Schedule 80).

(c) All piping, valves, and fittings of ferrous materials shall be protected inside and outside against corrosion.

(d) All dead-end lines shall extend at least 2 inches beyond the last orifice and shall be closed with cap or plug.

(e) All piping, valves, and fittings shall be securely supported, and where necessary, protected against injury.

(f) Drains and dirt traps shall be fitted where necessary to prevent the accumulation of dirt or moisture. Drains and dirt traps shall be located in accessible locations.

[CGFR 60-54, 25 FR 9330, Sept. 29, 1960, as amended by CGFR 62-17, 27 FR 9048, Sept. 11, 1962]

§ 181.20-25 Discharge outlets.

(a) Discharge outlets shall be of an approved type.

(b) The total area of all discharge outlets shall not exceed 85 percent nor be less than 35 percent of the nominal cylinder outlet area or the area of the supply pipe, whichever is smaller. The nominal cylinder outlet area in square inches shall be determined by multiplying the factor 0.0022 by the number of pounds of carbon dioxide required except that in no case shall this outlet area be less than 0.110 square inches.

§ 181.20-30 Cylinders.

(a) Cylinders shall be securely fastened and supported, and where necessary protected against injury.

(b) Cylinders shall be mounted in an upright position or inclined not more than 30° from the vertical. However, cylinders which are fitted with flexible or bent siphon tubes may be inclined not more than 80° from the vertical.

(c) All cylinders used for storing carbon dioxide must be fabricated, tested, and marked in accordance with the requirements of §§ 147.60 and 147.65 of this chapter.

(d) Cylinders shall be so mounted as to be readily accessible and capable of easy removal for recharging and inspection, including weighing.

(e) Where subject to moisture, cylinders shall be so installed as to provide a space of at least 2 inches between the flooring and the bottom of the cylinders.

[CGFR 60-54, 25 FR 9330, Sept. 29, 1960, as amended by CGD 84-044, 53 FR 7752, Mar. 10, 1988]

§ 181.20-35 Closure of openings.

(a) Provision shall be made by means of plugs, covers, etc., to prevent the admission of air into the space protected.

Subpart 181.25—Manual Sprinkling System

§ 181.25-1 Where required.

(a) All vessels having a deck above a vehicular space shall be fitted with a manual sprinkling system in the vehicle space.

§ 181.25-5 Installation.

(a) Manual sprinkling systems required shall be subject to such requirements as determined by the Officer in Charge, Marine Inspection. These requirements are contained in applicable regulations in part 76 of Subchapter H (Passenger Vessels) of this chapter.

Subpart 181.30—Portable Fire Extinguishers

§ 181.30-1 Required number, type and location.

(a) The minimum number of portable fire extinguishers required on each vessel shall be as determined by the Officer in Charge, Marine Inspection, in accordance with Table 181.30-1(a) and other provisions of this subpart.

TABLE 181.30–1(a)

Space protected	Total number extinguishers required	Type extinguishers permitted		
		Medium	Minimum size	Coast Guard classification
Wheelhouse or steering station	1	Foam	1¼ gallons	B–I.
		Carbon dioxide	4 pounds	
		Dry chemical	2 pounds	
Propulsion machinery space (gasoline or other fuel having a flashpoint of 110° F. or lower) with fixed CO_2 system.	1	Foam	1¼ gallons	B–I.
		Carbon dioxide	4 pounds	
		Dry chemical	2 pounds	
Propulsion machinery space (gasoline or other fuel having a flashpoint of 110° F. or lower) without fixed CO_2 system.	2	Foam	2½ gallons	B–II.
		Carbon dioxide	15 pounds	
		Dry chemical	10 pounds	
Propulsion machinery space (diesel oil or other fuel having a flashpoint over 110° F.).	2 (none required if fixed CO_2 system is installed).	Foam	2½ gallons	B–II.
		Carbon dioxide	15 pounds	
		Dry chemical	10 pounds	
Vehicular spaces	1 for each 5 vehicles or fraction thereof.	Foam	2½ gallons	B–II.
		Carbon dioxide	15 pounds	
		Dry chemical	10 pounds	
Accommodations and galley	1	Foam	2½ gallons	B–II.
		Carbon dioxide	15 pounds	
		Dry chemical	10 pounds	

(b) The Officer in Charge, Marine Inspection, may permit the use of any approved fire extinguishers, including semiportable extinguishers, in lieu of those required by this section when in his opinion such extinguishers will provide equivalent fire protection.

(c) Vaporizing liquid type fire extinguishers containing carbon tetrachloride or chlorobromomethane or other toxic vaporizing liquids are not approved and are not permitted on any vessel.

[CGFR 60–54, 25 FR 9330, Sept. 29, 1960, as amended by CGFR 66–33, 31 FR 15299, Dec. 6, 1966; CGFR 68–65, 33 FR 19992, Dec. 28, 1968]

§ 181.30–5 Approved extinguishers.

(a) All portable fire extinguishers installed on vessels shall be of an approved type.

[CGFR 60–54, 25 FR 9330, Sept. 29, 1960, as amended by CGFR 68–32, 33 FR 5727, Apr. 12, 1968]

§ 181.30–10 Installation and location.

(a) Portable fire extinguishers shall be located so as to be convenient to the space protected.

(b) Portable fire extinguishers shall be installed and located to the satisfaction of the Officer in Charge, Marine Inspection.

(c) Portable fire extinguishers, which are required on their nameplates to be protected from freezing, shall not be located where freezing temperatures may be expected.

[CGFR 60–54, 25 FR 9330, Sept. 29, 1960, as amended by CGFR 62–17, 27 FR 9048, Sept. 11, 1962]

§ 181.30–12 Semiportable fire extinguishers.

(a) The frame or support of each semiportable fire extinguisher permitted under § 181.30–10(b) in lieu of a portable fire extinguisher required by Table 181.30–1(a) must be welded or otherwise permanently attached to a bulkhead or deck.

(b) If an approved semiportable fire extinguisher has wheels and is not required by Table 181.30–01(a), it must be securely stowed when not in use to prevent it from rolling out of control under heavy sea conditions.

[CGD 77–039, 44 FR 34133, June 14, 1979]

Subpart 181.35—Fire Axe

§ 181.35–1 Required number and location—L.

(a) Each "L" vessel will be equipped with one (1) fire axe located in or adjacent to the pilothouse.

[CGFR 63–40, 28 FR 9740, Sept. 6, 1963]

PART 182—MACHINERY INSTALLATION

Subpart 182.01—Application and Intent

Subpart 182.05—Propulsion Machinery

Subpart 182.10—Auxiliary Machinery

Subpart 182.15—Machinery Using Gasoline as Fuel

Subpart 182.20—Machinery Using Diesel Fuel

Subpart 182.25—Bilge and Ballast Systems

Subpart 182.30—Steering Apparatus

Subpart 182.35—Separation of Machinery and Fuel Tank Spaces From Accommodation Spaces

Subpart 182.40—Nonmetallic Piping Materials

AUTHORITY: 46 U.S.C. 3306; 49 CFR 1.46.

SOURCE: CGFR 60–54, 25 FR 9332, Sept. 29, 1960, unless otherwise noted.

Subpart 182.01—Application and Intent

§ 182.01–1 Application.

(a) The provisions of this part shall apply to the machinery installation on all vessels contracted for on or after June 1, 1958, except as otherwise provided for in this part. Machinery installations on all vessels contracted for prior to this date shall meet the requirements of this part insofar as is deemed reasonable and practicable by the Officer in Charge, Marine Inspection.

[CGFR 61–13, 26 FR 3927, May 5, 1961]

§ 182.01–5 Intent.

(a) The intent of this part is to insure that the main propulsion machinery installed on each vessel is suitable for the vessel and its operation and that the auxiliary machinery is suitable for the purpose intended. It is further intended that all machinery be installed and maintained in such a manner as to afford adequate protection against fire, explosion, machinery failure and personnel injury.

Subpart 182.05—Propulsion Machinery

§ 182.05–1 General.

(a) Propulsion machinery shall be suitable in type and design for propulsion requirements of the hull in which it is installed and capable of operating at constant marine load under such requirements without exceeding its designed limitations.

§ 182.05–5 Installations.

(a) Except as otherwise provided in this section main propulsion machinery installations shall comply with the provisions of this part.

(b) Propulsion machinery of an unusual type for small passenger vessels shall be given separate consideration and shall be subject to such requirements as determined by the Officer in Charge, Marine Inspection. The requirements for machinery and boilers for steam and electrically propelled vessels are contained in applicable regulations in Subchapter F (Marine Engineering) and Subchapter J (Electrical Engineering) of this chapter. These unusual types of propulsion machinery include:

(1) Machinery installations using steam.

(2) Electrical machinery installations.

(3) Gas turbine machinery installations.

(4) Outboard motors.

(5) Air screws.

(6) Hydraulic jets.

Subpart 182.10—Auxiliary Machinery

§ 182.10–1 General.

(a) Auxiliary machinery shall be suitable in type and design for the purpose intended.

§ 182.10–5 Installations.

(a) Auxiliary machinery of the internal combustion piston type shall comply with the provisions of this part.

(b) Auxiliary machinery installation of the steam or gas turbine type will be given separate consideration and shall be subject to such requirements as determined by the Officer in Charge, Marine Inspection. These requirements are contained in applicable regulations in Subchapter F (Marine Engineering) of this chapter.

(c) Auxiliary boilers and heating boilers and their associated piping and fittings will be given separate consideration and will be subject to such requirements as determined by the Officer in Charge, Marine Inspection. These requirements shall be as specified in applicable regulations in Subchapter F (Marine Engineering) of this chapter except that heating boilers shall be tested or examined every three years.

(d) Except as otherwise provided in this paragraph all unfired pressure vessels shall be Coast Guard approved and installed to the satisfaction of the Officer in Charge, Marine Inspection. The requirements for design, construction and original testing of such approved unfired pressure vessels are in applicable regulations in Subchapter F (Marine Engineering) of this chapter. Information concerning the applicable regulations may be obtained from the Officer in Charge, Marine Inspection.

[CGFR 60–54, 25 FR 9332, Sept. 29, 1960, as amended by CGFR 68–82, 33 FR 18909, Dec. 18, 1968]

Subpart 182.15—Machinery Using Gasoline as Fuel

§ 182.15–1 Application.

(a) This subpart shall apply to all propulsion and auxiliary machinery installations of the internal combustion piston type which use gasoline or other fuel having a flashpoint of 110° F. (Pensky-Martens Closed Cup Method, ASTM-D93) or lower.

[CGFR 68–82, 33 FR 18909, Dec. 18, 1968]

§ 182.15–5 General requirements.

(a) Starting motors, generators and any spark producing device shall be mounted as high above the bilges as practicable.

(b) Gages to indicate cooling water discharge temperature and lubricating oil pressure shall be provided for all propulsion engines and located so as to be in view of the operator. When engine is freshwater cooled and exhaust pipe is cooled by a separate water cooling system, a suitable warning, visible or audible at the operating station, shall be provided to indicate any failure of water flow in the exhaust system.

(c) The use of liquefied inflammable gases, such as propane, methane, butane, etc., as fuel is prohibited on all vessels.

§ 182.15–7 Carburetors.

(a) All carburetors except the downdraft type shall be equipped with

integral or externally fitted drip collectors of adequate capacity and of such arrangement as to permit ready removal of fuel leakage. Externally fitted drip collectors shall be covered with flame screens.

NOTE: It is recommended that drip collectors be drained by a device for automatic return of all drip to engine air intakes.

(b) All gasoline engines must be equipped with an acceptable means of backfire flame control. Installations of backfire flame arresters bearing basic Approval Nos. 162.015 or 162.041 or engine air and fuel induction system bearing basic Approval Nos. 162.015 or 162.042 may be continued in use as long as they are servicable and in good condition. New installations or replacements must meet the applicable requirements of subpart 58.10 of subchapter F (Marine Engineering) of this chapter.

[CGFR 60–54, 25 FR 9332, Sept. 29, 1960, as amended by CGFR 65–18, 30 FR 10243, Aug. 18, 1965; CGD 88–032, 56 FR 35829, July 29, 1991]

§ 182.15–10 Gasoline engine cooling.

(a) Except as otherwise provided in this paragraph all engines shall be water cooled.

(1) Auxiliary engines with self-contained fuel systems may be air cooled when they are installed on open decks.

(b) The engine cooling water system shall be in accordance with the following provisions:

(1) The engine head, block and exhaust manifold shall be water jacketed and cooled by water from a pump which operates whenever the engine is operating.

(2) A closed fresh water system may be used to cool the engine. Air cooled radiators shall not be used for propulsion engine cooling systems.

(3) A suitable hull strainer shall be installed in the circulating water intake line.

§ 182.15–15 Gasoline engine exhaust cooling.

(a) Except as otherwise provided in this paragraph, all engine exhaust pipes shall be water cooled.

(1) Dry pipe vertical exhausts are permissible if suitably insulated.

(2) Horizontal dry exhaust pipes are permitted only if: They do not pass through living or berthing spaces, they terminate above the deepest load waterline and are so arranged as to prevent entry of cold water from rough or boarding seas, and they are constructed of corrosion resisting material at the hull penetration.

(3) Exhaust pipes on air cooled engines need not be water cooled but suitable insulation may be required.

(b) The exhaust pipe cooling water system shall be in accordance with the following provisions:

(1) Water for cooling the exhaust pipe shall be obtained from the engine cooling water system or a separate engine driven pump.

(2) Water for cooling the exhaust pipe, other than a vertical exhaust, shall be injected into the exhaust system as near to the engine manifold as practicable. The water shall pass through the entire length of the exhaust pipe.

(3) That part of the exhaust system between the point of cooling water injection and the engine manifold shall be water-jacketed or effectively insulated.

(4) Vertical exhaust piping must be water-jacketed or suitably insulated between the engine manifold and the spark arrester.

(5) When the exhaust cooling system is separate from the engine cooling system, a suitable warning device shall be provided to indicate any failure of water flow in the exhaust cooling system. Such warning shall be visible or audible at the engine operating station.

(6) A suitable hull strainer shall be installed in the circulating water intake line for the exhaust cooling system.

(c) Engine exhaust cooling systems built in accordance with the requirements of American Boat and Yacht Council, Inc., Standard P–1, "Safe Installation of Exhaust Systems for Propulsion and Auxiliary Machinery" will be considered as meeting the requirements of this section. (See § 175.27–5 of this subchapter.)

[CGFR 68–82, 33 FR 18909, Dec. 18, 1968, as amended by CGFR 72–59R, 37 FR 6191, Mar. 25, 1972]

§ 182.15–20 Gasoline engine exhaust pipe, installation.

(a) Exhaust piping shall be led to the point of escape with a minimum number of bends or elbows. It shall be gastight throughout its length and shall be properly supported by non-combustible hangers or blocks.

(b) The exhaust piping shall be so arranged as to prevent backflow of water from reaching engine exhaust ports under normal conditions.

(c) Where flexibility is necessary a section of flexible metallic hose may be used. Non-metallic hose may be used provided it is especially adapted to resist the action of oil, acid and heat, and has a wall thickness sufficient to prevent collapsing or panting.

(d) Where exhaust piping passes through watertight bulkheads the watertight integrity of the bulkhead shall be maintained. Non-combustible packing shall be used in bulkhead penetration glands. Water cooled exhaust pipes may be welded to steel bulkheads in way of penetrations if suitable arrangements are provided to relieve the stresses resulting from the expansion of the exhaust piping.

(e) Where exhaust piping passes through non-watertight combustible bulkheads or partitions non-combustible packing shall be used in bulkhead penetration glands or a minimum clearance of 2 inches shall be provided between the exhaust pipe and the bulkhead or partition.

(f) Vertical exhaust systems shall be provided with spark arresters. Spark arresters shall be supported by suitable steel hangers and shall be lagged with fire resistant material. A clearance of at least 9 inches shall be maintained between the spark arrester and any woodwork.

(g) Protective gratings shall be provided at such locations where persons or gear might come in contact with the exhaust pipe.

(h) Arrangements shall be made to provide access to the exhaust pipe throughout its length.

(i) All exhaust installations with pressures in excess of 15 pounds per square inch gage or employing runs passing through living or working spaces shall meet the material requirements of part 56 of Subchapter F (Marine Engineering) of this chapter.

(j) Engine exhaust installations built in accordance with the requirements of American Boat and Yacht Council, Inc., Standard P–1, "Safe Installations of Exhaust Systems for Propulsion and Auxiliary Machinery" will be considered as meeting the requirements of this section. (See § 175.27–5 of this subchapter.)

[CGFR 60–54, 25 FR 9332, Sept. 29, 1960, as amended by CGFR 68–82, 33 FR 18909, Dec. 18, 1968]

§ 182.15–25 Gasoline fuel tanks.

(a) *Materials and construction.* (1) Fuel tanks shall be independent of the hull. The material used and the minimum thickness allowed shall be as indicated in Table 182.15–25(a)(1), except that consideration will be given to other materials which provide equivalent safety as indicated in paragraph (a)(8) of this section. Fuel tanks having a capacity of more than 150 gallons shall be designed to withstand the maximum head to which they may be subjected in service but in no case shall the thickness be less than that specified in Table 182.15–25(a)(1).

TABLE 182.15–25(a)(1)

Material	ASTM Specification (latest edition)	Thickness in inches and gage number[1] vs. tank capacities for—		
		1 to 80 gallon tanks	More than 80 and not more than 150 gallon tanks	Over 150 gallon tanks
Nickel-copper	B127, hot rolled sheet or plate	0.037 (USSG 20)[2]	0.050 (USSG 18)	0.107 (USSG 12)
Copper-nickel	B122, alloy No. 5	0.045 (AWG 17)	0.057 (AWG 15)	0.128 (AWG 8)
Copper	B152, type ETP	0.057 (AWG 15)	0.081 (AWG 12)	0.182 (AWG 5)
Copper-silicon	B97, alloys A, B, and C	0.051 (AWG 16)	0.064 (AWG 14)	0.144 (AWG 7)
Steel or iron[3]		0.0747 (MSG 14)	0.1046 (MSG 12)	0.1793 (MSG 7)

TABLE 182.15–25(a)(1)—Continued

Material	ASTM Specification (latest edition)	Thickness in inches and gage number[1] vs. tank capacities for—		
		1 to 80 gallon tanks	More than 80 and not more than 150 gallon tanks	Over 150 gallon tanks
Aluminum[4]	B209, Alloy 5086[5]	0.250 (USSG 3)	0.250 (USSG 3)	0.250 (USSG 3)

[1] The gage numbers used in this table may be found in many standard engineering reference books. The letters "USSG" stand for "U.S. Standard Gage," which was established by the act of March 3, 1892 (15 U.S.C. 206), for sheet and plate iron and steel. The letters "AWG" stand for "American Wire Gage" (or Brown and Sharpe Gage) for conferrous sheet thicknesses. The letters "MSG" stand for "Manufacturers' Standard Gage" for sheet steel thicknesses.
[2] Nickel-copper not less than 0.031 inch (USSG 22) may be used for tanks up to 30-gallon capacity.
[3] Fuel tanks constructed of iron or steel, which is less than 3/16-inch thick, shall be galvanized inside and outside by the hot dip process.
[4] Anodic to most common metals. Avoid dissimilar metal contact with tank body.
[5] And other alloys acceptable to the Commandant.

(2) Tanks with flanged-up top edges, that may trap and hold moisture, shall not be used.

(3) Openings for fill, vent and fuel pipes, and openings for fuel level gages where used, shall be on topmost surface of tanks. Tanks shall have no openings in bottoms, sides, or ends, except that an opening fitted with threaded plug or cap may be used for tank cleaning purposes.

(4) All tank joints shall be welded or brazed.

(5) Nozzles, flanges, or other fittings for pipe connections shall be welded or brazed to the tank. The tank openings in way of pipe connections shall be properly reinforced where necessary. Where fuel level gages are used the flange to which gage fittings are attached shall be welded or brazed to the tank. No tubular gage glasses or trycocks shall be fitted to the tanks.

(6) All tanks exceeding 30 inches in any horizontal dimension shall be fitted with vertical baffle plates where necessary for strength or for control of excessive surge. In general, baffle plates installed at intervals not exceeding 30 inches will be considered as meeting this requirement.

(7) Baffle plates, where required, shall be of the same material and not less than the minimum thickness required in the tank walls and shall be connected to the tank walls by welding or brazing. Limber holes at the bottom and air holes at the top of all baffles shall be provided.

(8) Materials other than those listed in Table 182.15–25(a)(1) may be used for gasoline fuel tank construction only if the tank as constructed meets the testing requirements of Yacht Safety Bureau STD E–3, paragraph E3–3. (See § 175.27–20 of this subchapter.) Testing may be accomplished by any acceptable laboratory such as the Yacht Safety Bureau, or may be done by the fabricator if witnessed by a marine inspector.

(b) *Location and installation.* (1) Fuel tanks shall be located in, or as close as practicable to engine compartments.

(2) Fuel tanks shall be so installed as to permit examination, testing, or removal for cleaning with minimum disturbance to the hull structure.

(3) Fuel tanks shall be adequately supported and braced to prevent movement. The supports and braces shall be insulated from contact with the tank surfaces with a non-abrasive and non-absorbent material.

(4) All fuel tanks shall be electrically bonded to the common ground.

(5) Cylindrical tanks with longitudinal seams shall be arranged horizontally where practicable so that such seams are located as near the top as possible.

(c) *Tests.* (1) Prior to installation, tanks vented to the atmosphere shall be tested to, and must withstand, a pressure of 5 pounds per square inch or 1½ times the maximum head to which they may be subjected in service, whichever is greater. A standpipe of 11½ feet in height attached to the tank may be filled with water to accomplish the 5 pounds per square inch test. Permanent deformation of the tank will not be cause for rejection unless accompanied by leakage.

(2) After installation of the fuel tank on a vessel the complete installation shall be tested in the presence of a marine inspector to a head not less than

that to which the tank may be subjected in service. Fuel may be used as testing medium.

(3) All tanks not vented to the atmosphere shall be constructed and tested in accordance with § 182.10–5(d).

[CGFR 60–54, 25 FR 9332, Sept. 29, 1960, as amended by CGFR 66–33, 31 FR 15299, Dec. 6, 1966; CGFR 68–82, 33 FR 18910, Dec. 18, 1968; CGFR 72–59R, 37 FR 6191, Mar. 25, 1972]

§ 182.15–30 Filling and sounding pipes for gasoline fuel tanks.

(a) Fill pipes shall be not less than 1½ inches nominal pipe size.

(b) Filling and sounding pipes shall be so arranged that overflow of liquid or vapor cannot escape to the inside of the vessel. Sounding pipes may be omitted where sounding can be accomplished through the fill pipe or where marine type fuel gages are installed. Where sounding pipes are used, their openings shall be at least as high as the opening of the fill pipe and they shall be kept closed at all times except during sounding.

(c) Fill and sounding pipes shall run as directly as possible, preferably in a straight line, from the deck connection to the top of the tank. Such pipes shall terminate on the weather deck clear of any coamings and shall be fitted with shutoff valves, watertight deck plates or screw caps suitably marked for identification. Fill and sounding pipes shall extend to within one-half of their diameter from the bottom of the tank.

(d) Where a flexible fill pipe section is necessary, suitable flexible tubing or hose having high resistance to salt water, petroleum oils, heat and vibration, may be used. Such hose shall overlap metallic pipe ends at least 1½ times the pipe diameter and shall be secured at each end by two clamps of corrosion resistant metal. The flexible section shall be accessible and as near the upper end of the filling pipe as practicable. When the flexible section is a nonconductor of electricity, the metallic sections of the filling pipe separated thereby shall be joined by a conductor for protection against static spark when filling.

[CGFR 60–54, 25 FR 9332, Sept. 29, 1960, as amended by CGD 76–154, 42 FR 48880, Sept. 26, 1977]

§ 182.15–35 Vent pipes for gasoline fuel tanks.

(a) Each tank shall be fitted with a vent pipe which shall be connected to the tank at its highest point under normal operating conditions.

(b) The net cross-sectional area of the vent pipe shall be not less than that of ¾-inch O.D. tubing (0.035 inch wall thickness—20 gage), except that, where provision is made to fill the tanks under pressure, the net-cross-sectional area of the vent pipe shall be not less than that of the fill pipe.

(c) The discharge ends of vent pipes shall terminate on the hull exterior as high above the waterline as practicable and remote from any hull openings, or, they shall terminate in U-bends as high above the weather deck as practicable and as far from any openings into living quarters or other below deck spaces as practicable. Vent pipes terminating on the hull exterior shall be so installed or equipped as to prevent the accidental contamination of the fuel by water under normal operating conditions.

(d) The discharge ends of vent pipes shall be fitted with removable flame screens or flame arresters. The flame screens shall consist of a single screen of corrosion resistant wire of at least 30×30 mesh. The flame screens or flame arresters shall be of such size and design as to prevent reduction in the net cross-sectional area of the vent pipe and permit cleaning or renewal of the flame screens or arrester elements.

§ 182.15–40 Gasoline fuel supply piping.

(a) *Materials and workmanship.* (1) Fuel lines shall be annealed tubing of copper, nickel-copper, or copper-nickel having a minimum wall thickness of 0.035 inch.

(2) Where flexibility is necessary or desired, a reasonable length of flexible hose may be used provided it is fitted with suitable connection fittings and has high resistance to saltwater, petroleum oils and vibration.

(3) Flexible hose shall be fabricated with an inner tube and a cover of synthetic rubber or other suitable material reinforced with wire braid. The hose cover shall be adjudged self-extinguishing per ASTM D1692, and the hose

assembly shall be capable of withstanding free burning gasoline for 2½ minutes (test details available from Coast Guard (G-MMS)). Details of other fire tests designed to demonstrate this capability shall be submitted to Coast Guard (G-MMS) for review.

(4) Tubing connections and fittings shall be of nonferrous drawn or forged metal of the flared type except that the flareless fittings of the nonbite type may be used when the tubing system is of nickel-copper or copper-nickel. When making tube connections, the tubing shall be cut square and flared by suitable tools. Tube ends shall be annealed before flaring.

(5) Valves for fuel lines shall be of a suitable nonferrous type. Cocks are prohibited except for the solid bottom type with tapered plugs and union bonnets.

(b) *Installation.* (1) Fuel lines shall be run at the level of the tank top to a point as close to the engine connection as practicable.

(2) Fuel lines shall be accessible, protected from mechanical injury, and effectively secured against excessive movement and vibration by the use of soft nonferrous metal straps with no sharp edges. Where passing through bulkheads, fuel lines shall be protected by close fitting ferrules or stuffing boxes.

(3) Shutoff valves, installed so as to close against the fuel flow, shall be fitted in the fuel supply lines, one at the tank connection and one at the engine end of the fuel line to stop fuel flow when servicing accessories. The shutoff valve at the tank shall be operable from outside the tank compartment preferably from an accessible position on the weather deck.

(4) A loop of copper tubing or a short length of flexible hose shall be installed in the fuel supply line at or near the engines. Such flexible hose shall be provided with suitable connection fittings and shall have a high resistance to salt water, petroleum oils, heat and vibration.

(5) A suitable metal marine type strainer shall be fitted in the fuel supply line in the engine compartment. Strainers shall be of the type opening on top for cleaning screens. A drip pan fitted with flame screen shall be installed under the strainer.

(6) All accessories installed in the fuel line shall be independently supported.

(7) Outlets in fuel lines for drawing fuel below deck for any purpose are prohibited.

[CGFR 60-54, 25 FR 9332, Sept. 29, 1960, as amended by CGFR 68-82, 33 FR 18910, Dec. 18, 1968; CGD 72-206R, 38 FR 17230, June 29, 1973; CGD 82-063b, 48 FR 4783, Feb. 3, 1983; CGD 95-072, 60 FR 50468, Sept. 29, 1995]

§ 182.15-45 Ventilation of compartments containing gasoline machinery or fuel tanks.

(a) Spaces containing gasoline machinery or fuel tanks shall have natural supply and mechanical exhaust ventilation as required by this section, except that, where engines and fuel tanks are not in closed compartments, at least one ventilation duct shall be installed in the fore part of the vessel and one in the after part of the vessel, both ducts having cowls or scoops are required by paragraph (h) of this section.

(b) The requirements for the mechanical exhaust system shall be such as to assure the air changes as noted in table 182.15-45(b) depending upon the size of the space.

TABLE 182.15-45(b)

Size of space, cubic feet		Minutes per air change
Over—	Not over—	
	500	2
500	1,000	3
1,000	1,500	4
1,500		5

(c) Exhaust blower motors shall be outside of the ducts, and if mounted in any compartment required to be ventilated by this section, shall be located as high above the bilge as practicable. Blower blades shall be nonsparking with reference to their housings.

(d) Exhaust blower switches shall be located outside of any space required to be ventilated by this section, and shall be of the type interlocked with the starting switch and the ignition switch so that the blowers are started before the engine starter motor circuit or the engine ignition is energized. A red warning sign at the switch shall

state that the blowers shall be operated prior to starting the engines for a sufficient time to insure at least one complete change of air in the compartments.

(e) The area of the ducts shall be such as to limit the air velocity to a maximum of 2,000 feet per minute. Ducts may be of any shape, provided that in no case shall one cross section dimension exceed twice the other.

(f) At least two inlet ducts shall be located at one end of the compartment and they shall extend to the lowest part of the compartment or bilge on each side. Similar exhaust ducts shall be led to the mechanical exhaust system from the lowest part of the compartment or bilge on each side of the compartment at the end opposite from that at which the inlet ducts are fitted. These ducts shall be so installed that ordinary collection of water in the bilge will not trap the ducts.

(g) All ducts shall be of rigid permanent construction of fire proof material and reasonably gastight from end to end. The ducts shall lead as direct as possible and be properly fastened and supported.

(h) All supply ducts shall be provided with cowls or scoops having a free area not less than twice the required duct area. When the cowls or scoops are screened, the mouth area shall be increased to compensate for the area of the screen wire. Dampers shall not be fitted in the supply ducts. Cowls or scoops shall be kept open at all times except when the stress of weather is such as to endanger the vessel if the openings are not temporarily closed. Supply and exhaust openings shall not be located where the natural flow of air is unduly obstructed, or adjacent to possible sources of vapor ignition, nor shall they be so located that exhaust air may be taken into the supply vents. Provision shall be made for closing all cowls or scoops when the fixed carbon dioxide system is operated.

[CGFR 60–54, 25 FR 9332, Sept. 29, 1960, as amended by CGFR 68–65, 33 FR 19992, Dec. 28, 1968]

Subpart 182.20—Machinery Using Diesel Fuel

§ 182.20–1 Application.

(a) This subpart shall apply to all propulsion and auxiliary machinery installations of the internal combustion piston type which use Diesel fuel or other fuel having a flashpoint (Pensky-Martens Closed Cup Method—ASTM-D93) of over 110° F.

[CGFR 68–82, 33 FR 18910, Dec. 18, 1968]

§ 182.20–5 General requirements.

(a) Generators, starting motors and other spark producing devices shall be mounted as high above the bilges as practicable.

(b) Gages to indicate engine cooling water discharge temperature and lubricating oil pressure shall be provided for all propulsion engines and located so as to be in view of the operator.

§ 182.20–10 Diesel engine cooling.

(a) Except as otherwise provided in this paragraph all engines shall be water cooled.

(1) Auxiliary engines with self-contained fuel systems may be air cooled when they are installed on open decks.

(2) Air cooled propulsion and auxiliary engines may be installed under deck when adequate compartment ventilation is provided and other necessary safeguards are taken so as not to endanger the vessel. (See §182.20–45(b) for ventilation requirements.)

(b) The engine cooling water system shall be in accordance with the following provisions:

(1) The engine head, block and exhaust manifold shall be water jacketed and cooled by water from a pump which operates whenever the engine is operating.

(2) A closed fresh water system may be used to cool the engine. Air cooled radiators shall not be used for propulsion engine cooling systems.

(3) A suitable hull strainer shall be installed in the circulating water intake line.

§ 182.20–15 Diesel engine exhaust cooling.

(a) Installation shall be in accordance with § 182.15–15.

[CGFR 68–82, 33 FR 18910, Dec. 18, 1968]

§ 182.20–20 Diesel engine exhaust pipe, installation.

(a) Installation of diesel engine exhaust pipe shall be in accordance with § 182.15–20.

[CGFR 68–82, 33 FR 18910, Dec. 18, 1968]

§ 182.20–22 Integral diesel fuel tanks.

(a) A diesel fuel tank may not be built integral with the hull of a vessel unless the hull is made of—

(1) Steel;

(2) Aluminum; or

(3) Fiberglass reinforced plastic that is—

(i) Not sandwich construction;

(ii) Sandwich construction with core material of closed-cell, polyvinyl chloride foam; or

(iii) Sandwich construction only where the hull is not integral with the tank.

(a–1) Each vessel contracted for before January 16, 1978 that has a fiberglass reinforced plastic hull made of sandwich construction in whole or in part may postpone compliance with paragraph (a) of this section until its next inspection for certification or reinspection, whichever occurs first.

(b) Integral fuel tanks shall be constructed to the satisfaction of the Officer in Charge, Marine Inspection. The standards of a recognized classification society may be considered in determining the structural adequacy of an integral fuel tank.

(c) Integral fuel tanks, when new shall be subjected to and shall withstand a hydrostatic test pressure of 5 pounds per square inch, or to the maximum head to which they may be subjected in service whichever is greater.

[CGFR 60–54, 25 FR 9332, Sept. 29, 1960, as amended by CGD 75–184, 42 FR 63175, Dec. 15, 1977]

§ 182.20–25 Independent diesel fuel tanks.

(a) *Material and construction.* (1) The materials used and the minimum thickness allowed in the construction of independent fuel tanks shall be as indicated in Table 182.20–25(a)(1), except that consideration will be given to other materials which provide equivalent safety as indicated in paragraph (a)(9) of this section. Fuel tanks having a capacity of more than 150 gallons shall be designed to withstand the maximum head to which they may be subjected in service but in no case should the thickness be less than that specified in Table 182.20–25(a)(1).

TABLE 182.20–25(a)(1)

Material	ASTM specification (latest edition)	Thickness in inches and gage number[1] vs. tank capacities for—		
		1 to 80 gallon tanks	More than 80 and not more than 150 gallon tanks	Over 150 gallon tanks
Nickel-copper	B127, hot rolled sheet or plate	0.037 (USSG 20)[2]	0.050 (USSG 18)	0.107 (USSG 12)
Steel or iron		0.0747 (MSG 14)	0.1046 (MSG 12)	0.1793 (MSG 7)
Aluminum[3]	B209, Alloy 5086[4]	0.250 (USSG 3)	0.250 (USSG 3)	0.250 (USSG 3)

[1] The gage numbers used in this table may be found in many standard engineering reference books. The letters "USSG" stand for "U.S. Standard Gage," which was established by the act of March 3, 1892 (15 U.S.C. 206), for sheet and plate iron and steel. The letters "MSG" stand for "Manufacturers' Standard Gage" for sheet steel thicknesses.

[2] Nickel-copper not less than 0.031 inch (USSG 22) may be used for tanks up to 30-gallon capacity.

[3] Anodic to most common metals. Avoid dissimilar metal contact with tank body.

[4] And other alloys acceptable to the Commandant.

(2) Tanks with flanged-up top edges, that may trap and hold moisture, shall not be used.

(3) Openings for fill and vent pipes and openings for fuel level gages, where used, shall be on the topmost surface of tanks. Tanks shall have no openings in bottoms, sides or ends except as follows:

(i) The opening for the fuel supply piping is not restricted to the top of the tank.

(ii) An opening fitted with threaded plug or cap may be used on the bottom of the tank for tank cleaning purposes.

(4) All tank joints shall be welded.

(5) Nozzles, flanges or other fittings for pipe connections shall be welded or brazed to the tank. The tank opening in way of pipe connections shall be properly reinforced where necessary. Where liquid level indicating gages are installed, they shall be of heat resistant materials, adequately protected from mechanical damage and provided at the tank connections with devices which will automatically close in the event of rupture of the gage or gage lines.

(6) All tanks exceeding 30 inches in any horizontal dimension shall be fitted with vertical baffle plates where necessary for strength or for control of excessive surge. In general, baffle plates installed at intervals not exceeding 30 inches will be considered as meeting this requirement.

(7) Baffle plates, where required, shall be of the same material and not less than the minimum thickness required in the tank walls and shall be connected to the tank walls by welding or brazing. Limber holes at the bottom and air holes at the top of all baffles shall be provided.

(8) Iron or steel tanks shall not be galvanized on the interior. Galvanizing, paint or other suitable coating shall be used to protect the outside of iron and steel tanks.

(9) Materials other than those specifically listed in Table 182.20–25(a)(1) may be used only if the tank as constructed meets the testing requirements of Yacht Safety Bureau STD E–3, paragraph E3–3. (See §175.27–20 of this subchapter.) Testing may be accomplished by any acceptable laboratory such as the Yacht Safety Bureau, or may be done by the fabricator if witnessed by a marine inspector.

(b) *Location and installation.* (1) Fuel tanks shall be located in, or as close as practicable, to engine compartments.

(2) Fuel tanks shall be so installed as to permit examination, testing, or removal for cleaning with minimum disturbance to the hull structure.

(3) Fuel tanks shall be adequately supported and braced to prevent movement. The supports and braces shall be insulated from contact with the tank surfaces with a non-abrasive and non-absorbent material.

(4) All fuel tanks shall be electrically bonded to the common ground.

(5) When cylindrical tanks are installed, longitudinal seams shall be located as near the top of the tanks as possible.

(c) *Tests.* (1) Prior to installation, tanks vented to the atmosphere shall be tested to and must withstand a pressure of 5 pounds per square inch or 1½ times the maximum head to which they may be subjected in service, whichever is greater. A standpipe of 11½ feet in height attached to the tank may be filled with water to accomplish the 5 pounds per square inch test. Permanent deformation of the tank will not be cause for rejection unless accompanied by leakage.

(2) After installation of the fuel tank on a vessel, the complete installation shall be tested in the presence of a marine inspector to a head not less than that to which the tank may be subjected in service. Fuel may be used as a testing medium.

(3) All tanks not vented to the atmosphere shall be constructed and tested in accordance with §182.10–5(d).

[CGFR 60–54, 25 FR 9332, Sept. 29, 1960, as amended by CGFR 64–19, 29 FR 7362, June 5, 1964; CGFR 66–33, 31 FR 15299, Dec. 6, 1966; CGFR 68–82, 33 FR 18910, Dec. 18, 1968; CGFR 72–59R, 37 FR 6192, Mar. 25, 1972]

§182.20–30 Filling and sounding pipes for diesel fuel tanks.

(a) Fill pipes shall be not less than 1½ inches nominal pipe size.

(b) Filling and sounding pipes shall be so arranged that overflow of liquid or vapor cannot escape to the inside of the vessel. Sounding pipes may be omitted where sounding can be accomplished through the fill pipe or where marine type fuel gages are installed. Where sounding pipes are used, their openings shall be at least as high as the opening of the fill pipe and they shall be kept closed at all times except during sounding.

(c) Fill and sounding pipes shall run as directly as possible, preferably in a straight line, from the deck connection to the top of the tank. Such pipes shall terminate on the weather deck clear of

any coamings and shall be fitted with shutoff valves, watertight deck plates or screw caps suitably marked for identification. Fill and sounding pipes may terminate at the top of the tank.

(d) Where a flexible fill pipe section is necessary, suitable flexible tubing or hose having high resistance to salt water, petroleum oils, heat and vibration, may be used. Such hose shall overlap metallic pipe ends at least 1½ times the pipe diameter and shall be secured at each end by two clamps of corrosion resistant metal. The flexible section shall be accessible and as near the upper end of the filling pipe as practicable. When the flexible section is a nonconductor of electricity, the metallic sections of the filling pipe separated thereby shall be joined by a conductor for protection against static spark when filling.

[CGFR 60-54, 25 FR 9332, Sept. 29, 1960, as amended by CGD 76-154, 42 FR 48880, Sept. 26, 1977]

§ 182.20-35 Vent pipes for diesel fuel tanks.

(a) Each fuel tank shall be fitted with a vent pipe which shall be connected to the tank at its highest point under normal operating conditions.

(b) The minimum net cross-sectional area of the vent pipe shall be as follows:

(1) Not less than the cross-sectional area of ⅝-inch O.D. tubing (0.035-inch wall thickness—20 gage), if the fill pipe terminates at the top of the tank.

(2) Not less than the cross-sectional area of ¾-inch O.D. tubing (0.035-inch wall thickness—20 gage), if the fill pipe extends into the tank.

(3) Not less than the cross-sectional area of the fill pipe if provision is made to fill the tank under pressure.

(c) The discharge ends of vent pipes shall terminate on the hull exterior as high above the waterline as practicable and remote from any hull openings, or, they shall terminate in U-bends as high above the weather deck as practicable and as far from any openings into living quarters or other below deck spaces as practicable. Vent pipes terminating on the hull exterior shall be so installed or equipped as to prevent the accidental contamination of the fuel by water under normal operating conditions.

(d) The discharge ends of vent pipes shall be fitted with removable flame screens or flame arresters. The flame screens shall consist of a single screen of corrosion resistant wire of at least 30 × 30 mesh. The flame screens or flame arresters shall be of such size and design as to prevent reduction in the net cross-sectional area of the vent pipe and permit cleaning or renewal of the flame screens or arrester elements.

§ 182.20-40 Diesel fuel supply piping.

(a) *Material and workmanship.* (1) Fuel supply piping shall be of copper, nickel copper, or copper nickel having a minimum wall thickness of 0.035 inch except that piping of other materials such as seamless steel pipe or tubing which provides equivalent safety may be used.

(2) Flexible hose may be used provided it is fitted with suitable connection fittings and has high resistance to saltwater, petroleum oils and vibration.

(i) Flexible hose runs shall be visible, easily accessible and shall not penetrate watertight bulkheads.

(ii) Flexible hose shall be fabricated with an inner tube and a cover of synthetic rubber or other suitable material reinforced with wire braid. The hose cover shall be adjudged self-extinguishing per ASTM D1692, and the hose assembly be capable of withstanding free burning gasoline for 2½ minutes (test details available from Coast Guard (G-MMS)). Details of other fire tests designed to demonstrate this capability shall be submitted to Coast Guard (G-MMS) for review.

(3) Tubing connections and fittings shall be drawn or forged metal of the flared type except that flareless fittings of the nonbite type may be used when the tubing is steel, nickel-copper, or copper nickel. When making flared tube connections the tubing shall be cut square and flared by suitable tools. Tube ends shall be annealed before flaring.

(4) Cocks are prohibited for use in fuel lines except those of the solid bottom type with tapered plugs and union bonnets.

(b) *Installation.* (1) The fuel supply line may be connected to the fuel tank at or near the bottom of the tank.

(2) Fuel lines shall be accessible, protected from mechanical injury, and effectively secured against excessive movement and vibration by the use of soft non-ferrous metal straps with no sharp edges. Where passing through bulkheads, fuel lines shall be protected by close fitting ferrules or stuffing boxes.

(3) Shutoff valves, installed so as to close against the fuel flow, shall be fitted in the fuel supply lines, one at the tank connection and one at the engine end of the fuel line to stop fuel flow when servicing accessories. The shutoff valve at the tank shall be operable from outside the tank compartment, preferably from an accessible position on the weather deck.

(4) A loop of tubing or a short length of flexible hose shall be installed in the fuel supply line at or near the engines. Such flexible hose shall be provided with suitable connection fittings and shall have a high resistance to salt water, petroleum oils, heat and vibration.

(5) A suitable marine type strainer shall be fitted in the fuel supply line in the engine compartment. No special fuel strainers other than those recommended or furnished by the engine manufacturer will be required. Drip pans fitted with flame screens may be required under fuel strainers other than those mounted on the engine.

(6) All accessories installed in the fuel line shall be independently supported.

(7) Valves for removing water or impurities from fuel in watertraps or strainers will be permitted. Such valves shall be provided with caps or plugs to prevent fuel leakage.

[CGFR 60–54, 25 FR 9332, Sept. 29, 1960, as amended by CGFR 68–82, 33 FR 18911, Dec. 18, 1968; CGD 72–206R, 38 FR 17230, June 29, 1973; CGD 82–063b, 48 FR 4783, Feb. 3, 1983; CGD 95–072, 60 FR 50468, Sept. 29, 1995]

§ 182.20–45 Ventilation of compartments containing diesel machinery.

(a) Spaces containing machinery shall be fitted with adequate dripproof ventilators, trunks, louvers, etc., to provide sufficient air for proper operation of main engines and auxiliary engines.

(b) Air-cooled propulsion and auxiliary engines installed below deck as permitted by §182.20–10 shall be fitted with air intake ducts or piping from the weather deck. The ducts or piping shall be so arranged and supported to be capable of safely sustaining stresses induced by weight and engine vibration and to minimize transfer of vibration to the supporting structure. Prior to installation of ventilation for such engines, plans or sketches showing machinery arrangement including air intakes, exhaust stack, method of attachment of ventilation ducts to the engine, location of spark arresting mufflers and capacity of ventilation blowers shall be submitted to the Commandant for approval.

(c) Spaces containing machinery shall be fitted with at least two ducts to furnish natural or mechanical supply and exhaust ventilation. One duct shall extend to a point near the bottom of the compartment, so installed that the ordinary collection of water in the bilge will not trap the duct. Where forced ventilation is installed, the duct extending near the bottom shall be the exhaust. The total inlet area and the total outlet area of ventilation ducts shall each be not less than one square inch for each foot of beam of the vessel. These minimum areas shall be increased as necessary when such ducts are considered as part of the air supply to the engines.

(d) All ducts shall be of rigid permanent construction of fire proof material and reasonably gastight from end to end. The ducts shall lead as direct as possible and be properly fastened and supported.

(e) All supply ducts for ventilation purposes shall be provided with cowls or scoops having a free area not less than twice the required duct area. When the cowls or scoops are screened, the mouth area shall be increased to compensate for the area of the screen wire. Dampers shall not be fitted in the supply ducts. Cowls or scoops shall be kept open at all times except when the stress of weather is such as to endanger the vessel if the openings are not temporarily closed. Supply and exhaust openings shall not be located where the

natural flow of air is unduly obstructed, or adjacent to possible sources of vapor ignition, nor shall they be so located that exhaust air may be taken into the supply vents.

[CGFR 60–54, 25 FR 9332, Sept. 29, 1960, as amended by CGFR 68–32, 33 FR 5727, Apr. 12, 1968]

§ 182.20–50 Ventilation or venting of compartments containing diesel fuel tanks.

(a) Except as otherwise provided in this paragraph enclosed compartments or spaces containing diesel fuel tanks and no machinery shall be provided with a gooseneck vent of not less than 2½ inches in diameter. Vent openings shall not be located adjacent to possible sources of vapor ignition.

(1) In small compartments or spaces a vent of not less than 1½ inches in diameter may be provided.

(2) Compartments which are adequately ventilated need not be provided with such gooseneck vents.

[CGFR 60–54, 25 FR 9332, Sept. 29, 1960, as amended by CGFR 68–32, 33 FR 5727, Apr. 12, 1968]

Subpart 182.25—Bilge and Ballast Systems

§ 182.25–1 General.

(a) All vessels shall be provided with a satisfactory arrangement for draining any watertight compartment other than small buoyancy compartments, under all practical conditions. Sluice valves are not permitted in watertight bulkheads.

§ 182.25–5 Bilge piping system.

(a) All vessels of 26 feet in length and over shall be provided with individual bilge lines and bilge suctions for each watertight compartment except as follows:

(1) The space forward of the collision bulkhead need not be fitted with a bilge suction line when the arrangement of the vessel is such that ordinary leakage may be removed from this compartment by the use of a hand portable bilge pump or other equipment and such equipment is provided.

(b) The bilge pipe in "S" vessels shall be not less than one inch nominal pipe size, and in "L" vessels not less than one and one-half inches. The bilge suctions shall be fitted with suitable strainers having an open area not less than three times the area of the bilge pipe.

(c) The individual bilge suction lines shall be led to a central control point or manifold. Each line shall be provided with a stop valve at the control point or manifold and in addition shall be provided with a check valve at some accessible point in the bilge line. A stop-check valve located at the control point or manifold will meet the requirements for both a stop valve and a check valve.

(d) The bilge pipe piercing the collision bulkhead shall be fitted with a screw-down valve located on the forward side of the collision bulkhead and operable from above the weather deck. In lieu thereof, a screw-down valve without a reach rod may be fitted to the bilge line on the after side of the collision bulkhead if it is readily accessible under service conditions.

[CGFR 60–54, 25 FR 9332, Sept. 29, 1960, as amended by CGFR 63–40, 28 FR 9741, Sept. 6, 1963]

§ 182.25–10 Bilge pumps.

(a) *S and L.* All vessels shall be provided with bilge pumps in accordance with Table 182.25–10(a).

TABLE 182.25–10(a)

Number of passengers	Length of vessel	Bilge pumps required	Min. capacity required (gal. per minute)
"L" vessels (any number of passengers)	Over 65 feet	2 fixed power pumps	50 GPM
"S" vessels carrying more than 49 passengers and all "S" ferry vessels.	65 feet and less	1 fixed power pump and 1 portable hand pump	25 GPM 5 GPM

TABLE 182.25–10(a)—Continued

Number of passengers	Length of vessel	Bilge pumps required	Min. capacity required (gal. per minute)
"S" vessels other than ferry vessels, carrying not more than 49 passengers	26 ft. up to 65 ft.	1 fixed power pump and 1 portable hand pump or 1 fixed hand pump and 1 portable hand pump	10 GPM 5 GPM 10 GPM 5 GPM
	Less than 26 feet	1 portable hand pump	5 GPM

(b) *S.* The fixed power bilge pump shall be self-priming and may be driven off the main engine or other source of power. It shall be permanently connected to the bilge main and may also be connected to the fire main. If of sufficient capacity the power bilge pump may also serve as a fire pump.

(c) *L.* The two required fixed power bilge pumps shall be self-priming and shall each be driven by different sources of power. If one pump is driven off the main engine in a single propulsion engine installation, the other shall be independently driven. In a twin engine installation, each pump may be driven off a main propulsion engine. The pumps shall be permanently connected to the bilge main and may also be connected to the fire main.

(d) *S and L.* The fixed hand bilge pump shall be permanently connected to the bilge main and may also be connected to the fire main.

(e) *S and L.* The portable hand bilge pump shall be provided with suitable hoses for pumping bilges on the suction and discharge ends. This pump may also serve as a portable fire pump if it is of sufficient capacity.

[CGFR 63-40, 28 FR 9741, Sept. 6, 1963]

§ 182.25–15 Ballast systems.

(a) For all vessels contracted for on or after January 1, 1962, ballast piping shall not be installed to any hull compartment of a wooden vessel. Where the carriage of liquid ballast in such vessels is necessary, suitable ballast tanks, structurally independent of the hull, shall be provided.

(b) For all vessels contracted for prior to January 1, 1962, ballast systems shall meet the requirements of this section insofar as deemed reasonable and practicable by the Officer in Charge, Marine Inspection.

[CGFR 61-13, 26 FR 3927, May 5, 1961]

Subpart 182.30—Steering Apparatus

§ 182.30–1 Main steering apparatus.

(a) All vessels except non-self-propelled vessels shall be provided with suitable steering apparatus.

§ 182.30–5 Auxiliary steering apparatus.

(a) Except as further modified in this section, all single screw vessels in ocean and coastwise service shall be provided with an auxiliary steering arrangement located above the weather deck. A suitable hand tiller will be acceptable for this purpose.

(b) Auxiliary steering will not be required where no regular rudder is fitted and steering action is obtained by a change of setting of the propelling unit, or where a rudder and tiller is the normal means of steering.

Subpart 182.35—Separation of Machinery and Fuel Tank Spaces From Accommodation Spaces

§ 182.35–1 Bulkheads.

(a) Except as otherwise provided in this section, machinery and fuel tank spaces shall be separated from accommodation spaces by watertight and/or vapor tight bulkheads of double diagonal wood, marine plywood, steel plate, or equivalent construction.

(b) Where segregation can be obtained by means of a watertight and/or vapor tight engine box, this will be accepted as a substitute for the required bulkheads.

Subpart 182.40—Nonmetallic Piping Materials

SOURCE: CGFR 70-143, 35 FR 19969, Dec. 30, 1970, unless otherwise noted.

§ 182.40-1 General.

(a) Where rigid nonmetallic material is permitted for use in piping systems by this subpart, the following restrictions shall be adhered to:

(1) Penetrations of required watertight decks and bulkheads by any rigid plastic pipe systems are prohibited, except when:

(i) Each such penetration is accomplished using an acceptable metallic fitting, welded or otherwise attached to the bulkhead or deck by an accepted method; and

(ii) An acceptable metallic shutoff valve is installed adjacent to the through deck or through bulkhead fitting. This valve shall be operable from above the bulkhead deck. If two valves are installed, one on either side of the bulkhead, the valves need not be operable from above the bulkhead deck provided immediate access to both is possible. Where both plastic and metallic pipes are used in a bulkhead penetrating system and where the two materials exist entirely on opposite sides of the bulkhead, the required shutoff valve shall be installed at the bulkhead in the metallic part of the system, and may be locally operated provided immediate access is possible.

(2) Protection from mechanical damage shall be specially considered. Protective covering or shields shall be installed to the satisfaction of the Officer in Charge, Marine Inspection.

(3) Through hull fittings and shutoff valves shall be metal. In the case of nonmetallic hulls, materials which will afford an equal degree of safety and heat resistivity as that afforded by the hull may be approved.

(4) The material specification shall show that the rigid nonmetallic material possesses characteristics adequate for its intended service and environment and shall be approved for use by the Officer in Charge, Marine Inspection.

§ 182.40-5 Vital systems.

(a) Nonmetallic piping shall not be used in gasoline and diesel fuel systems except where permitted by §§ 182.15-40 and 182.20-40.

(b) Mechanically propelled "S" vessels which are ferry vessels or which carry more than 49 passengers and mechanically propelled "L" vessels shall comply with the provisions of Subchapter F of this chapter. Rigid nonmetallic materials are acceptable for use in bilge, ballast and machinery connected piping systems on all other vessels.

§ 182.40-10 Non-vital systems.

(a) Rigid nonmetallic materials are acceptable for use in non-vital piping systems.

PART 183—ELECTRICAL INSTALLATION

Subpart 183.01—Application and Intent

Sec.

Subpart 183.05—Electrical Installations Operating at Potentials of Less Than 50 Volts

Subpart 183.10—Electrical Installations Operating at Potentials of 50 Volts or More

AUTHORITY: 46 U.S.C. 3306; 49 CFR 1.46.

SOURCE: CGFR 60-54, 25 FR 9338, Sept. 29, 1960, unless otherwise noted.

Subpart 183.01—Application and Intent

§ 183.01-1 Application.

(a) The provisions of this part shall apply to the electrical installations on all vessels contracted for on or after June 1, 1958. Electrical installations on vessels contracted for prior to that date shall meet the requirements of this part insofar as is deemed reasonable and practicable by the Officer in Charge, Marine Inspection.

§ 183.01-5 Intent.

(a) This part is intended to provide a minimum standard of regulations for electrical installations and equipment that will result in a vessel that is reasonably safe from fire caused by and/or originating in electrical equipment, and reasonably safe from electrical shock of personnel.

§ 183.01-10 Special consideration for vital systems.

(a) Electrical equipment and circuits which are a necessary part of any system vital to the safe navigation of the vessel, such as propulsion and steering systems, will be given special consideration and shall be subject to certain additional requirements as determined by the Officer in Charge, Marine Inspection. These additional requirements are contained in applicable regulations in Subchapter J (Electrical Engineering) of this chapter.

§ 183.01-15 General standards and requirements.

(a) All electrical installations shall be to the satisfaction of the Officer in Charge, Marine Inspection.

(b) The regulations contained in this part are substantially in accord with, and in general are based upon established codes and recognized marine standards and practices. Certain of these codes and publications are referred to specifically in some regulations in this part. A list of the publications follows:

(1) Electrical Engineering Regulations, CG-259, published by United States Coast Guard.

(2) Recommended Practice for Electric Installations On Shipboard, AIEE No. 45, published by American Institute of Electrical Engineers, 33 West Thirty-ninth Street, New York 18, N.Y.

(3) National Electrical Code, published by National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02269.

(4) Standard for Marine Type Electric Lighting Fixtures, Subject 595, published by Underwriters' Laboratories, Inc., 12 Laboratory Drive, Research Triangle Park, NC 27709.

(5) Standard for Commercial Electric Cooking Appliances, published by Underwriters' Laboratories, Inc., 12 Laboratory Drive, Research Triangle Park, NC 27709.

[CGFR 60-54, 25 FR 9338, Sept. 29, 1960, as amended by CGD 95-072, 60 FR 50468, Sept. 29, 1995]

Subpart 183.05—Electrical Installations Operating at Potentials of Less Than 50 Volts

§ 183.05-1 Application.

(a) The regulations in this subpart apply to electrical installations operating at potentials of less than 50 volts. Regulations covering electrical installations of 50 volts or more are contained in subpart 183.10 of this part.

§ 183.05–5 Name plates (less than 50 volts).

(a) Each generator, motor and other major items of power equipment shall be provided with a name plate indicating the maker's name, its rating in volts and amperes or in volts and watts and when intended for connection to a normally grounded supply, the grounding polarity.

§ 183.05–10 Generators and motors (less than 50 volts).

(a) *L.* If both of the required fixed power bilge pumps (Table 182.25–10(a)) are electrically driven, two generators shall be provided. One of these generators shall be driven by a means independent of the main propulsion plant.

(b) *S and L.* Generators and motors shall be placed in dry, accessible and adequately ventilated locations.

(c) *S and L.* Independent generators and motors should be mounted on foundations as high as practicable above the bilges to avoid damage by splash or contact with low lying vapors. They shall not be located in low or pocketed positions.

(d) *S and L.* All generators shall be suitably protected from overcurrent by circuit breakers, fuses or by an overcurrent relay.

(e) *S and L.* Overcurrent protection of a third brush type generator shall open the field circuit.

(f) *S and L.* An emergency switch shall be provided in the normally undergrounded main supply conductor from the battery and located as closely as practicable to the supply battery.

[CGFR 63–40, 28 FR 9741, Sept. 6, 1963]

§ 183.05–15 Switchboards (less than 50 volts).

(a) Switchboards shall be placed in dry, accessible and adequately ventilated locations preferably outside the engine compartment. The switchboard shall be adequately protected and provision shall be made for access thereto. All uninsulated current carrying parts shall be mounted on nonabsorbent, noncombustible, high dielectric insulating material.

(b) Totally enclosed switchboards of the dead front type shall be used whenever they are accessible to passengers.

(c) Each ungrounded conductor of circuit supplying lights, motors or appliances shall be equipped with a circuit breaker or switch and fuses at the point of attachment to the power source. This applies also to added circuits.

(d) Switches other than those mounted on the switchboard shall be of the enclosed type.

(e) If the storage battery is not in the same compartment and adjacent to the panel or box which distributes power to the various lighting, motor and appliance branch circuits the storage battery lead shall be fused close to the battery.

§ 183.05–20 Batteries (less than 50 volts).

(a) Batteries shall be so located that the gas generated in charging will be easily dissipated by natural or induced ventilation. Batteries should not be located in the same compartment with a gasoline tank or gasoline engine, but where location elsewhere is impracticable, they shall be effectively screened by a cage or similar structure to minimize the danger of accidental spark through dropping a metal object across terminals.

(b) Batteries shall be located as high above the bilge as practicable and secured against shifting with motion of the boat. They shall be accessible with not less than 10 inches head room.

(c) Battery terminals shall be of the soldered type and all connections shall be made to the battery terminals with permanent type connectors. Spring clips or other temporary type clamps are not permitted.

(d) Acid batteries shall be located in a tray of lead or other suitable material resistant to deteriorating action by the electrolyte.

(e) Alkaline batteries employing metal containers shall be mounted on suitable insulating support and shall be prevented from coming in contact with other metal which may result in a short circuit.

(f) A battery charger intended for connection to a commercial supply voltage shall employ a transformer of the isolating type. An ammeter that is readily visible shall be included in the battery charger circuit.

(g) A voltage dropping resistor provided for charging a battery shall be mounted in a suitable ventilated noncombustible enclosure, so installed as to prevent hazardous temperatures at adjacent combustible materials.

§ 183.05–25 Radio-phone equipment (less than 50 volts).

(a) A separate circuit, fused at the main distribution panel shall be provided for each radio-phone installation.

(b) The supply cable to the radio-phone installation shall be large enough to carry the current under any condition of normal operation.

§ 183.05–30 Circuit breakers (less than 50 volts).

(a) Circuit breakers, of the proper voltage rating, shall be of the manually reset type designed for inverse time delay, instantaneous short circuit protection and capable of repeatedly opening the circuit in which it is to be used without damage to the circuit breaker.

§ 183.05–35 Accessories (less than 50 volts).

(a) Accessories, such as switches, fuses, and sockets, shall be standard National Electrical Code types for the loads to be carried and shall be of types listed by, or types equal to those listed by Underwriters' Laboratories, Inc., or other recognized testing laboratory.

(b) All lights, receptacles and switches exposed to the weather shall be watertight and on vessels operating in salt water, shall be constructed of corrosion-resistant material.

§ 183.05–40 Ignition wiring (installations less than 50 volts).

(a) Ignition wiring as supplied or recommended by engine manufacturers is generally acceptable.

§ 183.05–45 Lighting and power wiring size, insulation, etc. (less than 50 volts).

(a) Wiring sizes for lighting and power shall be in accordance with Table 183.05–45(a).

TABLE 183.05–45(a)—ALLOWABLE CURRENT—CARRYING CAPACITIES OF CONDUCTORS BASED ON ROOM TEMPERATURE OF 30° C., 86° F.

[See National Electrical Code for other sizes]

Size gage No. A.W.G.	Area in circular mils	Capacity of wire	
		Rubber insulated types R, RW, RU (sizes 12–6)—Thermoplastic insulated types T, TW (all sizes)	Rubber insulated type RH
		Amperes	*Amperes*
14	4,107	15	15
12	6,530	20	20
10	10,380	30	30
8	16,510	40	45
6	26,250	55	65
4	41,740	70	85
3	52,630	80	100
2	66,370	95	115
1	83,690	110	130

NOTES: (1) The current-carrying capacities listed in this table are for 1-, 2-, and 3-conductor cables; 80 percent of these capacities must be used for 4-, 5-, and 6-conductor cables, and 70 percent for 7-, 8-, and 9-conductor cables.

(2) The allowable current-carrying capacities in this table are based on temperature alone and do not take voltage drop into consideration.

(b) As a precaution against rupture by vibration, all conductors shall be of the stranded type, except where type MI cable is employed, and no conductor smaller than No. 14 A.W.G. shall be used except for short fixture leads or intercommunication wiring as set forth in paragraph (k) of this section.

(c) Table 183.05–45(c) indicates the size of conductor required for corresponding lengths and steady state (stable) values to obtain a voltage drop of not more than 10 percent at the load terminals of a two conductor circuit.

TABLE 183.05–45(c)—CONDUCTOR SIZES FOR AMPERES—LENGTHS

Total current on circuit, amperes	Length of conductor in feet from source of current to most distant fixture										
	10	15	20	25	30	35	40	45	50	55	60
	6 volts, 2-wire—10 percent drop wire sizes (A.W.G.)										
5	14	14	14	12	12	12	10	10	10	10	8
10	14	12	10	10	8	8	8	8	6	6	6
15	12	10	8	8	8	6	6	6	4	4	4
20	10	8	8	6	6	6	4	4	4	4	3
25	10	8	6	6	4	4	4	4	3	3	2
	12 volts, 2-wire—10 percent drop wire sizes (A.W.G.)										
5	14	14	14	14	14	14	14	14	12	12	12
10	14	14	14	12	12	12	10	10	10	10	8
15	14	14	12	10	10	10	8	8	8	8	8

TABLE 183.05–45(c)—CONDUCTOR SIZES FOR AMPERES—LENGTHS—Continued

Total current on circuit, amperes	Length of conductor in feet from source of current to most distant fixture									
	10	15	20	25	30	35	40	45	50	55	60
20	12	12	10	10	8	8	8	8	6	6	6
25	10	10	10	8	8	8	8	6	6	6	4

Other values can be computed by means of the following formula:

$$cm = \frac{K \times I \times L (\times 2 \text{ for two-wire circuit})}{E} \quad (1)$$

Where:

cm= Circular-mil area of conductor.
K= 10.75 (a constant representing the mil-foot resistance of copper).
I= Load current, in amperes.
L= Length of conductor from center of distribution, in feet.
E= Voltage drop at load, in volts.

(d) After computing the circular-mil area required, reference may be made to Table 183.05–45(a) for selection of the required conductor gage size. When the computed circular-mil area is found to be less than any value given in the table, the next larger size conductor shall be used.

(e) Light and power conductors for interior wiring shall be insulated in accordance with Table 183.05–45(e).

TABLE 183.05-45(e)—CONDUCTOR INSULATIONS

Type letter[1]	Trade name	Insulation	Thickness of insulation		Outer covering	Maximum operating temp.	Special provisions
R	Code	Code—rubber	14–12 10 8–2 1	2/64 in 3/64 in. 4/64 in. 5/64 in.	Moisture-resistant, flame-retardant, fibrous covering .	60° C. 140° F.	General use.
RW	Moisture-resistant ..	Moisture-resistant rubber	14 8–2 1	3/64 in. 4/64 in. 5/64 in.	Moisture-resistant, flame-retardant, fibrous covering .	60° C. 140° F.	General use and wet locations.
RU	Latex	90% unmilled grainless rubber.	14–10 8–6	18 mils 25 mils	Moisture-resistant, flame-retardant, fibrous covering .	60° C. 140° F.	General use.
	Heat-resistant	Heat-resistant rubber	14–12 10 8–2 1	2/64 in. 3/64 in. 4/64 in. 5/64 in.	Moisture-resistant, flame-retardant, fibrous covering .	75° C. 167° F.	General use.
	Thermoplastic	Flame-retardant thermoplastic compound.	14–10 8 6–2 1	2/64 in. 3/64 in. 4/64 in. 5/64 in.	None	60° C. 140° F.	General use.
	Moisture-resistant, thermoplastic.	Flame-retardant, moisture-resistant thermoplastic.	14–10 8 6–2 1	2/64 in. 3/64 in. 4/64 in. 5/64 in.	None	60° C. 140° F.	General use and wet locations.

[1] See National Electrical Code issued by National Fire Protection Association, 60 Batterymarch Street, Boston, Mass. 02110.

(f) Where desired, non-metallic sheathed multiple conductor cable may be employed instead of individual conductors.

(g) Lead sheathed unarmored conductors and conductors armored with spiral wound flat metal stripping shall not be used.

(h) Conductors armored with metallic basket weave, with or without inside lead sheathing, depending upon location, in accordance with the A.I.E.E. standard No. 45, Recommended Practice for Electrical Installations on Shipboard, may be used.

(i) Where desired, metallic sheathed cable type MI, as defined in the National Electrical Code, may be used. (This standard may be obtained from National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02269.)

(j) Conductors, from receptacles to fixtures, shall be flexible cord in accordance with Tables 183.05–45(j)(1) and 183.05–45(j)(2).

TABLE 183.05–45(j)(1)—FLEXIBLE CORDS

Type letter[1]	Trade name	Size A.W.G.	No. of conductors	Conductor insulation	Outer covering	Use
S	Hard service cord.	18 to 10 inclusive.	2 or more	Rubber thermoplastic.	Rubber	Pendant or portable Damp places. Extra hard usage.
SO					Oil resistant compound.	
ST					Thermoplastic.	

[1] See National Electrical Code issued by National Fire Protection Association, 60 Batterymarch Street, Boston 10, Mass.

TABLE 183.05–45(j)(2)—ALLOWABLE CURRENT-CARRYING CAPACITY OF FLEXIBLE CORD

Size A.W.G.	Amperes
18	7
16	10
14	15
12	20
10	25

(k) For intercommunication wiring, rubber or thermoplastic covered single braid IC cable, type RF–32 (rubber covered fixture wire—1/32-in. installation) stranded and not smaller than No. 16 A.W.G. or equivalent shall be used. Commercial bell wire shall not be used.

[CGFR 60–54, 25 FR 9338, Sept. 29, 1960, as amended by CGD 95–072, 60 FR 50468, Sept. 29, 1995]

§ 183.05–50 Lighting and power wiring installation (less than 50 volts).

(a) *Wiring.* (1) All wiring shall be run as high as practicable above bilges.

(2) Wiring, where subject to mechanical damage shall be protected in accordance with the National Electrical Code: article 352 for metal raceways, article 346 for conduit, and article 348 for metallic tubing.

(b) *Wiring joints and splices.* (1) Wiring joints and splices shall be mechanically secure and made in junction boxes.

(2) Unless a splice is made by an insulated pressure wire connector listed by Underwriters' Laboratories, Inc., it shall be thoroughly soldered, taped first with rubber and then with friction tape, or the soldered joint shall be otherwise protected as to provide an insulation the same as that of the conductors joined.

(3) Where ends of stranded conductors are to be clamped under terminal screws, they shall be formed and soldered unless fitted with pressure terminal connectors listed by Underwriters' Laboratories, Inc.

(c) *Conductors.* (1) Conductors shall be protected from overcurrent in accordance with their current-carrying capacities as given in Table 183.05–45(a).

NOTE: Overcurrent protection for conductors is provided for the purpose of opening the electric circuit if the current reaches a value which will cause an excessive or dangerous temperature in the conductor or conductor insulation.

(2) The conductors supplying motors and motor operated appliances shall be protected by a separate overcurrent device which is responsive to motor current. This device shall be rated or set

157-180 O—95——9

at not more than 125 percent of the motor full-load current rating.

(d) *Grounding.* (1) On metal vessels the enclosures and frames of all major electrical equipment shall be permanently grounded to the metal hull of the vessel by the mounting bolts or other means. The term "grounded" in this case means that a normally non-current carrying conductor is used to connect the non-current carrying metal enclosures or frames of the electrical equipment to any metal area which is electrically continuous with the wetted surface of the metal hull (for example, a metal enclosure would be considered as grounded if it was attached to a metal bulkhead by metal bolts, and if the bulkhead was welded or bolted to a metal hull).

(2) On wooden vessels, bonding together of the enclosures and frames of major electrical equipment to a common ground shall be effected. This means that a normally non-current carrying conductor is used to connect the non-current carrying metal enclosures or frames of major electrical equipment to a common, electrically-continuous, metal network that takes the place of a metal hull.

(3) For grounded systems the negative polarity of the supply source should be grounded to the metal hull or, for wooden vessels, connected to the common ground, but shall not normally carry current.

(4) On a wooden vessel where a ground plate is provided for radio equipment it shall be connected to the common ground.

(5) For grounded systems, the use of hull return is not recommended except for engine starting purposes.

Subpart 183.10—Electrical Installations Operating at Potentials of 50 Volts or More

§ 183.10-1 Application.

(a) The regulations in this subpart apply to electrical installations operating at potentials of 50 volts or more. Regulations covering electrical installations of less than 50 volts are contained in subpart 183.05 of this part.

§ 183.10-5 Generators and motors (50 volts or more).

(a) *S and L.* Each major generator and motor shall be fitted with a nameplate of corrosion-resistant material marked with the following information as applicable:

(1) Name of manufacturer.

(2) Manufacturer's type and frame designation.

(3) Output in KW of watts or horsepower rating.

(4) Kind of rating (continuous, intermittent, etc.).

(5) Revolutions per minute at rated load.

(6) Amperes at rated load.

(7) Voltage.

(8) Frequency if applicable.

(9) Number of phases, if applicable.

(10) Type of winding (for direct-current motors).

(b) *L.* If both of the required fixed power bilge pumps (Table 182.25-10(a)) are electrically driven, two generators shall be provided. One of these generators shall be driven by a means independent of the main propulsion plant.

(c) *S and L.* Generators and motors shall be mounted as high as practicable above the bilges to avoid damage by splash or contact with low lying vapors. They shall not be located in low or pocketed positions.

(d) *S and L.* Generators and motors for use below decks shall be located in as dry a place as practicable.

(e) *S and L.* Motors for use in locations exposed to the weather shall be of the watertight type or shall be enclosed in watertight housings. The motor enclosure or housing shall be provided with a check valve for drainage or a tapped hole at the lowest part of the frame which will serve for application of a drain pipe or drain plug.

(f) *S and L.* Generators and motors for use in machinery spaces shall generally be designed for an ambient temperature of 50° C. (122° F.). Generators and motors for use in locations where the ambient temperature will not exceed 40° C. (104° F.) may be designed for an ambient temperature of 40° C.

(1) If it can be substantiated that the ambient temperature in machinery spaces will not exceed 40° C. under normal operating conditions, the motors

and generators may be designed for an ambient temperature of 40° C.

(2) Generators and motors designed for 40° C. may be used in 50° C. ambient locations provided the machines are derated to 80 percent of full load rating, and the rating or setting of the overcurrent devices is reduced accordingly. An additional nameplate specifying the derated capacity shall be provided for each such motor and generator.

(g) *S and L.* A voltmeter and an ammeter shall be provided that can be used for measuring voltage and current of each generator that is in operation. For alternating-current generators a means for measuring frequency shall also be provided. Additional control equipment and measuring instruments shall be provided as necessary to insure satisfactory operation of the generator or generators.

[CGFR 63-40, 28 FR 9741, Sept. 6, 1963]

§ 183.10-10 Equipment protection and enclosure (50 volts or more).

(a) Except as provided otherwise in this subpart, all electrical equipment including motors, generators, controllers, distribution panels, etc., shall be dripproof protected. Dripproof protected means that equipment and machinery is so constructed or protected that its successful operation is not interfered with when subjected to falling moisture or dirt, and rotating or uninsulated parts cannot be inadvertently touched or approached nearer than a safe distance by any person.

(b) Equipment mounted on a hinged door of an enclosure shall be constructed or shielded in such a manner that no live parts of the door mounted equipment will be exposed to accidental contact by a person with the door open and the circuit energized.

(c) Any cabinet, panel, or box containing more than one source of potential in excess of 24 volts shall be fitted with a permanent sign warning personnel of this condition and identifying the circuits to be disconnected to remove all potentials in excess of 24 volts.

(d) Distribution panel boards shall be the safety type.

§ 183.10-15 Main distribution panels (50 volts or more).

(a) The main distribution panel is that device to which the generator leads are connected, and from which the electric leads throughout the vessel directly or indirectly receive their electric power.

(1) If the main distribution panel is floor mounted and is not dripproof protected, it is considered to be a switchboard.

(b) Switchboards shall be fitted with driphoods and non-conducting hand rails. Non-conducting mats or grating shall be provided on deck in front and rear of switchboards.

(c) Adequate working space shall be provided around all main distribution panels and switchboards. Not less than 24" shall be provided in front of main distribution panels and switchboards and not less than 18" shall be provided in the rear of switchboards that are accessible from the rear.

(d) Metal cases of instruments and secondary windings of instrument transformers shall be grounded.

(e) Main distribution panels shall be placed in dry, accessible, and adequately ventilated locations preferably outside the engine compartment. All uninsulated current carrying parts shall be mounted on nonabsorbent, noncombustible, high dielectric insulating material.

(f) Main distribution panels shall be of the dead front type where voltage to ground is in excess of 150 volts A.C. or 250 volts D.C.

§ 183.10-20 Wiring methods and materials (50 volts or more).

(a) All wiring and cables shall be suitable for marine service and for the particular installation used. In addition—

(1) Cable must be constructed in accordance with U.S. Navy Standards, Institute of Electrical and Electronic Engineers Recommended Practice 45, or be a suitable commercial grade cable, with stranded conductors, that is Underwriters Laboratories listed and rated for at least 75° C. service;

(2) Flexible or portable cords such as SO, STO, and similar types cannot be used for permanently installed wiring; and

(3) All commercial grade cables must be specifically approved for each installation.

(b)(1) Electric cable for installation in damp or wet location must be—

(i) Impervious sheathed;

(ii) Impervious sheathed and armored;

(iii) Reinforced sheathed and armored;

(iv) Lead and armored; or

(v) Mineral insulated metal sheathed.

(2) The armor of cable subject to salt water or salt water spray may be—

(i) Bronze; or

(ii) Aluminum.

(3) The sheath of mineral insulated metal sheathed cable must be seamless annealed copper.

(c)(1) Electric lighting and power cable shall not be allowed to carry a continuous current in excess of the maximum current capacities listed in Tables 183.10-20(c)(1) and (2).

TABLE 183.10-20(c)(1)—IEEE-45 MARINE CABLE—MAXIMUM CURRENT-CARRYING CAPACITIES FOR CONTINUOUS SERVICE[1]

Conductor size		Current in amperes								
Area (Circular mils)	A.W.G.	1-conductor			2-conductor			3-conductor		
		R or T	B or V	AV or S	R or T	B or V	AV or S	R or T	B or V	AV or S
212,000	4/0	284	350	383	228	287	314	199	243	265
168,000	3/0	245	308	337	197	252	275	175	211	231
133,000	2/0	212	268	293	171	219	238	153	184	201
106,000	1/0	183	233	254	151	192	210	132	160	175
83,700	1	157	200	219	131	167	183	116	138	150
66,400	2	138	172	188	113	145	158	101	120	131
52,600	3	117	149	163	100	125	138	88	104	113
41,700	4	100	129	141	87	110	120	76	90	99
33,100	5	84	112	122	76	96	105	67	79	87
26,300	6	74	97	107	66	84	91	58	69	74
20,800	7	84	84	91	58	72	79	52	59	64
16,500	8	54	75	81	50	62	68	46	52	57
10,400	10	40	55	60	38	47	52	34	40	43
6,530	12	28	36	39	26	30	33	25	26	29
4,110	14	18	.....	22	17	.....	21	15	.....	19

[1] The values given in this table are based upon an ambient temperature of 40°C and maximum conductor temperature of:
75°C for types R (thermosetting heat resistant rubber) and T (thermoplastic polyvinyl chloride) cables;
85°C for types B (thermosetting high temperature rubber) and V (varnished cloth) cables;
95°C for types S (silicone rubber) and AV (asbestos-varnished cloth) cable.

TABLE 183.10(c)(2)[1] —COMMERCIAL CABLE—MAXIMUM CURRENT-CARRYING CAPACITIES FOR CONTINUOUS SERVICE—3 OR LESS CONDUCTORS

[Current in amperes]

Conductor size		Temperature rating of conductors	
Area (Circular mils)	A.W.G.	75° C	85° C and 90° C
212,000	4/0	202	211
168,000	3/0	176	189
133,000	2/0	154	166
106,000	1/0	132	139
83,700	1	114	126
66,400	2	101	108
52,600	3	88	94
41,700	4	75	81
26,300	6	57	63
16,500	8	40	45
10,400	10	26	38
6,530	12	18	27
4,110	14	13	22

[1] Extracted from the National Electric Code.

(2) A commercial cable's temperature rating other than those listed in Table 183.10-20(c)(2) must be current rated in accordance with the National Electric Code for 40° C. ambient temperatures.

(3) A Navy cable must be rated in accordance with current published Navy standards.

(d) All wiring shall be run as high as practicable above bilges.

(e) All cables installed where particularly liable to damage such as locations in way of doors, hatches, etc., shall be specially protected by removable metal coverings, angle irons, pipe, or other equivalent means. All such metallic coverings are to be electrically continuous and effectively grounded to the metal hull or common ground, and all such coverings such as pipe which may trap moisture shall be provided with holes for drainage. Where cable protection is carried through watertight decks or bulk-

heads, the installation shall be such that will insure the watertight integrity of the structure.

(f) Cables entering boxes or fittings shall be protected from abrasion, and shall conform with the following requirements:

(1) Openings through which conductors enter shall be adequately closed.

(2) The cable armor shall be secured to the box or fitting.

(3) In damp or wet locations, the cable entrance shall be watertight.

(g) The enclosures of all equipment shall be permanently grounded to the metal hull of the vessel by the mounting bolts or other means. The term "grounded" in this case means that a normally non-current carrying conductor is used to connect the non-current carrying metal enclosures of electrical equipment to any metal area which is electrically continuous with the wetted surface of the metal hull (for example, a metal enclosure would be considered as grounded if it was attached to a metal bulkhead by metal bolts, and if the bulkhead was welded or bolted to a metal hull). On a wooden vessel, bonding together of the enclosures to a common ground shall be effected. This means that a normally non-current carrying conductor is used to connect the non-current carrying metal enclosures of electrical equipment to a common, electrically-continuous, metal network that takes the place of a metal hull.

(1) On a wooden vessel where a ground plate is provided for radio equipment it shall be connected to this common ground.

(2) When a vessel is connected to shore power, a bonding cable may be used to connect the metal hull or on wooden vessels the common ground, to shore ground.

(h) Each lead covered cable and each armored cable is to have the metallic covering electrically and mechanically continuous and grounded to the metal hull, or on wooden vessels, bonded to the common ground provided by paragraph (g) of this section, at each end of the run, except that final sub-circuits may be grounded at the supply end only.

(i) All equipment, including switches, fuses, lampholders, etc., shall be of a type designed for the potential involved and so identified.

(j) Junction boxes, connection boxes, and outlet boxes, shall have an internal depth of at least 1½ inches, except that when a box is incorporated in a fixture the depth may be decreased to not less than 1 inch provided the volume of the box is not less than 20 cubic inches. The free space within such boxes for each conductor, not counting fixture wires, shall not be less than that given in Table 183.10-20(j). Table 183.10-20(j) applies where no fittings or devices, such as cable clamps, hickeys, switches or receptacles are contained in the box. Where one or more such devices are contained in the box, each such device shall count as one conductor. Each conductor terminated in the box is counted as one conductor.

TABLE 183.10-20(j)

A.W.G. size of conductor No.	Free space for each conductor in box, cubic inches
14	2.0
12	2.25
80	2.50
1	3.0

(k) Junction boxes, connection boxes, and outlet boxes, for use in damp or wet locations shall be of watertight construction.

(l) Lighting fixtures shall be constructed in accordance with the requirements of Underwriters' Laboratories, Inc. Standard for Marine Type Electric Lighting Fixtures, Subject 595, or shall bear the proper Underwriters' Laboratories, Inc. "Marine Type" label, or shall be constructed in accordance with the requirements of other recognized testing laboratories.

(m) A separate circuit, fused at the main distribution panel shall be provided for each radiophone installation.

(n) Knife switches shall be so placed or designed that gravity or vibration will not tend to close them. Knife switches, unless of the double throw type, shall be connected so that the blades are dead when the switch is in the open position. Circuits shall be connected to the fuse end of switches and to the coil end of circuit breakers, except that generator leads or incoming feeders may be connected to either end of circuit breakers.

(o) Receptacle outlets and attachment plugs for the attachment of portable lamps, tools, and similar apparatus supplies as ship's equipment and operating at 100 volts or more, shall provide a grounding pole and a grounding conductor in the portable cord, to ground the non-current carrying metal parts of the portable apparatus. Portable apparatus shall be deemed to be any apparatus served by means of a flexible extension cord, whether the apparatus is permanently mounted or not.

(1) Receptacle outlets of the type providing a grounded pole shall be of a distinctive design that will not permit the dead metal parts of portable apparatus to be connected to a live conductor.

[CGFR 60-54, 25 FR 9338, Sept. 29, 1960, as amended by CGFR 72-35, 37 FR 4962, Mar. 8, 1972]

§ 183.10-25 Disconnect switches and devices (50 volts or more).

(a) Externally operable switches or circuit breakers shall be provided for motor and controller circuits and shall open all conductors of the circuit.

(1) If the disconnect means is not within sight of the equipment which the circuit supplies and is at a location accessible to passengers, means shall be provided for locking the disconnect device in the "open" position.

(2) For circuits protected by fuses, the disconnect switch required for fuses in § 183.10-35(b) will be considered as adequate for disconnecting the circuit from the supply.

(3) The disconnect means may be in the same enclosure with motor controllers.

(b) Disconnect means shall be provided to open all conductors of generator and shore power cables.

§ 183.10-30 Distribution and circuit loads (50 volts or more).

(a) In general the electrical source located within the vessel and distribution system shall not be grounded. That is, a current carrying conductor, or a part of the system electrically continuous with any current-carrying conductor, shall not be intentionally connected, directly or indirectly, to the metal hull, or on wooden vessels to the common ground. An electrical installation that has any current carrying conductor intentionally connected, directly or indirectly to the metal hull, or on wooden vessels to the common ground, shall be subject to certain additional requirements as determined by the Officer in Charge, Marine Inspection. These additional requirements are contained in applicable regulations in Subchapter J (Electrical Engineering) of this chapter.

(1) Figure 183.10-30(a)(1) shows a typical two wire electrical system showing various acceptable methods of circuit and equipment protection and control.

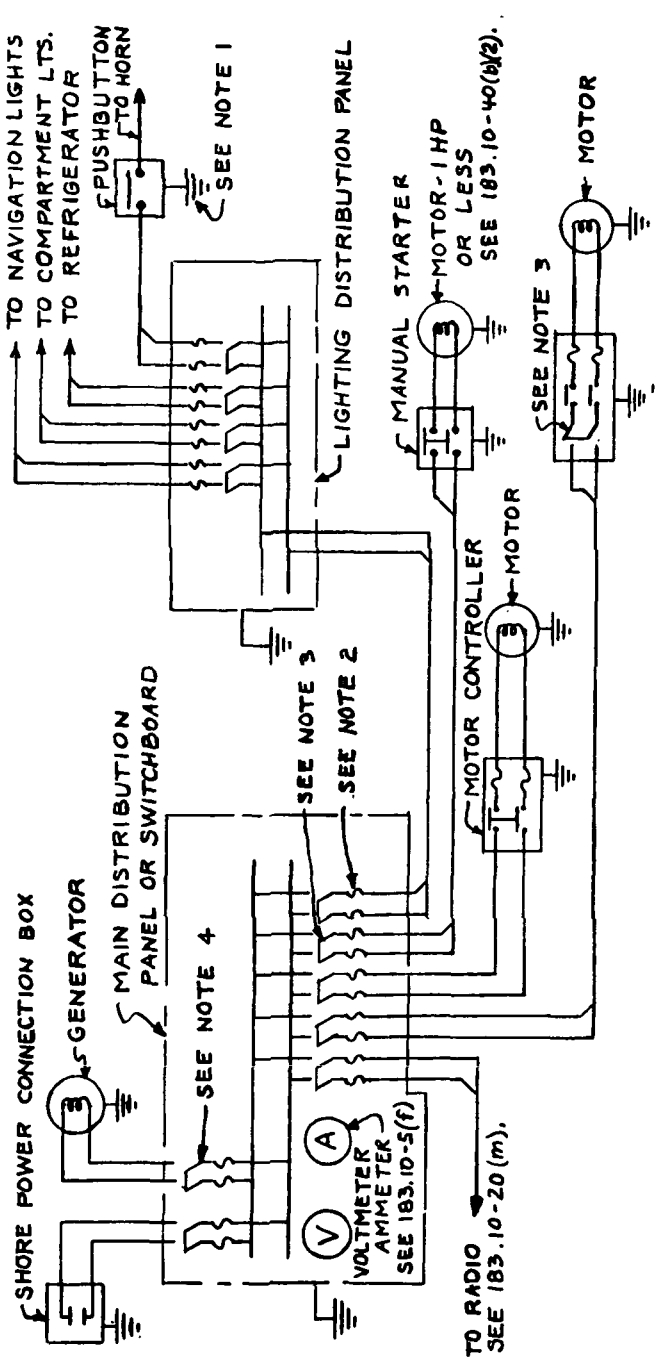

FIGURE 183.10-30(a)(1)—*Typical ungrounded electrical system*

NOTES: 1. Ground symbol indicates a metallic connection to the vessel's metal hull, or, on wooden vessels it indicates bonding to the common ground. (See § 183.10-20(g).)
2. Circuit breakers may be used in lieu of switches and fuses.
3. Disconnect means not within sight of equipment to be disconnected, which is accessible to passengers, shall be provided with means for locking in the open position. (See § 183.10-25(a)(1).)
4. A double pole-double throw switch with one set of fuses may be used for disconnecting the generator and shore power cables. (See § 183.10-25(b).)

(2) All circuits are to be completely metallic and hull return shall not be used.

(3) The shore power sources may be either ungrounded or grounded.

(b) The connected load on a lighting branch circuit shall not exceed 880 watts, computed on the basis of the lamp sizes to be installed, but in no case less than 50 watts per outlet. Circuits supplying electrical discharge lamps shall be computed on the basis of ballast input current.

(c) The branch circuit cables for motor and lighting loads shall be not smaller than No. 14 AWG.

§ 183.10-35 Overcurrent protection, general (50 volts or more).

(a) Overcurrent protection shall be provided for each conductor for the purpose of opening the electric circuit if the current reaches a value which will cause an excessive or dangerous temperature in the conductor or conductor insulation.

(b) Disconnect means shall be provided on the supply side of and adjacent to all fuses for the purpose of deenergizing the fuses for inspection and maintenance purposes.

(1) All disconnect means shall open all conductors of the circuit simultaneously.

(c) Conductors, including generator leads and shore power cables, shall be protected in accordance with current-carrying capacities, as given in Table 183.10-20(c).

(1) If the allowable current-carrying capacity of the conductor does not correspond to a standard size fuse, the next larger size or rating may be used but not exceeding 150 percent of the allowable current-carrying capacity of the conductor. Plug (screw in type) fuses and fuseholders shall not be used in circuits exceeding 125 volts between conductors. The screw shell of plug type fuseholders shall be connected to the load of the circuit. Edison base fuses shall not be used.

NOTE: Edison base fuses are those having threads like those on an ordinary light bulb.

(2) If the allowable current-carrying capacity of the conductor does not correspond to a standard rating of circuit breakers, the next larger rating may be used but not exceeding 150 percent of the allowable current-carrying capacity of the conductor.

(d) Lighting branch circuits shall be protected against over-current either by fuses rated at not more than 10 amperes or by circuit breakers rated or set at not more than 15 ampheres.

(e) Circuit breakers of the proper voltage rating shall be of the manually reset type designed for inverse time delay, instantaneous short circuit protection and capable of repeatedly opening the circuit in which it is to be used without damage to the circuit breaker.

(1) Circuit breakers shall indicate whether they are in the open or closed position.

(f) Devices such as instruments, pilot lights, ground detector lights, potential transformers, etc., shall be supplied by circuits protected by overcurrent devices.

(g) Each generator shall be protected with an overcurrent device set at a value not exceeding 15 percent above the full-load rating for continuous rated machines or the overload rating for special rated machines.

§ 183.10-40 Overcurrent protection for motors and motor branch circuits.

(a) All motors shall be provided with running protection against overcurrent in accordance with Table 183.10-40(a). A protective device integral with the motor which is responsive to motor current or to both motor current and temperature may be used.

(b) Overcurrent devices shall be installed to protect the motor branch circuit conductors, the motor control apparatus, and the motors against overcurrent due to short circuits or grounds.

(1) The motor branch circuit overcurrent device shall be capable of carrying the starting current of the motor. Overcurrent protection shall be considered as being obtained when this overcurrent device has a rating or setting not exceeding the values given in Table 183.10-40(a).

(2) Each manually started continuous duty motor rated at one horsepower or less which is within sight from the starter location, shall be considered as protected against overcurrent by the overcurrent device protecting the con-

ductors of the branch circuit. This branch circuit overcurrent device shall not be larger than that specified by Table 183.10-40(a), except that any such motor may be used at 125 volts or less on a branch circuit protected at 20 ampheres.

(c) Motor branch circuit overcurrent protection and motor-running overcurrent protection may be combined in a single overcurrent device if the rating or setting of the device provides the running overcurrent protection specified in Table 183.10-40(a).

TABLE 183.10–40(a)—CONDUCTOR SIZE AND OVERCURRENT PROTECTION FOR MOTORS

Full load current rating of motor in amperes	Minimum size conductor AWG and MCM									For running protection of motors (amperes) [1]		Maximum allowable rating or setting of branch circuit protective devices (amperes)							
	1–conductor			2–conductor			3–conductor					With code letters F to V, inclusive, or without code letters: Single-phase and squirrel cage and synchronous, full voltage, resistor and reactor starting		With code letters B to E, inclusive: Single-phase and squirrel cage and synchronous, full voltage resistor or reactor starting. With code letters F to V, inclusive: Auto-transformer starting. Without code letters: Squirrel cage and synchronous, auto-transformer starting; high reactance squirrel cage. (Both not more than 30 amperes)		With code letters B to E, inclusive: Squirrel cage and synchronous, auto-transformer starting. Without code letters: Squirrel cage and synchronous, auto-transformer starting; high reactance squirrel cage. (Both more than 30 amperes)		With code letter A, all motors. Without code letters: Direct-current and wound rotor motors	
	R	VC	AVC	R	VC	AVC	R	VC	AVC	Maximum rating of nonadjustable protective devices	Maximum setting of adjustable protective devices	Fuses	Circuit breakers (non-adjustable trip)	Fuses	Circuit breakers (non-adjustable trip)	Fuses	Circuit breakers (non-adjustable trip)	Fuses	Circuit breakers (non-adjustable trip)
1	14	12	14	14	12	14	14	12	14	2	1.25	15	15	15	15	15	15	15	15
2	14	12	14	14	12	14	14	12	14	3	2.50	15	15	15	15	15	15	15	15
3	14	12	14	14	12	14	14	12	14	4	3.75	15	15	15	15	15	15	15	15
4	14	12	14	14	12	14	14	12	14	6	5.04	15	15	15	15	15	15	15	15
5	14	12	14	14	12	14	14	12	14	8	6.25	15	15	15	15	15	15	15	15
6	14	12	14	14	12	14	14	12	14	8	7.50	20	15	15	15	15	15	15	15
7	14	12	14	14	12	14	14	12	14	10	8.75	25	20	20	15	15	15	15	15
8	14	12	14	14	12	14	14	12	14	10	10.00	25	20	20	20	20	20	15	15
9	14	12	14	14	12	14	14	12	14	12	11.25	30	30	25	20	20	20	15	15
10	14	12	14	14	12	14	14	12	14	15	12.50	30	30	25	20	20	20	15	15
11	14	12	14	14	12	14	14	12	14	15	13.75	35	30	30	30	25	30	20	20
12	14	12	14	14	12	14	14	12	14	15	15.00	40	30	30	30	25	30	20	20
13	12	12	14	12	12	14	12	12	14	20	16.25	40	40	35	30	30	30	20	20
14	12	12	14	12	12	14	12	12	12	20	17.50	45	40	35	30	30	30	25	30
15	12	12	14	12	12	14	12	12	12	20	18.75	45	40	40	30	30	30	25	30
16	12	12	14	12	12	12	12	12	12	20	20.00	50	40	40	40	35	40	25	30
17	12	12	12	12	12	12	10	12	12	25	21.25	60	50	45	40	35	40	30	30
18	12	12	12	10	12	12	10	12	12	25	22.50	60	50	45	40	40	40	30	30
19	12	12	12	10	12	12	10	10	12	25	23.75	60	50	50	40	40	40	30	30
20	10	12	12	10	12	12	10	10	12	25	25.00	60	50	50	40	40	40	30	30
22	10	12	12	10	10	12	10	10	10	30	27.50	70	70	60	50	45	50	35	40
24	10	12	12	10	10	12	8	10	10	30	30.00	80	70	60	50	50	50	40	40
26	10	10	12	8	10	10	8	10	10	35	32.50	80	70	70	70	60	70	40	40

26	8	10	12	8	10	10	8	8	10	35	35.00	90	70	70	70	60	70	45	50
30	6	10	10	8	10	10	8	8	10	40	37.50	90	100	80	70	60	70	45	50
32	6	10	10	8	10	10	7	8	8	40	40.00	100	100	80	70	70	70	50	50
34	8	10	10	7	8	10	7	8	8	45	42.50	110	100	90	70	70	70	60	70
36	6	10	10	7	8	10	6	8	8	45	45.00	110	100	90	100	80	100	60	70
38	7	10	10	7	8	8	6	7	8	50	47.50	125	100	100	100	80	100	60	70
40	7	8	10	6	8	8	5	7	8	50	50.00	125	100	100	100	80	100	60	70
42	7	8	10	6	8	8	5	6	7	50	52.50	125	125	110	100	90	100	70	70
44	6	8	8	6	8	8	5	6	7	60	55.00	125	125	110	100	90	100	70	70
46	6	8	8	5	7	8	4	6	6	60	57.50	150	125	125	100	100	100	70	70
48	6	8	8	5	7	8	4	6	6	60	60.00	150	125	125	100	100	100	80	100
50	6	8	8	5	7	7	4	5	6	60	62.50	150	125	125	100	100	100	80	100
52	5	8	8	4	6	7	4	5	6	70	65.00	175	150	150	125	110	125	80	100
54	5	7	8	4	6	7	3	5	5	70	67.50	175	150	150	125	110	125	90	100
56	5	7	8	4	6	7	3	5	5	70	70.00	175	150	150	125	125	125	90	100
58	4	7	8	4	6	6	3	4	5	70	72.50	175	150	150	125	125	125	90	100
60	4	6	7	3	5	6	3	4	5	80	75.00	200	150	150	125	125	125	90	100
62	4	6	7	3	5	6	2	4	5	80	77.50	200	175	175	125	125	125	100	100
64	4	6	7	3	5	6	2	4	4	80	60.00	200	175	175	150	150	150	100	100
66	4	6	6	3	5	5	2	3	4	80	82.50	200	175	175	150	150	150	100	100
68	4	6	6	3	5	5	2	3	4	90	85.00	225	175	·175	150	150	150	110	125
70	3	5	6	2	4	5	1	3	4	90	87.50	225	175	175	150	150	150	110	125
72	3	5	6	2	4	5	1	3	3	90	90.00	225	200	200	150	150	150	110	125
74	3	5	6	2	4	5	1	2	3	100	92.50	225	200	200	150	150	150	125	125
76	3	5	6	2	4	5	1	2	3	100	95.00	250	200	200	175	175	175	125	125
78	3	5	5	1	3	4	1	2	3	100	97.50	250	200	200	175	175	175	125	125
80	2	4	5	1	3	4	0	2	3	100	100.00	250	200	200	175	175	175	125	125
82	2	4	5	1	3	4	0	2	2	110	102.5	250	225	225	175	175	175	125	125
84	2	4	5	1	3	4	0	2	2	110	105.0	250	225	225	175	175	175	150	150
86	2	4	5	1	3	4	0	1	2	110	107.5	300	225	225	175	175	175	150	150
88	2	4	5	1	3	3	0	1	2	110	110.0	300	225	225	200	200	200	150	150
90	2	4	4	0	2	3	0	1	2	110	112.5	300	225	225	200	200	200	150	150
92	2	3	4	0	2	3	00	1	2	125	115.0	300	250	250	200	200	200	150	150
94	1	3	4	0	2	3	00	1	2	125	117.5	300	250	250	200	200	200	150	150
96	1	3	4	0	2	3	00	1	1	125	120.0	300	250	250	200	200	200	150	150
98	1	3	4	0	2	3	00	1	1	125	122.5	300	250	250	200	200	200	150	150
100	1	3	4	0	2	2	00	0	1	125	125.0	300	250	250	200	200	200	150	150

[1] For running protection of motors 1 horsepower or less, see § 183.10–40(b)(2).

§ 183.10-45 Electric heating and cooking equipment (50 volts or more).

(a) Electric space heaters for heating rooms and compartments shall be provided with thermal cutouts to prevent overheating. Heaters shall be so constructed and installed to prevent the hanging of towels, clothing, etc. on the heaters, and to prevent overheating of heater parts and adjacent bulkheads or decks.

(b) All electric cooking equipment, attachments, and devices, shall be of rugged construction and so designed as to permit complete cleaning, maintenance, and repair.

(1) Doors shall be provided with heavy duty hinges and locking devices to prevent accidental opening in heavy seas.

(2) Electric cooking equipment shall be mounted to prevent dislodgement in heavy seas, and for grill or similar type cooking equipment means shall be provided to effect positive grease or fat collection and to prevent spillage on wiring or deck.

(3) Where necessary for safety of personnel, grab rails shall be provided. Electric ranges shall be provided with sea rails with suitable barriers to resist accidental cook pot movement.

(4) Unspecified construction and circuit details shall be in accordance with Underwriters' Laboratories, Inc., Standard for Commercial Electric Cooking Appliances.

§ 183.10-50 Shore power (50 volts or more).

(a) At a convenient location, a shore power connection box or receptacle shall be permanently installed and a cable connecting this box or receptacle to the main distribution panels shall be permanently installed.

(1) The shore power cable shall be provided with a disconnect means located on or near the main distribution panel.

PART 184—VESSEL CONTROL AND MISCELLANEOUS SYSTEMS AND EQUIPMENT

Subpart 184.01—Application and Intent

Subpart 184.05—Cooking and Heating

Subpart 184.10—Mooring Equipment

Subpart 184.20—Compass

Subpart 184.25—Radio

Subpart 184.30—Emergency Lighting

Subpart 184.35—Engine Control

Subpart 184.40—Work Vests

AUTHORITY: 46 U.S.C. 3306; 49 CFR 1.46.

SOURCE: CGFR 60-54, 25 FR 9346, Sept. 29, 1960, unless otherwise noted.

Subpart 184.01—Application and Intent

§ 184.01-1 Application.

(a) The provisions of this part shall apply to all vessels except as specifically noted in this part.

§ 184.01–3 Incorporation by reference.

(a) Certain materials are incorporated by reference into this part with the approval of the Director of the Federal Register in accordance with 5 U.S.C. 552(a). To enforce any edition other than the one listed in paragraph (b) of this section, notice of change must be published in the FEDERAL REGISTER and the material made available to the public. All approved material is on file at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC, and at the U.S. Coast Guard, Merchant Vessel Inspection and Documentation Division, (G–MVI), 2100 Second Street SW., Washington, DC 20593–0001, and is available from the sources indicated in paragraph (b) of this section.

(b) The materials approved for incorporation by reference in this part, and the sections affected are:

AMERICAN BOAT AND YACHT COUNCIL (ABYC)

3069 Solomons Island Road, Edgewater, MD 21037

A–1–78—Marine LPG-Liquefied Petroleum Gas Systems (December 15, 1978) 184.05–1

A–22–78—Marine CNG-Compressed Natural Gas Systems (December 15, 1978) 184.05–1

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

1 Batterymarch Park, Quincy, MA 02269

302–1989—Pleasure and Commercial Motor Craft, Chapter 6 (1989 Edition) 184.05–1

[CGD 83–013, 55 FR 3960, Feb. 6, 1990, as amended by CGD 95–072, 60 FR 50469, Sept. 29, 1995]

§ 184.01–4 OMB control numbers assigned pursuant to the Paperwork Reduction Act

(a) *Purpose.* This section collects and displays the control numbers assigned to information collection and recordkeeping requirements in this subchapter by the Office of Management and Budget (OMB) pursuant to the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). The Coast Guard intends that this section comply with the requirements of 44 U.S.C. 3507(f), which requires that agencies display a current control number assigned by the Director of the OMB for each approved agency information collection requirement.

(b) *Display.*

46 CFR part or section where identified or described	Current OMB control No.
§ 184.05–1	2115–0549

[CGD 83–013, 54 FR 6403, Feb. 10, 1989]

§ 184.01–5 Intent.

(a) The intent of this part is to insure that the vessel control systems and the miscellaneous systems and equipment required herein shall be suitable for the purpose intended.

Subpart 184.05—Cooking and Heating

§ 184.05–1 Restrictions.

(a) Cooking and heating equipment shall be suitable for marine use.

(b) Vessels permitted to use liquefied and non-liquefied gases as cooking fuels by 46 CFR part 147 must meet the requirements of paragraph (d) of this section. The use of these fuels for cooking, heating, and lighting on ferry vessels is prohibited by 46 CFR part 147.

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

(d) Cooking systems using liquefied petroleum gas (LPG) and compressed natural gas (CNG) must meet the following requirements:

(1) The design, installation and testing of each LPG system must meet ABYC A–1–78 or Chapter 6 of NFPA 302.

(2) The design, installation and testing of each CNG system must meet ABYC A–22–78 or Chapter 6 of NFPA 302.

(3) Cooking systems using Chapter 6 of NFPA 302 as the standard must meet the following additional requirements:

(i) The storage or use of CNG containers within the accommodation area, machinery spaces, bilges, or other enclosed spaces is prohibited.

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

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

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

(4) Continuous pilot lights or automatic glow plugs are prohibited for an LPG or CNG installation using ABYC A-1 or A-22 as the standard.

(5) CNG installations using ABYC A-22 as the standard must meet the following additional requirements:

(i) The storage or use of CNG containers within the accommodation area, machinery spaces, bilges, or other enclosed spaces is prohibited.

(ii) The CNG cylinders, regulating equipment, and safety equipment must meet the installation, stowage, and testing requirements of paragraph 6-5.12 of NFPA 302.

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

(6) If the fuel supply line of an LPG or CNG system enters an enclosed space on the vessel, a remote shut-off valve must be installed which can be operated from a position adjacent to the appliance. The valve must be located between the fuel tank and the point where the fuel supply line enters the enclosed portion of the vessel. A power operated valve installed to meet this requirement must be of a type that will fail closed.

(7) The following variances from ABYC A-1.11.b(1) are allowed for CNG:

(i) The storage locker or housing access opening need not be in the top.

(ii) The locker or housing need not be above the waterline.

(8) The following variances from NFPA 302 are allowed:

(i) The storage locker or housing for CNG tank installations need not be above the waterline as required by paragraph 6-5.12.1.1(a).

(ii) Ignition protection need not be provided as required by paragraph 6-5.4.

[CGFR 6054, 25 FR 9346, Sept. 29, 1960, as amended by CGD 83-013, 54 FR 6403, Feb. 10, 1989; CGD 83-013, 55 FR 3960, Feb. 6, 1990]

Subpart 184.10—Mooring Equipment

§ 184.10-1 Anchors, cables, and hawsers.

(a) All vessels shall be fitted with such ground tackle and hawsers as deemed necessary by the Officer in Charge, Marine Inspection, depending upon the size of the vessel, the waters on which it operates, and other operating hazards.

Subpart 184.20—Compass

§ 184.20-1 Vessels required to have compasses.

(a) Except as otherwise provided in this section, every vessel shall be fitted with a suitable compass.

(b) The following vessels need not be fitted with a compass:

(1) Vessels in river service.

(2) Non-self-propelled vessels.

(3) Vessels operating in protected waters with short restricted routes.

Subpart 184.25—Radio

§ 184.25-1 Requirements of the Federal Communications Commission.

(a) Radio transmitting and receiving installations or radiotelephones are required on certain vessels carrying passengers. Details of the application of this requirement as well as the details of the installation shall be as set forth in the regulations of the Federal Communications Commission (47 CFR Chapter 1).

(b) If any violations of regulations enforced by the Federal Communications Commission are noted by the marine inspector, the owner and that agency shall be notified. A proper certificate issued by the Federal Communications Commission shall be regarded as evidence that the radio installation, if any, is in compliance with the requirements of that agency.

(c) All vessels on an international voyages which are required to carry a radiotelegraph or radiotelephone installation in accordance with Chapter IV of the Safety of Life at Sea Conven-

tion, 1960, must carry the International Code of Signals.

[CG FR 60-54, 25 FR 9346, Sept. 29, 1960, as amended by CGD 75-074, 42 FR 5964, Jan. 31, 1977]

Subpart 184.30—Emergency Lighting

§ 184.30-1 Portable lights.

(a) Vessels shall be equipped with a suitable number of portable battery lights.

[CGFR 63-40, 28 FR 9742, Sept. 6, 1963]

§ 184.30-5 Lights for lounge areas below the main deck.

(a) Adequate emergency lighting automatically actuated upon failure of the main lighting system shall be fitted along the line of escape in vessels having lounge areas below the main deck as per §177.30-7 of this subchapter.

(b) Vessels not equipped with a single source emergency lighting system shall have individual storage battery powered automatically operated lights in strategic locations. These lights shall have an automatic battery charger, shall not be readily portable, and shall have sufficient capacity for 6 hours continuous operation.

[CGFR 63-40, 28 FR 9742, Sept. 6, 1963]

Subpart 184.35—Engine Control

§ 184.35-1 Engineroom communication system.

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

Subpart 184.40—Work Vests

§ 184.40-1 Approved unicellular plastic foam work vests.

(a) Buoyant work vests carried under the permissive authority of this subpart shall be of a Coast Guard approved type.

(b) Specifications for approved type work vests are in subpart 160.053 of Subchapter Q—Specifications, of this chapter.

[CGFR 60-54, 25 FR Sept. 25, 1960, as amended by CGFR 67-91, 32 FR 20813, Dec. 27, 1967]

§ 184.40-5 Use.

(a) Approved buoyant work vests are considered to be items of safety apparel and may be carried aboard vessels to be worn by crew members when working near or over the water under favorable working conditions. They shall be used under the supervision and control of a responsible person. When carried, such vests shall not be accepted in lieu of any portion of the required number of approved life preservers and shall not be substituted for the approved life preservers required to be worn during drills and emergencies.

§ 184.40-10 Stowage.

(a) The approved buoyant work vests shall be stowed separately from the regular stowage of approved life preservers.

(b) The locations for the stowage of work vests shall be such as not to be easily confused with that for approved life preservers.

§ 184.40-15 Inspections.

(a) Each work vest shall be subject to examination by a marine inspector to determine its serviceability. If found to be satisfactory, it may be continued in service, but shall not be stamped by a marine inspector with a Coast Guard stamp. If a work vest is found not to be in a serviceable condition, then such work vest shall be removed from the vessel. If a work vest is beyond repair, it shall be destroyed or mutilated in the presence of a marine inspector so as to prevent its continued use as a work vest.

PART 185—OPERATIONS

Subpart 185.01—Application and Intent

Sec.

Subpart 185.05—Penalties

AUTHORITY: 46 U.S.C. 3306, 6101, 8105; 49 CFR 1.46.

SOURCE: CGFR 60-54, 25 FR 9347, Sept. 29, 1960, unless otherwise noted.

Subpart 185.01—Application and Intent

§ 185.01-1 Application.

(a) The provisions of this part shall apply to all vessels except as specifically noted in this part.

§ 185.01-5 Intent.

(a) The intent of this part is to insure that all vessels be operated in accordance with applicable laws and regulations and in such a manner as to afford adequate precaution against hazards of an emergency nature which might endanger the vessel and the persons being transported.

Subpart 185.05—Penalties

§ 185.05-1 General.

(a) The marine safety and criminal statutes provide penalties for the violation of the applicable provisions of this subchapter, which penalties, depending upon the gravity of the violation, are as follows:

(1) Assessment and collections of civil monetary penalty.

(2) Criminal prosecution where no loss of life results.

(3) Criminal prosecution for manslaughter where loss of life results from violation of statute or regulation, or from misconduct, negligence, or inattention to duty.

(4) Libel against vessel.

(b) In addition to the foregoing, any licensed or certificated personnel committing an act of misbehavior, negligence, unskillfulness, endangering life, willful violation of marine safety statutes or regulations or requirements thereunder, and incompetency shall be subject to proceedings under the provisions of R.S. 4450, as amended (46 U.S.C. 239), and regulations thereunder (part 137 of this chapter) with respect to sus-

pension or revocation of license or certificate.

[CGFR 60–54, 25 FR 9347, Sept. 29, 1960, as amended by CGFR 65–9, 30 FR 11495, Sept. 8, 1965]

Subpart 185.10—Exhibition of License

§ 185.10–1 Officers' licenses.

The licensed individuals employed upon any vessel subject to the provisions of this subchapter shall have their licenses in their possession and available for examination at all times when the vessel is operated.

[CGD 81–059, 52 FR 38657, Oct. 16, 1987]

Subpart 185.12—Stability Letter

§ 185.12–1 Posting.

(a) If a stability letter is issued in accordance with the requirements in §170.120 of this chapter, it must be posted under glass or other suitable transparent material in the pilothouse of the vessel.

(b) If posting is impacticable, the stability letter must be kept on board in the custody of the licensed operator.

[CGD 79–023, 48 FR 51052, Nov. 4, 1983]

Subpart 185.15—Notice and Reporting of Casualty and Voyage Records

§ 185.15–1 Notice and reporting of casualty and voyage records.

The requirements for providing notice and reporting of marine casualties and for retaining voyage records are contained in part 4 of this chapter.

[CGD 84–099, 52 FR 47536, Dec. 14, 1987]

Subpart 185.17—Reckless or Negligent Operation

§ 185.17–1 Use prohibited by law.

No person may use a vessel subject to the provisions of this subchapter in a negligent manner so as to endanger the life, limb, or property of any person. Violations of this subpart involving use which is grossly negligent, subject the violator, in addition to any other penalties, to the criminal penalties prescribed in 46 U.S.C. 2302.

[CGD 81–059, 52 FR 38657, Oct. 16, 1987]

Subpart 185.19—Accident Assistance

§ 185.19–1 Duty of master.

The master of a vessel involved in a collision, accident or other casualty, to the extent possible without serious danger to his or her own vessel or persons aboard, shall render all practicable and necessary assistance to persons affected by the collision, accident, or casualty. The master shall also give his or her name, address, and the identification of his or her vessel to any person injured and to the owner of any property damaged.

[CGD 81–059, 52 FR 38657, Oct. 16, 1987]

Subpart 185.20—Miscellaneous Operating Requirements

§ 185.20–1 Compliance with provisions of certificate of inspection.

The master of the vessel must ensure that all of the provisions of the certificate of inspection are strictly adhered to; however, the master may divert from the route prescribed in the certificate of inspection or take such other steps as deemed necessary and prudent to assist vessels in distress or for other similar emergencies.

[CGD 81–059, 52 FR 38657, Oct. 16, 1987]

§ 185.20–5 Verification of vessel compliance with applicable stability requirements.

(a) After loading and prior to departure and at all other times necessary to assure the safety of the vessel, the master shall determine that the vessel complies with all applicable stability requirements in the vessel's trim and stability book, stability letter, Certificate of Inspection, and Load Line Certificate, as the case may be. The vessel may not depart until it is in compliance with these requirements.

(b) When determining compliance with applicable stability requirements the vessel's draft, trim, and stability must be determined as necessary and any stability calculations made in sup-

port of the determination must be retained on board the vessel for the duration of the voyage.

(c) If a log book is required, then the master must enter an attestation statement verifying that the vessel complies with the applicable stability requirements at the times specified in paragraph (a) of this section.

[CGD 89-037, 57 FR 41827, Sept. 11, 1992]

§ 185.20-10 Steering gear tests.

The master or mate of every vessel, before getting underway for a day's operation, shall test the steering gear, signaling whistle, controls and communication system.

[CGD 81-059, 52 FR 38657, Oct. 16, 1987]

§ 185.20-15 Hatches.

It shall be the duty of the master of any vessel to assure that all exposed hatches are properly secured before getting underway for a voyage on other than protected waters.

[CGD 81-059, 52 FR 38657, Oct. 16, 1987]

§ 185.20-17 Loading doors.

(a) The master of a vessel fitted with loading doors shall assure that all loading doors are closed watertight and secured during the entire voyage except that—

(1) If a door cannot be opened or closed while the vessel is at a dock, it may be open while the vessel approaches and draws away from the dock, but only as far as necessary to enable the door to be immediately operated.

(2) If needed to operate the vessel, or embark and disembark passengers when the vessel is at anchor in protected waters, loading doors may be open provided that the master determines that the safety of the vessel is not impaired.

(b) For the purposes of this section, "loading doors" include all weathertight ramps, bow visors, and openings used to load personnel, equipment, and stores, in the collision bulkhead, the side shell, and the boundaries of enclosed superstructures that are continuous with the shell of the vessel.

(c) If a log book is required, then the master shall make the following entries:

(1) The time and door location of every closing of the loading doors; and

(2) Any opening of the doors in accordance with paragraph (a)(2) of this section setting forth the time of the opening of the doors and the circumstances warranting this action.

[CGD 89-037, 57 FR 41827, Sept. 11, 1992]

§ 185.20-20 Vessels carrying vehicles.

(a) Automobiles or other vehicles shall be stowed in such a manner as to permit their occupants to get out and away from them freely in the event of fire or other disaster. The decks, where necessary, shall be distinctly marked with painted lines to indicate the vehicle runways and the aisle spaces.

(b) The master shall take any necessary precautions to see that automobiles or other vehicles have their motors turned off and their emergency brakes set when the vessel ia underway, and that the motors are not started until the vessel is secured to the landing. In addition, the vehicles at each end shall have their wheels securely blocked, while the vessel is being navigated.

(c) The master shall have appropriate "NO SMOKING" signs posted and shall take all necessary precautions to prevent smoking or carrying of lighted or smoldering cigars, cigarettes, etc., in the deck area assigned to automobiles or other vehicles.

[CGD 81-059, 52 FR 38657, Oct. 16, 1987]

§ 185.20-25 Fueling of vessels using fuel having a flash point of 110° F., or lower (gasoline, etc.).

(a) Vessels using fuel having a flash point of 110° F., or lower, shall not take on fuel when passengers are on board.

§ 185.20-30 Use of auto pilot.

Except as provided in 33 CFR 164.15, when the automatic pilot is used in—

(a) Areas of high traffic density;

(b) Conditions of restricted visibility; and

(c) All other hazardous navigational situations, the master shall ensure that:

(1) It is possible to immediately establish manual control of the ship's steering;

(2) A competent person is ready at all times to take over steering control; and,

(3) The changeover from automatic to manual steering and vice versa is made by, or under the supervision of the master or mate.

[CGD 75–074, 42 FR 5964, Jan. 31, 1977, as amended by CGD 81–059, 52 FR 38657, Oct. 16, 1987]

§ 185.20–35 Charts and nautical publications.

As appropriate for the intended voyage, all vessels must carry adequate and up-to-date—

(a) Charts;
(b) Sailing directions;
(c) Coast pilots;
(d) Light lists;
(e) Notices to mariners;
(f) Tide tables;
(g) Current tables; and
(h) All other nautical publications necessary.[1]

[CGD 75–074, 42 FR 5964, Jan. 31, 1977]

Subpart 185.22—Patrolmen

§ 185.22–1 Duties.

(a) At all times during which bunks in passenger areas located below the main deck are occupied, the master shall designate a member of the vessel's crew as a patrolman.

(b) The patrolman shall be stationed in the vicinity of the cabins or staterooms and on each deck to guard against and give alarm in case of fire or other danger.

[CGD 81–059, 52 FR 38657, Oct. 16, 1987]

Subpart 185.25—Preparations for Emergencies

§ 185.25–1 Emergency instructions.

(a) Except as otherwise provided in this section, it shall be the duty of the master of any vessel subject to the regulations in this subchapter to prepare and post emergency checkoff lists in a conspicuous place accessible to crew and passengers.

(b) Except where all or a part of the emergency instructions are deemed unnecessary by the Officer in Charge, Marine Inspection, the emergency checkoff list shall contain not less than the applicable portions of the "Recommended Emergency Checkoff List", § 185.25–5.

(c) When in the judgment of the cognizant Officer in Charge, Marine Inspection, the operation of any vessel subject to this section does not present the hazards listed on the emergency checkoff list or when any vessel has no suitable mounting surface, an exclusion from the requirements of § 185.25–1 (a) and (b) is granted by letter.

(d) *Safety orientation.* Before getting underway, the master of each vessel subject to this subpart shall ensure that suitable public announcements, instructive placards or both are provided in a manner which affords all passengers the opportunity to become acquainted with:

(1) Stowage location of life preservers;

(2) Proper method of donning and adjusting life preservers of the type(s) carried on the vessel;

(3) The type and location of all lifesaving devices carried on the vessel; and

(4) The location and contents of the "Emergency Checkoff List" required by § 185.25–5.

[CGFR 60–54, 25 FR 9347, Sept. 29, 1960, as amended by CGD 78–009, 45 FR 11110, Feb. 19, 1980; 45 FR 13736, Mar. 3, 1980; CGD 81–059, 52 FR 38658, Oct. 16, 1987]

§ 185.25–5 Recommended emergency checkoff lists.

(a) *Rough weather at sea or crossing hazardous bars.* (1) Close all watertight and weathertight doors, hatches, and airports to prevent taking water aboard.

(2) Keep bilges dry to prevent loss of stability due to water in bilges.

(3) Keep passengers seated and evenly distributed.

(4) Have passengers put on life preservers if the going becomes very rough or you are about to cross a hazardous bar.

(5) Never abandon a vessel (particularly a wooden boat) unless actually forced to do so.

[1] For United States vessels in or on the navigable waters of the United States, see 33 CFR 164.33.

(6) If assistance is needed use the International Distress call over radiotelephone or call the Coast Guard immediately.

(7) Prepare life floats for launching.

(b) *Man overboard.* (1) Throw a ring buoy overboard as close to the person as possible.

(2) Post a lookout to keep the person overboard in sight.

(3) Maneuver the vessel to pick up the person in the water.

(4) Have crew member put on lifejacket, attach a safety line to him and have him standby to jump into the water to assist the person overboard if necessary.

(5) If person is not immediately located notify Coast Guard and other vessels in vicinity by radiotelephone.

(6) Continue search until released by Coast Guard.

(c) *Fire at sea.* (1) Cut off air supply to fire—close hatches, ports, doors, and ventilators, etc.

(2) Immediately use portable fire extinguishers at base of flames for inflammable liquid or grease fires or water for fires in ordinary combustible materials.

(3) If fire is in machinery spaces shut off fuel supply and ventilation and discharge fixed CO_2 if installed.

(4) Maneuver vessel to minimize effect of wind on fire.

(5) If unable to control fire, immediately notify the Coast Guard and other boats in the vicinity by radiotelephone, etc.

(6) Move passengers away from fire, have them put on life preservers, and if necessary, prepare to abandon ship.

§ 185.25–7 Posting placards containing instructions for launching and inflating inflatable liferafts.

(a) Every vessel equipped with inflatable liferafts shall have posted in conspicuous places which are regularly accessible to the crew and/or passengers, approved placards containing instructions for launching and inflating inflatable liferafts for the information of persons on board. The number and location of such placards for a particular vessel shall be as determined necessary by the Officer in Charge, Marine Inspection.

(b) Under the requirements contained in § 160.051–6(c)(1) of subpart 160.051 in Subchapter Q (Specifications) of this chapter, the manufacturer of approved inflatable liferafts is required to provide approved placards containing such instructions with each liferaft.

[CGFR 65–9, 30 FR 11495, Sept. 8, 1965]

§ 185.25–10 Drills.

The master shall conduct drills and give instructions as necessary to ensure that all crew members are familiar with their duties.

[CGD 81–059, 52 FR 38658, Oct. 16, 1987]

§ 185.25–15 Officers' responsibilities.

Nothing in the recommended emergency instructions in this subpart shall exempt any officer from the exercise of good judgment in any emergency situation.

[CGD 81–059, 52 FR 38658, Oct. 16, 1987]

§ 185.25–20 Tests of emergency position indicating radiobeacon (EPIRB).

The master of the vessel shall ensure that:

(a) The EPIRB required in § 180.40–1 of this subchapter is tested monthly, using the integrated test circuit and output indicator, to determine that it is operative; and,

(b) The EPIRB's battery is replaced after the EPIRB is used and before the date required by FCC regulations in 47 CFR part 80.

[CGD 81–059, 52 FR 38658, Oct. 16, 1987, as amended at 54 FR 151, Jan. 4, 1989]

Subpart 185.30—Markings Required

§ 185.30–1 Hull markings.

Vessels shall be marked as required by parts 67 and 69 of this chapter.

[CGD 72–104R, 37 FR 14233, July 18, 1972; 37 FR 18537, Sept. 13, 1972]

§ 185.30–3 Hull markings.

(a) This section applies to each vessel that fits into any one of the following categories:

(1) A vessel of more than 65 feet (19.8 meters) in length.

(2) A sailing vessel of more than 65 feet (19.8 meters) in length.

(3) A vessel authorized to carry more than 150 passengers.

(4) A vessel authorized to carry more than 12 passengers on an international voyage.

(5) A vessel with more than 1 deck above the bulkhead deck exclusive of a pilot house.

(b) All vessels must:

(1) Have permanent draft marks at each end of the vessel; or

(2) Have permanent loading marks placed on each side of the vessel forward, amidships, and aft to indicate the maximum allowable draft and trim.

(c) A loading mark required by paragraph (b)(2) of this section must be a horizontal line of at least 8 inches in length and 1 inch in height, with its upper edge passing through the point of maximum draft. The loading mark must be painted in contrasting color to the sideshell paint.

(d) In cases where draft marks are obscured due to operational constraints or by protrusions, the vessel must be fitted with a reliable draft indicating system from which the bow and stern drafts can be determined.

(e) On a vessel on which the number of passengers permitted on the upper decks is limited by stability criteria, as indicated by the vessel's stability letter, the maximum number of passengers allowed on the upper decks must be indicated by a durable marking of numbers and letters at least one inch in height at the entranceway to each such deck.

[CGD 89-037, 57 FR 41827, Sept. 11, 1992]

§ 185.30-5 Lifesaving gear.

(a) Life floats and buoyant apparatus, together with their oars and paddles, shall be conspicuously marked with the vessel's name.

(b) The number of persons allowed on each life float and buoyant apparatus shall be conspicuously marked or painted thereon in letters and numbers at least 1½ inches high.

(c) All life preservers and ring life buoys shall be marked with the vessel's name.

(d) Any lifeboat, life raft, or other suitable boat accepted as primary lifesaving apparatus shall be marked with its allowed capacity in persons, and with the name of the vessel on which installed, in letters and figures at least 2 inches high, except that inflatable life rafts shall be marked by the manufacturer or service facility as required by subpart 160.051 of Subchapter Q—Specifications, of this chapter and no additional markings are required.

§ 185.30-10 Life preserver stowage.

(a) Where life preservers are stowed so that they are not readily visible to passengers, the containers in which they are stowed shall be marked "Life Preservers" and with the number contained therein, in at least 1-inch letters and figures. This legend shall indicate the separate stowage of children's life preservers.

§ 185.30-15 Escape hatches and emergency exits.

(a) All escape hatches and other emergency exits shall be marked on both sides using at least 1-inch letters: "Emergency Exit, Keep Clear", unless such markings are deemed unnecessary by the Officer in Charge, Marine Inspection.

§ 185.30-20 Fuel shutoff valves.

(a) Remote fuel shutoff stations shall be marked in at least 1-inch letters indicating purpose of the valve and direction of operation.

§ 185.30-25 Watertight doors and watertight hatches.

(a) Watertight doors and watertight hatches shall be marked on both sides in at least 1-inch letters: "Watertight Door—Close in Emergency" or "Watertight Hatch—Close in Emergency", unless such markings are deemed unnecessary by the Officer in Charge, Marine Inspection.

§ 185.30-30 Emergency position indicating radiobeacon (EPIRB).

The EPIRB required in §180.40-1 of this subchapter must be marked with the vessel's name.

[CGD 73-24R, 39 FR 10140, Mar. 18, 1974]

PARTS 186—187 (RESERVED)

INDEX

SUBCHAPTER T—SMALL PASSENGER VESSELS (UNDER 100 GROSS TONS)

EDITORIAL NOTE: This listing is provided for informational purposes only. It is compiled and kept up-to-date by the Coast Guard, Department of Transportation.

A

B

C

D

E

F

G

H

I

L

M

N

O

P

R

S

T

U

V

W

Y

157-180 O—95——10